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Faculdade de Ciências Farmacêuticas
Universidade de São Paulo

XX Pharmaceutical Congress of São Paulo

XII Internacional Seminar of Pharmaceutical Sciences

Expofar 2019

ABSTRACTS

October 10-12, 2019

São Paulo – Brazil

PREFACE

The XX Pharmaceutical Congress of São Paulo, the XII International Seminar of Pharmaceutical Sciences and Expofar 2019 were held from October 10th to 12th, 2019, at the Frei Caneca Convention Center, in São Paulo, which were promoted by the São Paulo State Regional Council of Pharmacy (CRF-SP). Having as a central theme the “**Innovation in Products and Pharmaceutical Services**”, the scientific agenda that was developed by a committee formed by renowned professors doctors and professionals, approached the several areas of pharmaceutical performance and promoted courses, lectures, symposia and round tables, offering the opportunity for a broad professional improvement.

CRF-SP highlighted the importance of the scientific production in the pharmaceutical area and, again, in a partnership with the Brazilian Journal of Pharmaceutical Sciences (BJPS), publishes in this edition the successful scientific abstracts.

The CRF-SP, in its constant search for the scientific improvement of the category, is proud of this work result and thank all those who were present and were involved and committed to this.

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CFSP001

A drug intoxication board game: elaborating a didactic tool

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Introduction and objective: Children are very susceptible to drug poisoning, and games are an important strategy for the teaching-learning process dedicated to preventing it. Thus, a board game for children was developed to be used as a tool to prevent drug intoxication.

Materials and methods: An educational board game was created where, by rolling the dice, each player will follow a course of prevention attitudes or risk of intoxication. An accessible language was used to promote a smooth learning process. The work was approved by the Research Ethics Committee (CAAE: 87111218.0.0000.5587).

Results and conclusion: The game developed "Medication Intoxication Prevention Trail," consists of 50 colored houses in red, purple, yellow, and blue, that are distributed in four islands: home, grandmother's house, hospital, and pharmacy. It also has three types of cards in red, purple, and yellow that are associated with the houses of the board and they correspond to different kinds of action. The game provides information that helps prevent poisoning in a simple, practical and illustrative way. It also encourages socialization, is dynamic, and can be taken to different environments. Therefore, this game is educational, captivating and fun. It can be used as an extra resource in the teaching-learning process about drug poisoning.

CFSP002

A vision on the contemporary process of health self-care among immigrants in Brazil

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Introduction and objective: The migratory movement to Brazil remains an expressive phenomenon. Immigrants bring with them the expectation of a better life, their culture, and an increasing demand for health services. Thus, the objective is to conduct a study on the practice of self-care among immigrants who reside in the municipality of Lajeado, RS.

Materials and methods: A transversal character study was conducted from April to October 2017, with immigrants treated by the Family Health Strategy in the São José neighborhood. The data, collected through an interview of immigrants in their homes, were compiled and analysed from the bank created with Microsoft Excel. This study was approved by the Research Ethics Committee of Univates (approval number 1.972.839).

Results and conclusion: The study included 30 individuals, mostly male and of Haitian origin (83.3%). 93.3% of those interviewed communicate in Portuguese, but the language comprehension for 60% of these immigrants is of a basic level. Only 6.7% of respondents reported making use of medicines in the practice of self-care, a procedure different from that adopted by Brazilians. However, 50.0% of immigrants reported using medicinal plants as an alternative therapy. It was concluded that immigrants have different practices of self-care, and reflections on the fundamental perception of immigrants, and adequacy of the health care system is necessary in order to meet this demand.

Financing: Universidade do Vale do Taquari-Univates.

CFSP003

Acceptance of generic drugs by users of a commercial pharmacy in the western region of Pará

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Introduction and objective: Generic drugs have always been behind the reference drugs in all prescriptions since doctors very often prescribe the reference ones, so people do not believe in the efficacy of generics. The objective of this study is to evaluate the acceptance profile of generic drugs by users attending a commercial pharmacy.

Materials and methods: This study was carried out in October 2018, by using a sociodemographic questionnaire and generic information from 180 users of a commercial pharmacy in the city of Santarém, in the western region of Pará. Data were analysed using descriptive statistics. This study was approved by the Committee of Ethics in Research with Humans, under opinion 2976613.

Results and conclusion: It was observed that 77% of respondents stated that they had desired effects with the use of drugs, 81% stated that the generic drug had the same effect as the reference drug and 88% said that the generic drug did not have the same value as the reference drug, being influenced at the time of purchase. Regarding the identification, 40% identify the medicine by the G in the box, 22% by the yellow stripe in the packaging, and 38% claimed to know when informed by the pharmacist. An important fact is that 76% said they trust in the interchangeability made by the pharmacist. There was good acceptance of the generic drug by the interviewees, as well as trust in the pharmacist in the exchange of the reference drug with the generic one.

Financing: Hope Institute of Higher Education.

CFSP004

Adulterated dietary supplements commercialized in Brazil can induce cytotoxicity in vitro

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Introduction and objective: In Brazil, the absence of a proper methodology to investigate the quality of dietary supplements worries the authorities, especially in deliberated adulterations cases. In this way, this work aimed to evaluate the presence of adulterants in dietary supplements and their possible cytotoxicity effects in human blood cells.

Materials and methods: A quantitative HPLC-DAD method was developed and validated to investigate ten possible adulterants in food supplements. The cytotoxicity was evaluated in healthy human cells through MTT, dichlorofluorescein diacetate, picogreen tests, hemolysis, and nitric oxide liberation, in samples with the presence of adulterants.

Results and conclusion: The method was successfully developed and enabled the simultaneous detection of sildenafil, vardenafil, tadalafil, yohimbine, testosterone, testosterone propionate, clenbuterol, hydrochlorothiazide, furosemide, and spironolactone in less than five minutes. From 44 samples analysed, seven were positive to the presence of at least one adulterant. The cytotoxicity was evaluated in seven different concentrations; a proportional increase of cytotoxicity was observed in upper concentrations. One sample, containing three diuretics, promoted the liberation of reactive species of oxygen and decrease of cell viability even in lower concentrations. It was possible to conclude that the cell damage is specific to each adulterant and matrix and dependent on concentrations.

Financing: CAPES, CNPq, FAPESP.

CFSP005

Adulteration in dietary supplements: an alert to Brazilian Control Agency

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Introduction and objective: The new regulatory framework for food supplements still faults on the absence of analytical methods for the investigation of synthetic drugs, which are illegally added. Based on this, the current work aimed at an evaluation of possible adulteration in dietary supplements sold in Brazilian websites and a critical overview of this scenario.

Materials and methods: Voltammetry of immobilized microparticles (VIMP) was used as the screening method for evaluation of samples purchased over the internet regarding the presence of tadalafil and sildenafil in solid-state. Paraffin-impregnated graphite was used as a working electrode, while Ag/AgCl (3 mol.L⁻¹ KCl) and Pt wire were used as RE and AE, respectively. The supporting electrolyte consisted of a 0.01 mol.L⁻¹ H₂SO₄.

Results and conclusion: Screening methods, especially VIMP, demonstrated to be a helpful analytical tool for the quality control of drugs in solid-state presented as adulterants in food supplements. Five samples with a natural appeal for enhancement of gym performance and gain of muscle were initially screened, and two of them presented possible adulteration with tadalafil and sildenafil. The use of chromatographic methods confirmed the adulteration. These results can serve as a warning to the Brazilian agency control regarding the presence of illegally added substances on commercialized supplements. Moreover, the presence of such drugs could offer drastic consequences to the consumers' health due to their deleterious effects and possible potentiation when associated with other ingredients or drugs.

Financing: FAPESP 2018/13496-8.

CFSP006

An epidemiological analysis of family planning and contraception in the Brazilian geographic regions

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Introduction and objective: Family planning is a strategy able to increase the use of contraceptives, since it makes accessible the various contraceptive methods and expands information, consequently reducing maternal and child mortality, as well as sexually transmitted infections. This research aimed to evaluate contraception and family planning in Brazilian regions.

Materials and methods: An epidemiological survey was done in the IBGE database – SIDRA using data from the first Pesquisa Nacional de Saúde (PNS) 2013, considering women from 18 to 49 years old that still menstruate and that had sexual intercourse in the last 12 months. For this, tables of proportion and percentage distribution about family planning and contraception were selected.

Results and conclusion: Only 2.8% joined a group of family planning in the South Region (SR) and 6.1% in the Northeast (NER). However, 73.6% of women from the SR used a contraceptive method while in the NER only 51.3% did it. Besides, rates increased proportionally to education levels. Among the most used methods, there are the male condom in the North Region (NR) (55.6%) and the pill in the other regions, an average of 63.85%. The emergency pill has a use rate of 5.1% in the NR, and 1.4% in the SR. Among the reasons for non-use of any method, 5.3% alleged lack of information or religious reasons in the NR, against 1.7% in the Midwest Region. The results of the next PNS should be analysed to verify if family planning has been effective in the last five years, and what must be improved.

CFSP007

Analysis of an educational game development: narguilé in focus!

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Introduction and objective: Several strategies are being brought up to give guidance and appeal to adolescents and young people about health issues. After the “Narguilé in focus” educational game creation, which focuses on the use of narguilé, this study comes to examine its development, and the acceptance it has with its targeted audience and their performance.

Materials and methods: The research took place at a primary school’s 7th, 8th, and 9th grades in Barra do Garças - MT in 2018. Before the game started, an evaluation of the student’s general knowledge about narguilé was made. As they played it, data was collected on their performance and the game’s success to achieve the proposed goals. CAAE: 87111218.0.0000.5587.

Results and conclusion: There were seven rounds involving 173 players. 41% were female, and 59% male. Among the participants that answered the question, 27% were female and 61.42% male. Concerning the average time to play the game, it took 34.3 ± 8.1 minutes. 37% of the students knew someone who smokes narguilé, and 41,6% said they knew what a narguilé is. However, most of them did not know the answers to the basic questions about Narguilé and the consequences of its use. It was an interactive, dynamic game and awakened the students’ curiosity. The conclusion is that this game has proved to be an excellent alternative to hold their attention and impart knowledge in a fun way.

CFSP008

Analysis of bacterial resistance pattern of the autologous bone marrow transplantation sector in an university hospital

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Introduction and objective: Autologous bone marrow transplantation is a therapeutic alternative for various diseases. However, it’s a risk for the patient, especially in infectious areas. The initial neutropenia period is the most vulnerable to bacterial infections. The aim of this study is to determine bacterial resistance patterns on patients in a University Hospital.

Materials and methods: One hundred transplantation patients were recruited to this study, but six were excluded due to data unavailability. The results of blood culture, uroculture, cultures of tracheal secretion, blood and catheter tip were analysed. “Total resistance” and “intermediate resistance” were considered resistant bacteria. This research was approved by CEP/UEL n° 2.341.053.

Results and conclusion: Gram-positive microorganisms were the most found, and *S. epidermidis* was the most incident (15.7%), followed by *S. aureus* (10.5%) and coagulase-negative Staphylococci (9.5%). Penicillin was the antibacterial with greater resistance (n=20), a finding already well established in the literature, followed by ciprofloxacin (n=16) and trimethoprim-sulfamethoxazole/oxacillin (n=10). Resistance to quinolones has been increasing through the years, which raises doubts about its prophylactic use in transplantation centers. The most resistant microorganisms were, in sequence, *S. epidermidis*, *K. pneumoniae* and *A. baumannii*. The frequency and pattern of infections presented by the patients in this study were consistent with those reported in the literature.

CFSP009

Analysis of costs of appropriate and inappropriate medication use in older people in a university hospital

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Introduction and objective: Prescription of Potentially Inappropriate Medications (PIM) has relevant aspects in older people, along with the prevalence of drug interactions, adverse reactions, and polypharmacy. PIM are medications that present risks of causing side effects that are superior to their benefits in older people, and therapeutic alternatives may be used.

Materials and methods: A descriptive retrospective observational study carried out in a Clinical Medical ward of a public university hospital. The prescriptions of 124 older people, patients with 60 years of age or older hospitalized for clinical conditions, were analysed. The drugs were considered PIM according to the 2019 Beers Criteria. Prescribing data were collected through the electronic medical record system.

Results and conclusion: Prescriptions of 124 patients were evaluated. The median age was 74.6 (25 – 75 P: 69-81) years, 60.5% were male. The average number of medications prescribed for hospitalization was 12. In this study, 66.1% (82) of older people had prescriptions with PIM, according to Beers Criteria. The PIM prescriptions costs had a median of R\$ 418.80 (25 – 75 P: 174.20-775.45) and R\$ 205.00 (25 – 75 P: 76.10-474.97) without PIM ($p=0.002$). In the analysis of PIM prescription costs and evolution (discharge or death), a statistically significant difference was observed ($p=0.009$), being higher in the second group. The elaboration of a clinical protocol, together with the insertion of the pharmacist in the multidisciplinary team, are helpful tools for reducing the use of inappropriate drugs in older people.

CFSP010

Analysis of drug interactions of prescriptions subject to special control in a drugstore network branch in the city of Belém-PA

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Introduction and objective: Often, patients who use poly-pharmacy are exposed to drug interactions that can bring benefits as well as harm to their health. Thus, this study aims to identify the main drug interactions in prescriptions of drugs subject to special control, dispensed at a drugstore.

Materials and methods: A descriptive study was carried out at a drugstore in the city of Belém-PA. One hundred twenty-seven special control prescriptions were selected and analysed from May to July 2018, with prescription of two or more drugs subject to special control. In order to verify and classify the drug interactions, the Micromedex® Solutions database was used. Subsequently, drug interactions were classified as contraindicated, higher, moderate, and mild.

Results and conclusion: Of the 127 recipes, 57 contained drug interactions. Regarding severity, 66% were of a higher level, 33% of moderate and 1.85% were contraindicated. The most frequent interactions were risperidone associated with another substance; haloperidol and amitriptyline; quetiapine and associated. 33% of drug interactions present a risk of cardiotoxicity, more specifically, prolongation of the QT interval, being considered of greater severity. In addition, 16% can cause serotonergic syndrome and a 32% change in pharmacological processes, either in the pharmacokinetic or pharmacodynamic range. It is suggested that these drug interactions expose patients to health risks. These results corroborate the need for pharmaceutical services, so treatment of success is achieved.

CFSP011

Analysis of five excipients in naproxen magisterial capsules' profile of dissolution

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Introduction and objective: Monitoring the effect that different types of excipients have on drug formulation is an important tool that influences capsules and tablets dissolution. Based on this, it was suggested analyzing how the different types and quantities of excipients affect the dissolution profile of naproxen capsules.

Materials and methods: Four 250g Naproxen capsules were manipulated, with excipients varying according to diluents, wetting agents, and disintegrants concentration. Six units of each formula were evaluated in the dissolution test, each using a phosphate buffer at pH 7.4 (900 mL), plus a paddle with sinker at a 50rpm speed. Data were collected six times, and it had a sample reading at 332 nm.

Results and conclusion: All formulations are under pharmacopoeial specifications, i.e., the minimum dissolution rate of Naproxen tablets at 45 minutes is at least 80%. The first presented a better dissolution profile of Naproxen and also had the lowest preparation cost when the influence of the amount and type of excipient had was observed. To guarantee the quality and efficiency of manipulated drugs, having the right quantity and type of excipient combination is essential, especially at the Biopharmaceutical Classification System's Class II.

CFSP012

Analysis of hematological findings of hemograms of children with dengue

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Introduction and objective: Dengue is an arbovirose present in all Brazilian territory and constitutes a serious public health problem, causing thrombocytopenia, hemorrhage, and death. The objective of this study is to analyse the hematological findings of hemograms of children with dengue in a reference hospital in Fortaleza-CE.

Materials and methods: This is a retrospective and descriptive study conducted from January 2017 to October 2018, with the use of children with dengue treated at a children's hospital. A statistical analysis of the data was conducted using the Microsoft Excel software and the Research Ethics Committee of UFC, under N 2.943.444.

Results and conclusion: It was observed that of the 25,107 children treated, 485 were admitted to the hospital with suspected dengue. Of the 485 children, 100 (20.6%) were confirmed with dengue, after serological testing. The changes observed in the blood count were thrombocytopenia, leukopenia, anemia, high hematocrit, lymphocytosis and atypical lymphocytes in 69%, 68%, 59%, 5%, 3% and 13% of the cases, respectively. Fifty-five children had thrombocytopenia and leukopenia simultaneously. The changes corresponded to classical dengue, the mildest form of the disease. The results show that the hemogram is important to recognize common alterations in the disease, contributing to guiding initial clinical management in suspected cases of dengue, and as a predictive factor of the prognosis.

CFSP013

Analysis of main etiological agents found in tracheal secretion (low respiratory tract qualitative)

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Introduction and objective: Microorganisms such as *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus* can cause lower respiratory tract infections. This study aimed to identify the main etiological agents found in tracheal secretions in hospitalized patients and the bacterial resistance profile.

Materials and methods: A five-year cross-sectional study was performed from July 2012 to July 2017. Data from the Soul MV System (electronic medical record) of patients admitted to the Medical School Hospital - FMB/HC/UNESP - Botucatu / SP were analysed. The UNESP - FMB's Ethics and Research Committee approved the research under the number 2.577.443

Results and conclusion: The Kruskal-Wallis and Mann-Whitney tests were used in the statistical analysis, and between the years of 2012 and 2017, a statistical significance ($p < 0.05$) could be observed. In 5,065 samples of tracheal secretion cultures, 25% showed positive results and 75% negative results. Among the positive ones, 66% were male and 34% female. 22.4% of the samples had *A. baumannii*, followed by 20% with *S. aureus*, 18.4% with *P. aeruginosa*, and 4.9% with *K. pneumoniae*. *A. baumannii* showed higher resistance to 99.3% ceftriaxone antibiotics. *S. aureus* resisted penicillin G, *P. aeruginosa* resisted imipenem 45.5% and meropenem 42.5%, and *K. pneumoniae* showed higher resistance to ampicillin.

CFSP014

Analysis of medical prescriptions fulfilled in a pharmacy of the Specialized Component of Pharmaceutical Assistance (CEAF) in the state of Paraná, Brazil

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Introduction and objective: Prescribing is an important step in the process of care and attention to the patient in order to achieve the effectiveness of the treatment. The aim of this study was to analyse the main characteristics of medical prescriptions in a pharmacy of the CEAF program in order to uncover the profile of the prescriptions served and to trace the commonly found failures.

Materials and methods: A simple random sampling system was used to collect data from 3,000 medical prescriptions with medications from the CEAF program. The prescriptions were evaluated regarding the aspects of the header, prescriber data, origin of the prescription, denomination of medications, route of administration, and dosage. The data were processed using the Microsoft Excel 2010[®] software.

Results and conclusion: In the evaluated prescriptions, 38.8% came from a hospital, 35.4% from private practices, and 25.8% from basic health units. The main missing information was a pharmaceutical form (22.9%), route of administration (11.3%), and drug concentration (5.7%). In addition, more than 70% of the prescriptions contained abbreviations. It was also observed that errors are frequent, although the prescription is a fundamental tool in ensuring safe access to the drug by the patient. A prescription with unclear or absent information can induce medication errors, which causes direct and indirect costs for society. Thus, the role of the pharmacist becomes fundamental to promote the rationalization of prescriptions, reducing medication errors, and ensuring rational access to medicines.

CFSP015

Analysis of medicinal interactions in prescriptions of hypertensive and diabetic patients

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Introduction and objective: Hypertension and diabetes are chronic diseases, present in high rates of hospitalization and mortality. It is common to find individuals who make drug combinations, causing interactions, and possibly worsening the clinical picture. The objective of this study was to identify and classify drug interactions in the prescriptions present in commercial pharmacies.

Materials and methods: Documentary study, retrospective, carried out in a commercial pharmacy in the municipality of Crato, Ceará, Brazil. The prescriptions of the 'Aqui Tem Farmácia Popular' program were analysed and classified regarding its interactions according to the Micromedex®. The work complied with the Resolution 466 of 12/2012 and was submitted to the FJN's Ethics Committee in Research, being approved under protocol 3.215.168.

Results and conclusion: 360 prescriptions for hypertensive and diabetic patients were analysed, where 155 had no interaction. A total of 33 interactions were verified, and the combination of 15 drugs present in the prescriptions was analysed. Among the interactions found, 7 (3.41%) were classified as severe when associated with aspirin and clopidogrel, and 26 (12.68%) were of the moderate type, in which 8.78% of interactions resulted from the association of hydrochlorothiazide with calcium and 3.41% by the combination of hydrochlorothiazide and propranolol. The importance of pharmaceutical care in treating diseases is noted, and the results of this study, along with other information distributed by the media, can help prevent more serious problems that pose a risk to the health of the patients.

CFSP016

Analysis of physicochemical parameters of guava nectar

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Introduction and objective: The consumption of ready-made beverages has been increasing as the population seeks healthier habits. Thus, there is a need for studies to analyse the quality parameters of fruit nectars. The objective is to characterize guava nectar in relation to patterns of identity and quality and identify the bioactive compounds.

Materials and methods: The types of nectar went through a price survey in supermarkets in Macaé-RJ, having as criterium the guava flavor. The analyses of total solids and soluble solids were performed in Brix, in order to compare it with the current legislation. The ascorbic acid content was made to detect the presence of active compounds. All assays were performed in triplicate.

Results and conclusion: Regarding total solids, there was the upper nectar (10.58 g/100 g), medium (10.80 g/100 g) and inferior (10.54 g/100 g). For the parameter soluble solids in Brix, only the nectar of lower value (11.0 ° Brix) is within the recommended minimum value of 10° Brix. The upper (8.8 ° Brix) and medium nectar (7.0 ° Brix) presented values below the established by the Brazilian legislation. In the analysis of ascorbic acid, it was possible to observe the nectar of lower value (24.85 mg/100 g juice), the average value (22.60 mg/100 g) and higher (10.19 mg/100 g). The nectar of inferior value presented better results when compared to the nectar of medium and higher value, being within the parameters of identity and quality standards established by the Brazilian legislation.

CFSP017

Analysis of profile of medicine expenditure by health programs in a family pharmacy

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Introduction and objective: Drug spending represents a large portion of healthcare organizations' expenses. The monitoring of these expenses allows the improvement of management and efficiency of services rendered with the reduction of waste. Thus, the study aims to analyse the profile of drug spending by health programs of a Family Pharmacy.

Materials and methods: Descriptive cross-sectional study conducted at the Albert Sabin Polyclinic Family Pharmacy, located in Recife, Pernambuco, Brazil. Using information from the HÓRUS (National System for the Management of Pharmaceutical Care) system from February 1, 2017, to January 31, 2018. The collected data were entered into the Microsoft® Excel 2010 program and submitted to descriptive statistical analysis.

Results and conclusion: The pharmacy attended 44,704 patients in the different programs with a cost of R\$ 762,861.78. The mental health program presented the highest value R\$ 503,747.24 (66.03%), assisting 20,736 patients with an average value of R\$ 24.29. It can also be observed that the tuberculosis program spends an average of R\$ 98.07 per patient, considerably lower than the cost of hospitalization for respiratory tuberculosis in Pernambuco. Therefore, it can be emphasized that cost management and economic analysis are fundamental tools for promoting the economy and execution of the health budget, aiming at ensuring the policy of access to medication.

CFSP018

Analysis of the antimicrobial management program – stewardship – in a university hospital emergency

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Introduction and objective: Infections related to health assistance and microbial resistance are one of the greatest threats to global public health. The objective of this study was to analyse the profile of the antimicrobial request forms of patients in the Emergency Room of a large University Hospital.

Materials and methods: The antimicrobial request sheets from January to April 2018 had the data tabulated in Microsoft Excel. The parameters analysed were: quantity of files released, complete, blocked, justified, and changed (dose modification, administration interval, and duration of treatment). This study was approved by the opinion of CEP UEL n° 2.347.762.

Results and conclusion: In total, 791 chips were analysed, 91.91% of which were released, 54.99% were complete, and 20.61% were changed. Among the alterations, 30.06% were of the dose, 22.70% of the interval, and 57.67% of the duration. 34.97% were blocked, and 33.74% had a justification for alteration and blockade. The performance of the clinical pharmacist in collaboration with the Hospital Infection Control Committee, through antimicrobial management programs – Stewardship, has been shown to be essential, allowing auditing of the dose, duration, route and interval of administration, leading to treatment effectiveness and patient safety and minimizing adverse effects, antimicrobial resistance, length of hospital stay and hospital costs.

CFSP019

Analysis of the contact of students with psychoactive substances in a city in Rio Grande do Sul

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Introduction and objective: Early initiation and maintenance of psychoactive substance (PAS) use include special situations of increased health risk. This study aimed to find data from the prevalence of experimentation and continued use of medical psychoactive drugs, alcohol, tobacco, inhalant solvents and illicit drugs among students of a city in the state of Rio Grande do Sul.

Materials and methods: A self-administered questionnaire was used, standardized, considering independent and dependent variables, with the extraction of the data about the use of psychoactive drugs, alcohol, tobacco, inhalant solvents and illicit drugs. The data were encoded in the SPSS program. Descriptive analyses were made of frequency and confidence intervals or averages and standard deviation and bivariate.

Results and conclusion: A total of 1539 valid questionnaires were used, of which 848 were females and 691 were males, collected from students of 23 schools in the city, born between 1999 and 2005. Data showed a frequency of use of any substance searched in the order of 80.2% and used in the last 12 months in the order of 75.1%. The average age for beginning the use of psychoactive drugs was 13.6 years. The average precocity for alcohol use was 12.9 years. The relation of use during life and maintenance of use was 1.1 for alcohol, 1.5 for the drugs studied (benzodiazepines, anorexigenic and central stimulant drugs) and 1.5 for illicit drugs. There is a need to propose educational measures on the rational use of medicines, as well as more effective preventive measures for the consumption of alcohol and illicit drugs.

Financing: Prefeitura Municipal de Lageado, Rio Grande do Sul.

CFSP020

Analysis of the lawsuits of the municipality of Aguaí, SP

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Introduction and objective: The judicialization of health is the search of the judiciary to obtain drugs or treatments not found in SUS (Health Unique System), either due to lack of forecast in RENAME or budget. The exponential increase of this practice has caused an imbalance in the budget and worried managers and jurists. The objective here is to analyse the lawsuits of the city Aguaí.

Materials and methods: This study is a cross-sectional descriptive approved by the Ethics Committee under No. 10562919.6.0000.5382, conducted at the Regional Health Department of São João da Boa Vista, São Paulo. The lawsuits of the year 2018 of the municipality of Aguaí were selected for such analysis. The data analysed were patient profiles, medications requested, prescribers' specialties and pathology CDI.

Results and conclusion: Forty-nine cases were analysed, referring to the first half of 2018. It is observed that 27% of the medicines requested in court are already covered by RENAME or other government programs, representing 10% of the monthly budget amount of the municipality and not being necessary the acquisition by legal means. However, in 57% of cases, the drugs are prescribed by general practitioners and not by medical specialists, which would promote a more appropriate pharmacotherapeutic treatment due to a more in-depth view of the clinical case. Note that the right to health provided for in Law 8080/90, although guaranteed by the State, has not been used most appropriately, causing the need for contingency.

CFSP021

Analysis of the metabolomic profile of volatile organic compounds in biological fluids by mass spectrometry gas chromatography (GC-MS)

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Introduction and objective: Non-Hodgkin's lymphoma (NHL) is a neoplasm that affects a group of immune system cells. This study aimed to optimize sample extraction for the analyses of volatile organic compounds (VOCs) in urine and blood serum by GC-MS for untargeted metabolomics. The optimized method was applied to the initial research of NHL diagnosis and prognosis biomarkers.

Materials and methods: The volatile organic compounds content in blood serum and urine samples were extracted using headspace solid-phase microextraction (HS-SPME). Analyses were performed by GC-MS using the conditions of the analysis indicated by the Fiehn library. Extraction conditions optimization was performed with a 23 factorial design using the number of molecular features as the response to construct response surfaces.

Results and conclusion: The factorial design 23 and the construction of the response surfaces allowed the optimization of the following parameters for urine and blood serum, respectively: addition of NaCl 0.5 g, 1.5 g; incubation temperature of 90°C, 90°C; extraction time of 15 minutes, 15 minutes; incubation time of 15 minutes, 24 minutes; agitation time of 19 seconds, 23 seconds; sample volume 3.5 mL, 0.5 mL. The method was applied to urine samples in order to find potential diagnostic and prognostic biomarkers of NHL. In Study 1, which compared healthy volunteers with NHL patients before the first chemotherapy session, 18 potential biomarkers statistically significant (p-value < 0,05) were found. In Study 2, which compared samples of NHL patients throughout chemotherapy treatment, two potential biomarkers were found (CAAE 35481614.7.0000.5404).

Financing: CNPq, CAPES and FAPESP.

CFSP022

Analysis of the use of over the counter drugs by patients in a primary health center

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Introduction and objective: Over the Counter Drugs (OTCs) are approved by the health authorities for commercialization without a prescription. They are related to self-medication, being the most used class of medicines in this practice. Thus, this study aims to analyse the use of OTCs in a Primary Health Center (PHC).

Materials and methods: This is a cross-sectional and descriptive study conducted with 120 patients in a PHC located in Fortaleza, Ceará. The research was approved by the Research and Ethics Committee of the Federal University of Ceará, with protocol number 07396819.2.0000.5054. The data were obtained through a questionnaire with questions about age, sex, educational level and the use of OTCs.

Results and conclusion: The most used OTCs were: dipyron (22.5%, n = 27), association of dipyron, caffeine and orfenandrin (15.8%, n = 19) and acetaminophen (11.66%, n = 14). The frequency of use was: 5.2% (n = 6) reported using 5 to 10 times a month, 22.6% (n = 27) using 1 to 5 times a month and 39.1% (n = 47) using it daily. Of the 120 patients, 20% (n = 24) consult the pharmacist, and of these, 70.8% (n = 17) believe that self-medication of OTCs is harmful to health (p < 0.05). Thus, it is clear that patients in the unit use OTCs frequently; that is why medications better monitoring is necessary. Moreover, we believe that the presence of the pharmacist in health education is important because most patients who are consulted by this professional believe that self-medication by OTCs is harmful to health.

CFSP023

Anatomic characterization of the leaf of *Turnera subulata* Sm.

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Introduction and objective: *Turnera subulata* Sm. belongs to the Turneraceae family and is popularly known as “chanana.” In folk medicine, it is used in the treatment of urinary tract infection, presenting the anti-inflammatory property. In order to contribute to the pharmacobotanical control of the species, the study aimed to analyse the leaf anatomical characters.

Materials and methods: Transverse and paradermic sections were obtained freehand and subjected to a 50% sodium hypochlorite solution for the discoloration process. After going through washing in distilled water, they were stained with safrablau and mounted on semipermanent slides. The analyses were performed on images obtained by a digital camera coupled to light and polarization microscopy.

Results and conclusion: The *T. subulata* petiole, in cross-section, has a biconvex contour. The epidermis is uniseriate, covered by a thick cuticle. Adjacent to the epidermis, there is an angular collenchyma. Glandular trichomes are observed. The vascular bundles are collateral. Druses are found in the parenchyma and phloem. The leaf blade, in front view, is amphistomatic. In cross-section, the midrib has a biconvex contour, uniseriate epidermis covered by a slightly thick cuticle. The vascular bundle is collateral. It presents a dorsiventral mesophyll. Druses are found in the parenchyma and phloem of the midrib and throughout the mesophyll. The correct characterization and anatomical identification allow the quality control of the vegetal raw material, ensuring its authenticity.

CFSP024

Antiallergic potential of aphytomomal suspension containing flavonoid

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Introduction and objective: Allergic diseases have reached epidemic proportions in the world. Quercetin is a flavonoid with antiallergic potential but has low bioavailability in the biological environment. Thus, it is proposed to use phytosomes to circumvent this problem. The goal is to contribute to the development of a stable formulation useful in the treatment of allergies.

Materials and methods: Qc and phosphatidylcholine were refluxed in ethanol. The solvent was evaporated, and the resulting film was hydrated with water, forming the phytosomes. Then, the incorporation of Qc in the phytosome was determined by UV-VIS. The characterization was done by DSC, IR, size, and PdI. The antiallergic potential was evaluated by quantifying the enzyme β -Hex released by the antigen-stimulated mast cells.

Results and conclusion: The concentrations of Qc and PC (phosphatidylcholine) do not influence the percentage of binding of Qc (80%) to PC, but the process of phytosome formation is hampered at concentrations of Qc and PC above 234 $\mu\text{mol.L}^{-1}$. The physicochemical evaluation of phytosomes (concerning size and PdI) showed that the formulation with a concentration near the average solubility of Qc in water (130 $\mu\text{mol.L}^{-1}$), has stability for a longer period than the others (concentration of Qc greater than 130 $\mu\text{mol.L}^{-1}$). The methodology allowed a good binding efficiency of QC to phospholipid. Biological tests indicated that the antiallergic potential of Qc is higher in the form of phytosomes. Phytosomes increased the *in vitro* bioavailability of Qc, suggesting that this formulation is promising in the treatment of allergies.

Financing: Pibic-CNPq, FCFRP.

CFSP025

Antifungal potential of fractions from *Aloe vera* (L.) Burm. f. Gel against *Candida albicans*

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Introduction and objective: *Aloe vera* is widely used by the food, pharmaceutical and cosmetic industries. There are reports that in *Aloe vera* leaf gel, there are metabolites with antifungal activity. Thus, the objective of this work was to obtain gel fractions of *Aloe vera* leaves and to evaluate the antifungal and antibiofilm action against *Candida albicans*.

Materials and methods: Two processes were used to obtain the vegetable fractions: three-phase liquid-liquid partition and dialysis. The portions were lyophilized and analysed by the Bradford method and nuclear magnetic resonance spectroscopy ¹H. Antifungal activity and evaluation of biofilm formation were evaluated by the 96-well plate microdilution method using a violet crystal to stain the biofilm.

Results and conclusion: After obtaining the fractions, no protein was detected by the technique employed. The analysis of NMR ¹H suggested the presence of sugars in both portions. The fractions obtained from *Aloe vera* gel showed no antifungal action; however, all concentrations (250 µg/mL-0.97 µg/mL) were able to inhibit biofilm formation by up to 70%, one of the main virulence factors of *C. Albicans*. This feat is unprecedented, given that there are no reports in the literature of inhibition activity of *C. Albicans* biofilm formation using *Aloe vera* gel. Thus, these results may contribute to new studies aiming at the search for bioactive metabolites of *Aloe vera* that can be used alternatively to combat fungal infections.

CFSP026

Anti-leishmania potential of a series of thiazols derived from isatin

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Introduction and objective: Leishmaniasis is a serious, life-threatening chronic disease. Its occurrence in a particular area depends on the presence of the vector and an equally susceptible host. This study focuses on ways to synthesize compounds and evaluate them as possible drugs for Leishmaniasis' treatment.

Materials and methods: The compounds were synthesized using a simple methodology. Cytotoxicity was assessed by MTT assays and determined against macrophage cells. The anti-Leishmania activity was measured in opposition to the promastigote and amastigote forms of *Leishmania amazonensis* and *Leishmania infantum*, and miltefosine was used as a positive control.

Results and conclusion: Regarding the *Leishmania*'s amastigote form activity, the compounds did not have satisfactory results, since all thiazoles had an IC₅₀ higher than Miltefosine, the drug used for reference. Concerning the *Leishmania*'s promastigote form activity, four thiazoles were distinguished for the two *Leishmania* species tested, with results superior to Miltefosine. The LAB-1N compound presented the best result, with IC₅₀ values 6.17µM and IS 14.15 for *L. amazonenses* and IC₅₀ values 6.04µM and IS 14.44 for *L. infantum*. LAB-1M thiazoles also showed good IC₅₀ and IS scores better than Miltefosine. It can be inferred that the methyl insertion in R2 may be responsible for the increase of the *Leishmania*'s promastigote form activity.

Financing: CNPq e FACEPE.

CFSP027

Antimicrobial activity of the aerial parts of dry crude extract of the *Borreria verticillata* (vassoura-de-botão)

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Introduction and objective: The *B. verticillata* is a herb that belongs to the Rubiaceae family, which represents a contribution to the discovery of new therapeutic agents in the treatment of diseases caused by multiresistant microorganisms. The research aimed to determine the Minimum Inhibitory Concentration (MIC) and Minimum Inertial Concentration of Adherence (MICA) for *B. verticillata*.

Materials and methods: Strains of *Staphylococcus aureus* and *Candida albicans* were used. To determine MIC the well technique was used from 100%, 50%, 25%, and 12.50% dilutions. The plates were incubated under 37°C for 24 hours. For control, the antibiotic Cephalexin and the antifungal Fluconazole were used. The MICA was determined through the inclined tube technique in the sucrose's presence under the same MIC's conditions.

Results and conclusion: The extract of aerial parts of the *Borreria verticillata* presented inhibitory action in the concentrations of 100%, 50%, and 25% on the bacteria known as *S. aureus*, presenting formation of halos with 20 mm, 16.5 mm, and 16 mm, respectively. In the *C. albicans*, there was no formation of halos on any of the concentrations. In other words, the extract did not exhibit any inhibitory action against the fungus. The MICA's tests made with the extract of the aerial parts were negative for the creation of biofilms in the *S. aureus*, although in the *C. albicans*, there was a creation of biofilm. In conclusion, this plant is viable for future scientific studies around her antimicrobial potential to obtain new drugs.

Financing: Asces/Unita.

CFSP028

Antimicrobial evaluation of *Copaifera reticulata* Ducke extracts

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Introduction and objective: *Copaifera reticulata* Duke is a medicinal plant applied as an antimicrobial, by the Amazon population. In general, biological studies are performed with self-assessment, and studies of various parts of the plant are scarce, as the study evaluated an antibacterial activity of *C. reticulata* Ducke branches extract by two methods.

Materials and methods: Branches were collected, processed, and the powder was subjected to reflux extraction with solvents of hexane (EHex), ethyl acetate (EAct), and dichloromethane (EDic) due to their affinity for lipid components, mostly in oleoresins. The extract had its biological activity analysed by agar diffusion and broth microdilution methods against the standard strains of *Salmonella* sp., and *Staphylococcus aureus*.

Results and conclusion: In the agar diffusion, 10 mm, 12 mm, and 15 mm inhibition halos were found in front of *Salmonella* sp., and 10 mm, 12 mm, and 8 mm in front of *S. aureus* for EHex, EDic, and EAct (500 µg/disc) respectively. Considering the positive control activity can be considered as moderate. Broth microdilution ratified these results, IC50 in µg/mL for *Salmonella* sp. 175.4 (EHex), 266.1 (EDic), and 54.9 (EAct) and for *S. aureus* the IC50 in µg/mL 213.7 (EHex), 263.2 (EDic) and 115.1. Considering the gentamicin control (IC50 23.6 µg/mL), the EAct has high activity against *Salmonella* sp and moderate activity for *S. aureus*; EHex and EDic have moderate activity against these microorganisms. The antimicrobial activity of the extracts can be explained by the presence of triterpenes that have biological activities.

CFSP029

Antimicrobial evaluation of plants popularly used for treating hair loss

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Introduction and objective: Tostão herb (*Eclipta alba*) and Guaçatonga (*Casearia sylvestris*) are plants commonly used for treating hair loss. The loss has many causes such as microbial contamination that may lead to skin peeling of the scalp removing hair strains stability. The objective was to evaluate the antimicrobial property of these two plants.

Materials and methods: Guaçatonga (leaves) and Tostão herb (leaves and fruits) were made by maceration and tested by two methods: in agar depth and performed MIC in microplates (duplicates), against *Staphylococcus aureus* (ATCC 6538) and *Escherichia coli* (ATCC 25923). The controls used were saline, solvent (70% ethanol/propylene glycol) and culture medium. Phytochemical assays followed specific methods.

Results and conclusion: By in-depth method against *S. aureus*, guaçatonga tincture inhibited 99% of UFC, Tostão herb fruit tincture inhibited 92% and leaves tincture 79%, but it did not present significant results for *E. coli*. In the MIC test, the guaçatonga tincture inhibited *S. aureus* growth in concentrations of 10, 5, and 2.5% and Tostão herb (fruits and leaves) lead to growth inhibition only at 10%. The phytochemical resulted in the presence of tannins, flavonoids, saponins and alkaloids for the plants, and steroidal nucleus for guaçatonga and Tostão herb fruits. The phytochemical proves antimicrobial metabolites such as tannins, flavonoids and saponins. Guaçatonga possesses excellent antimicrobial activity, and the Tostão herb presented good activity being able to collaborate in antimicrobial control that leads to hair loss.

Financing: Faculdades Oswaldo Cruz.

CFSP030

Antimicrobial potential of medicinal plants commercialized in the municipality of Recife, PE, Brazil

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Introduction and objective: In the search for new medicinal bioactive compounds, the secondary metabolites of plant species are highlighted by the antimicrobial activity. The aim of this research was to evaluate the antimicrobial potential of medicinal plants commercialized in Recife from the determination of the minimum inhibitory concentration (MIC) of its extracts.

Materials and methods: The plant species (purple cashew, purple ipê, quixaba, urinana and white nettle) popularly used for infection were acquired commercially in three locations in Recife. 20 mg of the crude extract of each sample, four bacteria, and two fungi were used. The determination of the minimum inhibitory concentration (MIC) was performed using the broth microdilution method with microplates of 96 wells.

Results and conclusion: Based on MICs against Gram-positive and Gram-negative bacteria, all samples showed antibacterial potential, varying from 19.5 to 1250 µg/mL. However, some plants have obtained different activities among the samples of the same species from different origins. In relation to fungal strains, several samples obtained MIC > 2500 µg/mL. That is, they either do not possess antifungal potential, or a greater concentration of the extract is required for the activity. This may be due to variation in composition or by the difference in concentration in the extracts. In general, the bark of purple cashew showed better antimicrobial activity in the face of bacteria and fungi. Therefore, further studies on medicinal plants of popular use are needed in order to develop new drugs with proven efficacy and safety.

CFSP031

Antinociceptive and anti-inflammatory activities of substituted chalcones 4 and 5

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Introduction and objective: The chalcones are precursors the flavonoids' biosynthesis pathway, and the *in vitro* anti-inflammatory activity of the modified synthetic chalcones 4 (LC4) and 5 (LC5) has been proved. The objectives of this study were to evaluate the antinociceptive and anti-inflammatory effects of these chalcones *in vivo* (CEUA protocol MAC044).

Materials and methods: Male Swiss mice received i.p. DMSO, LC4 or LC5 (3, 10 or 30mg/kg) 30 minutes before the tests. 1. Formalin was injected in their paw, and the time they spent licking it was measured; 2. Mice were placed on a hot plate, and the amount of time without them licking their paws was counted; 3. Saline and carrageenan were administered intraplantar, and they were placed on the hot plate to calculate the difference between their paws.

Results and conclusion: 1. Formalin test: LC4 (10 and 30 mg/kg) and LC5 (10 mg/kg) reduced the reaction time in the neurogenic phase from 51.6±8.3 (DMSO) to 24.3±3.3; 23.4±3.3 and 28.8±2.0 s, respectively. In the inflammatory phase, LC4 and LC5 (3; 10 and 30 mg/kg) reduced from 362.4±20.1 (DMSO) to 200.6±16.7; 226.4±12.3; 238.5±16.0 and 235.9±15.8; 252.3±32.8; 258.3±15.5 s, respectively. 2. Hot plate: LC4 (10 mg/kg) and LC5 (30 mg/kg) increased the area under curve from 277.8±51.8 (DMSO) to 810.0±135.8 and 896.4±126.3, respectively. 3) Modified hot plate: LC4 (3 and 10 mg/kg) and LC5 (3, 10 and 30 mg/kg) reduced the latency variation at 360 min, from 8.9±1.3 (DMSO) to 1.1±0.7; 4.3±1.1; 4.3±1.7; 2.6±0.9 and 3.8±0.9 s, respectively. LC4 and LC5 had antinociceptive activity due to anti-inflammatory and central actions.

Financing: FAPERJ and PIBIC.

CFSP032

Antioxidant action of the hydroethanolic extract of the leaves of manihot *Esculenta crantz*

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Introduction and objective: This vegetable is rich in fibers and has calories that match that of the potato, the reason that encourages the study of their chemical constituents. This study aimed to evaluate the levels of substances reactive to thiobarbituric acid (TBARS) in erythrocytes exposed to 2,4-D and treated with different concentrations of hydroethanolic extract of manioc leaves.

Materials and methods: Analyses were made in the cassava from the cities of CA 07, FV 10, XV 05, SJ 06, SE 06 and, one from RS 14 FEPAGRO. Subsequently, *in vitro* tests were performed using human erythrocytes, which were initially exposed to the 2,4-D herbicide and then treated with different concentrations of manioc extract (0.00625, 0.0125, 0.025, 0.05 g/mL). After the treatments, the TBARS levels were analysed.

Results and conclusion: It was observed that in the treatment with RS 14 and with SE 06, there were no changes in the degree of lipoperoxidation, revealing that these extracts do not present significant toxicity to the lipids present in these cells, neither do they present antioxidant capacity. On the other hand, in CA 07, SJ 06, and FV 10 XV 15, oscillations were observed in the erythrocytes against the different concentrations in which they were exposed. After analyzing the data, it can be concluded that the hydroethanolic extracts of manioc from CA 07, SJ 06, FV 10, and XV 15 can have a positive effect on TBARS, decreasing lipoperoxidation. However, this study can not be performed *in vivo* because they cause erythrocyte hemolysis.

CFSP033

Antioxidant and cytotoxic activities and phytochemical prospection of *Plantago major L.* flowers

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Introduction and objective: *Plantago major L.* flowers have been used widely since ancient times to manage a wide range of diseases including constipation, coughs, and wounds. The purpose of this study was to evaluate several extractive combinations of secondary compounds in flower extracts (emphasizing the polyphenols) and establish the antioxidant and cytotoxicity activity.

Materials and methods: The analysis of secondary metabolites, according to Brazilian Pharmacopeia, was conducted in flowers. It was also verified the best extractive condition for polyphenols using a design of experiments checking four factors in two levels: pH value (3 or 10), solvent concentration (70 or 100% ethanol), drug/solvent ratio (1:10 or 1:20), and time (1 or 7 days). The experiments used a factorial design matrix 24. Cytotoxic and antioxidant activities were assessed by the *Artemia salina* and DPPH model, respectively.

Results and conclusion: The phytochemical screening showed the presence of alkaloids, flavonoids, and tannins in the flower extracts of this species. The quantitative analysis, using the statistical design showed that total phenols values is 1987.949 mg/g (factors: ethanol absolute, pH 3, drug ratio 1:20 and 1 day maceration) while flavonoids values is 409.29 µg/g (factors: ethanol absolute, pH 10, drug ratio 1:20 and 1 day maceration). In order to evaluate the potential of the extract to cause some cytotoxic effect, the *Artemia salina* Leach model experiments were performed and showed no cytotoxic effect considering the CL50 value obtained in the assay (above 1.000 µg/ml). The results for antioxidant capacity showed to be equivalent to 51.47% of DPPH for the best total phenol extractions condition (factors: ethanol absolute, pH 3, drug ratio 1:20, and one-day maceration). The phytochemical investigations showed that flowers of this species contain phenol compounds majorly. Therefore, the findings required on this part of the plant (flowers) suggests an important potential to be used to produce various natural medications.

CFSP034

Antioxidants as photostabilizers of the UVA/UVB filters

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Introduction and objective: The combination of avobenzone (BMBM/UVA) and octylp-methoxycinnamate (EHMC/UVB) is widely used in formulations, but display spectral absorption after exposure to UV radiation. The objective of this research was to evaluate the antioxidant action of resveratrol in order to protect the chemical stability of sunscreen formulations.

Materials and methods: Solutions of EHMC with BMBM filters were prepared in the presence and absence of resveratrol with the solvent DMSO-d₆. The samples were transferred to quartz cuvettes and irradiated at 760 W/m² in the Suntest® CPS solar simulator with a Daylight filter. ¹H NMR spectrum Bruker was used to determine the quantitative filters, as well as DPX300 5 mm multinuclear probe operating at the hydrogen frequency 300.13 MHz.

Results and conclusion: BMBM e EHMC filters in the presence of resveratrol, after irradiation dose of 13211J cm⁻², preserved the shapetrans of EHMC, noted by trans/cis of 30.65, while the solution of isolated filters was of 3.96. The addition of resveratrol in solution with EHMC, UVB filter, favored its photostability. This work presents future perspectives for the development of broad-spectrum photoprotective formulations with the potential for safety and efficacy.

Financing: FAPESP, CAPES.

CFSP035

Appraisal from UVA and UVB photoprotector effect on creams containing resveratrol

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Introduction and objective: Phenolic compounds present on plants offer protection against UV rays. They act by dissipating this harmlessly absorbed radiation. Given this information, one option of sunscreen is the usage of polyphenols. The goal of this project was to evaluate the UVA and UVB photoprotective effects of non-ionic creams containing Resveratrol.

Materials and methods: 5% of Resveratrol was incorporated in creams, using many solvents like water, alcohol, propylene glycol, PEG 400 and almond oil. The UVB photoprotective effect was evaluated by the *in vitro* Mansur method by spectrophotometry. The UVA photoprotective potential of formulations was evaluated by determining the critical wavelength and the UVA/UVB ratio.

Results and conclusion: Spectrophotometric scans of Resveratrol-containing creams absorb on UVA and UVB (290 – 400 nm). The SPF values have had variations from 17.7 to 14.9. The cream with the highest SPF was the one that used water as a levigant solvent. Sunscreen is considered suitable for use in photoprotectors when expressing an SPF of 6.0 or greater. A photoprotector suitable for UVA radiation protection shall have a critical wavelength value of 370 nm or greater and a UVA/UVB ratio greater than 0.6. All specimens showed broad-spectrum UVA protection according to the Boot's Star Racing system because the UVA/UVB ratio was greater than 0.8 and critical wavelengths greater than 370 nm. Resveratrol creams showed satisfactory UVA and UVB photoprotection.

CFSP036

Are there scientific grounds for the decriminalization of cannabis?

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Introduction and objective: *Cannabis sativa* is a shrub of the Moraceae family that presents great therapeutic potential despite its psychotropic properties, being used for several centuries and with diverse purposes. The aim of this research was to obtain scientific bases for debating whether decriminalization is the best course of action for society in general.

Materials and methods: A literature review was carried out in the PubMed and Scientific Electronic Library Online (SciELO) databases. First, it was considered for which diseases cannabis was being studied as a treatment, and it was possible to establish a guideline that included what diseases should be researched in order to obtain a scientific basis for the discussion of the proposed theme.

Results and conclusion: The process of criminalizing cannabis in Brazil followed international norms regarding its criminalization and those of other psychotropic drugs. It was possible to conclude that there is evidence of its efficacy and safety when used in a therapeutic way, being evident in the treatment of epilepsy, where it was possible to conclude that there were decreases in seizures, mainly in patients of refractory epilepsy. Other studies have also shown its efficacy against various diseases. There have been several lawsuits involving the importation of cannabidiol-based drugs to Brazil, but access to these drugs is bureaucratic and expensive. Decriminalization would imply further research on medicinal use, as well as better access to cannabidiol.

Financing: Proin-UNISANTOS.

CFSP037

Behavioral effects in zebrafish chronically exposed to methylphenidate contaminated water

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Introduction and objective: Environmental contamination by medicinal residues are often reported. These chemicals are not monitored or removed by the water treatment stations, and they are considered emerging pollutants. The objective of this study was to evaluate the behavioral effects of contamination by methylphenidate (MPH) residues in zebrafish subjected to chronic exposure.

Materials and methods: We used 108 fishes divided into 12 aquariums, with three animals in each one. A mother solution of 1mg/mL of MPH was distributed in the aquariums at concentrations of 0.875 µg/L, 1.875 µg/L, and 3 µg/L, in addition to the control group. Behavioral parameters were evaluated by the Novel Tank Test (TTN). Results were compared by One-Way ANOVA followed by Tukey ($p < 0.05$).

Results and conclusion: The smallest dose caused an anxiolytic effect since the zebrafish remained longer in the upper part of the aquarium. This type of behavior is highly relevant because it can negatively impact the welfare and survival of zebrafish since while staying longer at the top of the aquarium, fish become more susceptible to be attacked by predators. It was concluded that the presence of MPH in aquatic environments, and environmentally relevant concentrations could alter the behavioral responses of zebrafish. This project was approved by the CEUA (Committee for Ethics in Animal Use), under the opinion 030/2014.

Financing: FAPERGS number ARD 17/2551-000804-9.

CFSP038

Bidens pilosa* (Asteraceae) hexanic extract fractions promotion of antifungal activities against *Arthrographis kalrae

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Introduction and objective: *Bidens pilosa*, also known as “picão preto,” is reported as having antimicrobial activity. The fungus *Arthrographis kalrae* is an opportunistic pathogen that can cause some clinical manifestations. The objective of this work was to characterize compounds present in the leaves and roots of *B. pilosa* and to evaluate the antifungal activity against *A. kalrae*.

Materials and methods: The leaves and roots were collected, and the phytochemical analysis was performed for classes of compounds. Bioautography was performed by thin-layer chromatography with a mobil phase (Hexane: Ethyl acetate). The plates were inserted into a petri dish where *A. kalrae* was added to the culture medium at a concentration of 107 and incubated for five days at 37°C, revealed with triphenyltetrazolium chloride.

Results and conclusion: The phytochemical analysis of the roots and leaves of *Bidens pilosa* (Asteraceae) indicated the presence of flavonoids by Chinoda assay, polyphenolic compounds by microsublimation, terpenoids by TLC and tannins by Stiasny reaction. Other assays were performed but indicated negative results. The fractionation of hexane extract with hexane and ethyl acetate generated nine fractions (increasing gradient of polarity). The fraction 9:1 and 4:1 (Hex:AcOEt) demonstrated total growth inhibition of *A. kalrae* even after 96h of incubation, showing a critical antifungal activity, thus indicating a possible treatment on *A. kalrae* infection. Further studies are being carried out for the isolation of the main compounds responsible for these antifungal activities.

Financing: GIN (IC-PIBIC/CNPq), RLNM (CAPES), ENI (CNPq), NSA (CAPES, CNPq – 408384/2016-6) and FA-PR.

CFSP039

Bioequivalence risk and computational simulation: the effect of drug polymorphism and gastric pH on lercanidipine bioavailability

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Introduction and objective: The use of computational tools to predict drug pharmacokinetics is beneficial since it contributes to reducing clinical trials. Drug polymorphism can affect the bioavailability and safety of drugs. Based on that, this work aims to predict and compare the bioavailability of two polymorphs of a calcium channel blocker by using a PBPK simulator.

Materials and methods: The simulator GastroPlus® (Simulation Plus, Inc.), version 9.6, was used to predict and compare the pharmacokinetics of lercanidipine HCl polymorphs in different gastric pH. A model was built based on the literature data and experimental solubilities of the polymorphs, considering an immediate-release tablet. The optimization was carried out through the adjustment of the kinetics parameters.

Results and conclusion: An optimized model with a suitable correlation coefficient was built ($R^2 = 0.965$). The ratio of C_{max} and AUC_t between form I and II were 1.28 and 1.09, respectively, suggesting a potential bioequivalence between the crystals when used in the immediate-release tablet. Plus, a simulated change in gastric pH from 1.2 to 3 (observed under certain physiological conditions) increases the bioavailability of LRC. The ratio of C_{max} and AUC_t for form II in pH 3 and 1.2 are 2.28 and 1.58, respectively, being assigned to a higher solubility of LRC in pH 3, which indicates an *in vivo* relevance of *in vitro* data. The use of an *in silico* tool demonstrated to be a promising approach in the identification of risks related to polymorphism. Beyond that, it contributes to reducing *in vivo* experimentation and decreasing costs.

CFSP040

Biosurfactant bioproduction using *Pseudomonas aeruginosa* in medium constituted by waste of sugar cane used in the hygiene and cosmetics industries

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Introduction and objective: Biosurfactants are amphipathic molecules that can be produced by microorganisms. These natural molecules can be widely used in industrial formulations instead of chemical surfactants, which are constantly used in the hygiene and cosmetic industries. In this sense, the objective of this work was to produce biosurfactant by *P. aeruginosa* in a medium constituted by waste of sugar cane.

Materials and methods: *P. aeruginosa* cells from the culture bank of the UFRPE antibiotics department were transferred to erlenmeyers containing 100 mL of the biosurfactant production medium (20% molasses). A static culture was performed for 72 hours at 30°C. After, the samples were centrifuged and filtered. The detection of the biosurfactant production was evaluated in the cell-free metabolic liquid, after the measurement.

Results and conclusion: The results demonstrated that *P. aeruginosa* was able to reduce the surface tension of water from 72 mN/m to 34.4 mN/m, while the dispersion test showed that the *P. aeruginosa* biosurfactant dispersed 80.20% of the oil resulting in the formation of the halo with 51 mm of diameter. The dispersion value (91.20%) was obtained by Sodium Dodecyl Sulfate (positive control), resulting in a halo formation of 60 mm of diameter. *P. aeruginosa* has demonstrated the ability to use molasses as a nutrient favoring the biotechnological production of biosurfactant medium at low cost. In addition, this technology presents itself as a promising alternative to minimize the allergenic effects of hygiene products formulated with chemical surfactants while it contributes to the reduction of environmental impacts.

CFSP041

Biosurfactants: production by microorganisms and their applications in the health area

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Introduction and objective: Microbial biosurfactants present useful properties, such as low toxicity and biodegradability. Their wide structural and biological activities diversity have attracted the curiosity of the pharmaceutical industry. Based on this, this study aims to develop a systematic review of microbial bioproducts and the feasibility of health application.

Materials and methods: The database Springerlink was chosen for the current stage of inquiry about the investigated theme. The guiding question was: Is the biosurfactant health application feasible? The keyword groups were: “surfactants, biosurfactants, properties,” “biosurfactants, microorganisms, applications,” and “biosurfactants, microorganisms, biological activity.”

Results and conclusion: A total of 5665 articles were published between 2009 and 2019, reduced to 23, from inclusion and exclusion criteria. The biosurfactants proved to be useful as antibiotic, antitumor, and antibiofilm agents. Although fungi have GRAS status, most of the research has been performed with biosurfactant-producing bacteria. The studies of microorganism's cultivation conditions are essential to define biosurfactant production and features, but only a few articles have shown this approach. Besides the promising results, the use of microbial biosurfactants in health applications has been a challenge due to production, recovery, and purification of high costs. However, the identification of gaps can lead to effective interventions and developments of bioproducts for important health applications.

CFSP042

Board games improve anatomy teaching and learning process for pharmacy courses

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Introduction and objective: Educational games are an important tool in the teaching and learning process of pharmacy students. Based on these assumptions, this paper aimed to investigate the role of a peripheral nervous system board game on learning anatomy.

Materials and methods: An exploratory, quantitative study was conducted with 37 students. A validated standard questionnaire was applied before and after the game. After the pretest, the students used an educational board game about the peripheral nervous system over the peripheral nervous system. For statistical analysis, the paired t-test was used, and the data were considered significant when $p < 0.05$.

Results and conclusion: The average age of the respondents was 19.13 ± 0.22 for male participants and 19.19 ± 0.27 for the female group. Statistically significant differences in the correctness of answers were observed between pre and post $p < 0.05$. The board game format was readily accepted and provided an adaptable method for introducing, evaluating, and reinforcing concepts related to the peripheral nervous system. There was a statistically significant difference in students' learning after the application of the playful, educational game. That is, after the application of the game, the students had a higher number of correct answers in the questions involving cranial nerves. Thus, the board games promoted significant learning, in addition to stimulating creativity, attention, memory, among other skills.

Financing: PET (Programa de Educação Tutorial).

CFSP043

Breast cancer: patient profile and adherence to oral antineoplastic therapy

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Introduction and objective: Breast cancer has a high frequency among Brazilian women. This study aimed to describe the profile of breast cancer patients using oral antineoplastic drugs in a Chemotherapy Outpatient Clinic of a University Hospital, according to sociodemographic, clinical-epidemiological, and treatment characteristics.

Materials and methods: It is an observational cross-sectional study conducted from December 2015 to March 2016, including 181 patients with breast cancer. Data were obtained from outpatient records, electronic patient records, and interviews with patients; the analyses were done through Stata software. This study is part of the project approved by the UNIFESP Ethics Committee (Opinion: 1325821).

Results and conclusion: The average age was 59.7 years, where the majority (151 patients) are 50 years old or older, 156 do not live alone, 90 have no income, and 102 had adherence difficulty (medium adherence or low adherence) to oral antineoplastic treatment. The most frequent reason for adherence difficulty, verified after applying the Morisky-Green 8 (MMAS8) test adapted from OLIVEIRA-FILHO *et al.* (2012), was the forgetfulness of drug administration (57 patients). The chi-square test (a) and Fisher's exact test (b) also showed associations between adherence difficulty and: age between 35 and 49 years (p=0.004a), no income (p=0.002a), and presence of caregiver (p=0.038b), reinforcing the existence of adherence difficulty in this type of therapy.

CFSP044

Can the sonication technique reduce the size of polymeric vesicle-like nanostructures?

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Introduction and objective: In the last years, nanostructures (Ns) have been widely used in anticancer formulations/systems. In this sense, the work described here consists of examining different parameters for the formation of polymeric vesicles (PVs) and evaluate the ability to self-assemble to produce uniform poly(ethylene glycol)-block-poly(ϵ -caprolactone) PVs.

Materials and methods: Three copolymers were studied, PEG45-b-PCL44, PEG114-b-PCL98, and PEG114-b-PCL114. The formulations were hydrated in Millipore-grade water with different volumes (5, 10, and 15 mL) and sonicated by ultrasound bath (Pmax = 50 W and v = 40 KHz) for different period of times (5, 30, and 60 min), in order to reduce the average size/diameter and PDI values.

Results and conclusion: The encapsulation of drugs in Ns enhances solubility and blood half-life, promoting controlled and site-specific release. Several physical attributes of Ns determine their stability, safety, efficacy, as well as the average particle size/diameter and polydispersity index (PDI), which is an indication of their quality concerning the size distribution. For this reason, investigations are crucial to acquire a critical understanding of the different processes involved in the formation of PVs. The PVs obtained showed diameters and PDI values of 300 nm and 0.250, respectively. Based on our results, the best combination of parameters is to employ the highest hydration volume (15 mL), sonicated by 1 h.

Financing: FAPESP (#2017/10789-1, #2018/10799-0, and #2019/08549-8).

CFSP045

Cardioprotective properties induced by alpha-terpineol against myocardial infarction in rats

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Introduction and objective: Alpha-terpineol (TPN) is a monoterpene that has vasorelaxant and anti-hypertensive effects. But its effects against cardiac ischemia/reperfusion (I/R) injuries are unknown. The aim of this study was to investigate the cardioprotective effects by TPN on myocardial damage induced by isoproterenol in rats. All procedures were approved by the UFAL Ethics Committee, protocol n. 09/2015.

Materials and methods: Rats WKY and SHR were allocated into 7 groups and treated for 15 days (n=5) as follows: (G1 = saline 0.9% P.O./d); (G2 = saline 0.9% + ISO 85 mg/kg 2x s.c); (G3 = TPN 25 mg/kg P.O./d + ISO); (G4 = TPN 50 mg/kg P.O./d + ISO); (G5 = TPN 75 mg/kg P.O./d + ISO), and (G6=TPN 50 mg/kg P.O./d without ISO). On the 16th day, the rats were anesthetized (KET 80 mg/kg + XYL 4 mg/kg i.p.) and ECG was recorded. Results were analysed statistically by ANOVA.

Results and conclusion: Isoproterenol (ISO) evoked unevenness on the ST segment and promoted I/R injury to 20 minutes, as shown by mirror images on DI and DII. However, treatment with TPN inhibited changes through decreased development on time of the ST segment in DI and DII. In addition, ISO induced Q wave deep on DI, as indicated by the I/R injury after 60 minutes. But, as treatment with TPN inhibited the appearance of deep Q wave, it shows that TPN prevents myocardial lesions restoring electrical activity on Q wave. Moreover, ISO induced atrioventricular declines post-myocardial infarction, altering the velocity on development to PR intervals on aVF. Treatment with TPN inhibits PR changes on aVF, which indicates that TPN repairs conductions of electrical activity to the heart. In conclusion, TPN shows cardioprotective properties to I/R injury on hearts.

Financing: CAPES, CNPq and FAPEAL.

CFSP046

Cardiovascular diseases and the use of psychotropic drugs

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Introduction and objective: Depression and anxiety are frequent in patients with cardiovascular diseases (CVD). Psychological variables imply at maintenance and recovery of CVD. The objective of this study was to demonstrate the profile and prevalence of psychotropic drugs in patients with CVD, treated at a Cardiology Outpatient Clinic.

Materials and methods: Data from electronic records were collected regarding patients with CVD, attended in a teaching service in Rio Grande do Sul, in 2017. It integrates the research "Evaluation of Processes and Practices Implemented in the Network of Attention to People with CVD and *Diabetes mellitus*" and was approved by the Research Ethics Committee of UNIVATES, number 2.196.011.

Results and conclusion: A total of 193 medical records were reviewed, being 51.8% female, 95.3% white, and with a mean age of 61.3 ± 15.5 years. The registry about the mental disorder or the use of psychotropic drugs was observed in 23.8% (46) of the medical records. Of these, 17.4% (8) describe the diagnosis and the psychotropic drug used by the patient, 8.7% (4) only describe the diagnosis, and 91.3% exclusively describe the psychotropic drug. The diagnoses found in the records were depression (75%), and anxiety (25%). It is noticed that even the most frequent mental disorders were not recorded in the medical records during the consultations. Therefore, evaluating mental health issues is fundamental since they directly affect adherence to treatment and the patient's prognosis.

Financing: UNIVATES.

CFSP047

Cardiovascular risk evaluation in military policies in Santarém, Pará

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Introduction and objective: The military police profession is subject to cardiovascular risk factors common to the population with obesity, physical inactivity, smoking, with a family history of systemic arterial hypertension, diabetes mellitus, and dyslipidemia. This paper aims to evaluate the cardiovascular risk of military police officers.

Materials and methods: It is a descriptive cross-sectional study conducted with the military police in the municipality of Santarém, Western Pará. Data collection was performed through a sociodemographic questionnaire. For cardiovascular risk assessment, the Framingham score was used. This study was approved by the IESPES Research Ethics Committee, under the number 09361319.4.0000.8070.

Results and conclusion: This paper presents a partial research result. The Framingham score was used to assess the risk of developing a cardiovascular event in 10 years and was classified into risk categories. Of the 13 police officers who participated in the survey, 69% had a low cardiovascular risk, that is, had a percentage below 10% of being affected by cardiovascular events, 31% were categorized as moderate risk, which refers to risk between 10-20% for cardiovascular events. Given the above, none of the participants had a high risk, and the number of people with low risk represents a positive point for the health of these police officers.

Financing: Hope Institute of Higher Education.

CFSP048

Case analysis of medicinal intoxication by age group in a medium-sized hospital

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Introduction and objective: One of the main toxic agents that cause human intoxication in Brazil is medication, and this is due to easy access and inappropriate use of such. Therefore, the objective of this study was to characterize the cases of drug intoxication according to age group in Barra do Garças - Mato Grosso.

Materials and methods: A descriptive, transverse non-probabilistic observational epidemiological study was performed. Data were collected from 2014 to 2017. The variables examined were: age, gender, race, education, toxic agent, administration route, place of occurrence, exposure circumstance, case evolution, and final classification. CAAE: 34892914.3.0000.5587.

Results and conclusion: 128 cases of drug poisoning were found, and the average incidence rate was $54.6 \pm 27.19 / 100,000$ inhabitants. Of all the cases, 11.6% were children, 12.4% were adolescents, 69.9% were adults, 6.1% were elderly, and 0.8% had no age information. The main circumstance was suicide (53.5%), followed by accidental intake (17.35), by women (74.2%), with a predominance of drugs that act on the central nervous system (49.2%). It is then concluded that medicine relates to suicide attempts, mainly female. There is a need for educational campaigns to raise awareness about the proper ways of using these drugs, especially among adults.

CFSP049

Cases of food and beverage poisoning notified in Barra do Garças, MT

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Introduction and objective: Cases of food poisoning have increased in recent years and are a public health problem. Thus, the objective of this study was to observe cases of exogenous food and drink poisoning in the city of Barra do Garças, MT.

Materials and methods: A descriptive and cross-sectional epidemiological study was carried out using notification sheets between 2008 and 2017. Data were not included in the Epi Info program for database formation and statistical analysis. This study was approved by the Ethics Committee (CAAE 34892914.3.0000.558).

Results and conclusion: A total of 232 cases were reported during the study period, 207 of which were food and 25 beverage poisoning. Of the total, 31 were possible in food poisoning. The year with the highest number of records was in 2010, with 83 cases. The age range between 18-59 years (60.3%) and the male sex (51.3%) were the most affected. It was verified that the highest incidence of food poisoning was in the residences and in the most cited food was fast food (7.33%). A detailed analysis of the incomplete manner was also performed, making it difficult to analyse this problem. In the face of these recorded cases, it became clear the importance of developing campaigns and tools to help in the prevention and awareness of the risks associated with the ingestion of food and beverages is.

CFSP050

Ceará's pharmaco surveillance center: a review of the last three years (2016-2018) on the positive outcomes of major projects

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Introduction and objective: Ceará's Pharmacovigilance Center (CEFACE) brings together professors, health professionals and students of the Pharmacy course at the Federal University of Ceará (UFC) to the Misuse Prevention Group (GPUIM). The objective of the work was to draw a retrospective of the last three years (2016-2018) regarding the outcomes of successful projects.

Materials and methods: The website of the UFC university meetings on CEFACE works and projects in 2016 and 2018 were accessed. Only those that had positive impacts on the community, in general, were selected.

Results and conclusion: Three projects were chosen: 1) Clinical assignment of a pharmaceutical health educator in a public school of Fortaleza, to broaden students' knowledge of the theoretical and practical aspects of medication use. 2) Pharmacovigilance activities in primary care, promoting the construction of a profile of users in primary care to return actions for the appropriate use of medicines. 3) Implementation of the underwriting medical interaction notification form for the elderly, to direct the work of prescribing professionals, promoting interventions in the treatment and improvement in the quality of life of older people. It is concluded that CEFACE has been carrying out projects of practical nature and beneficial visibility for the community.

CFSP051

Challenges of the clinical pharmacist (CP): profile of pharmaceutical interventions (PI) performed in a medium complexity private hospital

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Introduction and objective: The CP has a fundamental role in promoting the rational use of a given drug through the guarantee of adequate pharmacotherapy, minimizing unfavorable results. The aim of this study is to analyse the profile of the PI performed by the CP, evidencing the importance of this professional in the direct assistance to the patient.

Materials and methods: This was a retrospective study, being conducted from January/2019 to April/2019. The medical prescriptions (MP) were evaluated by a CP, and the PI was recorded in electronic medical records. The outcome of the PI and the medical specialty that generated the illness were also considered in this study for the later notification of professionals.

Results and conclusion: 9.359 MP were evaluated, and 83.625 drugs were prescribed. Among these, 758 (0.9%) required PI (mean 190 PI/month). The main PI was related to dosage (n=147, 19.4%), duplicity (n=85, 11.2%), and the inclusion of continuous use medications (n=78, 10.3%). Regarding the medical specialty, general clinical practice (n=309) and ICU (n=269) stand out in the number of PI performed, representing 76%. Regarding the outcome of the PI, 92.4% (n=701) were accepted or justified within 24 hours, 6.6% (n=50) were accepted with no changes in the prescription, and 0.9% (n=7) were not accepted. The possibilities of hospital PI should be related accordingly to the institution's profile. A well-structured clinical pharmacy service and its direct patient care contribute to the prevention of unfavorable clinical outcomes.

CFSP052

Changes in mice salivary glands exposed to escitalopram during pregnancy

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Introduction and objective: Escitalopram (ESC) is an antidepressant serotonin reuptake inhibitor indicated for pregnant women. It is known that hormonal changes in pregnancy can cause xerostomia, and the effect of ESC on the salivary glands during pregnancy is unknown. The objective of this study was to evaluate the effects of ESC on the salivary glands of pregnant mice.

Materials and methods: Twenty female mice were divided into treated group (GT) and control group (CG) and received via gavage 20 mg/kg of ESC and saline, respectively. Each one of the three types of glands (parotid, submandibular, and sublingual) was analysed: acin wall thickness, acinar diameters, and acinar areas. Statistics: Student's T and Mann-Whitney tests. Level of significance: 5%. Approval CEUA/UEL: 17937.2017.35.

Results and conclusion: On the GT, the sublingual acinar areas (1662 ± 508.0) and acinar diameters ($41.00 [34.93-47.35]$) were higher than those of GC (1207 ± 315.2) and ($34.25 [33.33-37.80]$). The submandibular acinar areas (1378 ± 464.2) and acinar diameters (45.25 ± 6.761) were greater than in GC (1009 ± 406.3) and (37.92 ± 10.13). The thickness of the sublingual and submandibular secretory wall of the acini and parotid gland parameters were not significant. It is concluded that the inhibitory action of serotonin reuptake produced by ESC promotes an adverse effect, reducing salivary secretion. The submandibular and sublingual glands are more susceptible to this drug. These changes may explain the mechanism of action of xerostomia, hyposalivation, and salivary changes in patients taking this drug.

Financing: CAPES.

CFSP053

Characteristics determination of medicinal plants used in the Lake Area, Brazil

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Introduction and objective: Morpho-anatomical markers and other tests such as the total content of chemical classes contribute to the authenticity and rational use of these plants as medicinal products. The aim was to determine pharmacognostic characteristics, the total flavonoid content, and the antioxidant activity of five species of boldo.

Materials and methods: The leaves of *Plectranthus barbatus*, *Plectranthus amboinicus*, *Plectranthus ornatus*, *Vernonia condensata* and *Peumus boldus* were examined macro and microscopically, according to pharmacopoeial techniques. Ethanolic extract was obtained from leaves, the flavonoid and extractive content were determined through aluminum chloride, and DPPH defined the antioxidant activity.

Results and conclusion: Differences in the consistency, size, base, and border of boldo leaves, as well as similarities in the pattern of epidermal cells and stomata for *Plectranthus*, were highlighted. Variation in the stomatal index, trichome constitution, general aspect of the median cross-section of the petiole, limbus, and the different types of crystals in the species were observed. The extractive content and the flavonoids determination were higher for the *Plectranthus* species, as well as the antioxidant activity. The morpho-anatomical characteristics are useful in determining the authenticity of these medicinal species. The extractive content was higher in ethanol, suggesting a marked polarity in the species' chemical composition that showed high flavonoid levels with antioxidant activity.

CFSP054

Characterization of elderly patients of Unip Sorocaba clinics

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Introduction and objective: The effectiveness of pharmacotherapy is achieved when the pharmacist can identify, prevent, and resolve negative outcomes associated with medications. The study describes the profile of the elderly of the Universidade Paulista (UNIP) Sorocaba clinics. It qualifies and quantifies negative outcomes associated with medication through pharmaceutical care.

Materials and methods: The sample consisted of 24 individuals (CAAE 68748717.4.0000.5512) of both sexes, aged 60 years and over, who use at least one continuous drug. Data were collected using a questionnaire adapted from the Dáder Pharmacotherapeutic Accompaniment Method, which was answered by the elderly. All analyses utilized Prism (version 5.0).

Results and conclusion: The patients have a mean age of 72 years, being 95% Caucasian; 64% female, mostly married (57%) or widowed (33%); with low education level, only 25% have completed higher education. Also, 68% have three or more associated pathologies, and 73% use four or more medications daily. The prevalent pathology in the evaluated patients is hypertension, 90.5%, where 40% are overweight, 68% do not practice physical activity, and 4.76% reported smoking and drinking frequently. The most incident negative outcomes in the sample associated with medication are the effectiveness group 26%. Based on these findings, this study concludes that Pharmaceutical Care intervention can optimize medication use, reduce symptoms caused by drug therapy, and improve the elderly patient's health conditions.

CFSP055

Characterization of flow properties of cohesive powders: a comparative study of traditional and new testing methods using rotational shear cell tester

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Introduction and objective: The characterization of powder flow properties is often required for reliable design and proper operation of industrial processes. The goal of this research is to compare traditional characterization techniques with methodologies provided by the PFT Powder Flow Tester (Brookfield).

Materials and methods: Samples of excipients (microcrystalline cellulose, sodium starch glycolate, croscarmellose sodium, magnesium stearate, talc, silicon dioxide, and sodium edetate) were subjected to flow behavior analysis using conventional methods (Carr index, compressibility, Hausner's ratio, and resting angle) and rotational shear cell testers.

Results and conclusion: The results showed that the characterization techniques clearly have different working ranges depending on the level of cohesiveness of the powder. The rotational shear cell tester was found to allow quick and reproducible measurements of the powder response to various environments. It could be concluded that dynamic flow tests were better in characterizing the flowability of pharmaceutical powders than static flow indicators such as the angle of repose and Hausner ratio.

CFSP056

Characterization of patients with melanoma advanced treated with ipilimumab at the Hospital de Amor Barretos

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Introduction and objective: Melanoma represents a type of cancer worldwide with high incidence and mortality. The objective of the research was to characterize an advanced melanoma population that received treatment with the immunotherapeutic Ipilimumab.

Materials and methods: Case series study. Data were collected from medical records of patients classified according to demographics, histopathological, and molecular characteristics, treated at the Hospital de Amor Barretos under Research Ethics Committee approval number 2.787.317.

Results and conclusion: Data from 38 patients were analysed; 58% were male, with white skin, which is considered an important risk factor for this type of cancer, corresponding to 95% of the population. The most frequent location was the feet (28.9%), followed by the legs (15.8%). According to the histological type, 29% of the cases presented the acral lentiginous type, followed by 26.3% of nodular cases. The initial staging group I or II was 26%, while III or IV was 74%. The first line of treatment most performed was surgery (65%); the second was chemotherapy (47.1%), third and fourth was Ipilimumab (45.2% and 57.9% respectively). Ipilimumab was obtained in a clinical research regimen in 84% of cases and 16% in a judicial procedure. Immunotherapy has shown a greater impact on the treatment of patients with more aggressive melanomas.

CFSP057

Characterization of the adipogenic protein E4orf1 of adenovirus 36 through molecular modeling techniques

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Introduction and objective: Adenovirus 36 (Ad-36) is related to human obesity due to its adipogenic activity mediated by the E4orf1 protein. E4orf1 (125 residues) forms complexes with proteins containing PDZ-domains. This study aimed to characterize the E4orf1 structure and to analyse its interactions with PDZ-domains in order to recognize essential residues with pharmacological purposes.

Materials and methods: *In silico* approaches such as homology modeling, molecular dynamics (MD), and molecular docking between E4orf1 and 5 PDZ-domains from different proteins (PDZ1, 2, 3, 7 and 10) were performed, using 300 ns for MD. RMSD and residues located at interacting face between each protein were evaluated. Mutagenesis of selected residues was performed to evaluate its importance in the stabilization of complex.

Results and conclusion: The first 3D model of E4orf1 was predicted, which suggests a key role of residues located in the c-termini region (116 to 125), demonstrating its importance in complex formation and initial stabilization. The complex formed by predicted E4orf1 and PDZ10 from MUPP1 showed to be more stable than other PDZ domains. Moreover, residues located from 80 to 85 in complexes E4orf1:PDZ1 and E4orf1:PDZ10 showed to be important in the formation and stabilization of these complexes, as shown by its electrostatic interactions. Further mutagenesis assays highlight residues 80-85, demonstrating its importance in E4orf1:PDZ10 and E4orf1:PDZ1 complex stabilization along with entire simulations. Characterization of E4orf1 interactions offers a first approach in discovering druggable targets for Ad-36 induced obesity.

Financing: Fondecyt-Chile 11150445, Conicyt-Chile RED1170632.

CFSP058

Chemical profile evaluation of comercial samples of propolis from *Apis mellifera* (brown propolis) and from *Baccharis dracunculifolia* (green propolis)

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Introduction and objective: Two types of propolis are currently known, brown and green propolis, respectively produced by *A. mellifera* bees and *B. dracunculifolia* tree. Both are a complex mixture of substances and have antimicrobial, anti-inflammatory, and anticarcinogenic activities. The aim of this work was to evaluate the chemical profile of both types of propolis.

Materials and methods: Two samples were commercially acquired, submitted to extraction, and analysed for the presence of flavonoids, alkaloids, and tannins by generic identification reactions. Chromatographic analysis was also performed by Thin Layer Chromatography.

Results and conclusion: The generic reactions allowed to verify on both samples the presence of flavonoids, absence of flavones, presence of alkaloids, and condensed tannins. Significant differences were observed in the chromatographic profile of the samples, and the greater complexity was observed on brown propolis. It was observed that both samples have the same classes of compounds, but brown propolis contains a greater diversity of substances.

CFSP059

Chemical prospection, antioxidant and cytotoxic activities of *Pterodon emarginatus* Vogel

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Introduction and objective: Sucupira-branca (*Pterodon emarginatus* Vogel) is a tree from cerrado and stands out mainly for the pharmacological properties in its seeds and fruits. The aim of this study was to determine the best extraction conditions of secondary compounds in roots as well as establish the antioxidant and cytotoxicity activity.

Materials and methods: The analysis of secondary metabolites, according to Brazilian Pharmacopeia, was conducted in roots. It was also verified the best extractive condition for polyphenols using a design of experiments checking four factors in two levels: pH value (3 or 10), solvent concentration (70 or 100% ethanol); drug/solvent ratio (1:10 or 1:20) and time (1 or 7 days). The experiments used a factorial design matrix 24. Cytotoxic and antioxidant activities were assessed by the *Artemia salina* and DPPH model, respectively.

Results and conclusion: This is a pioneering study using the roots of *Pterodon emarginatus* Vogel, especially the qualitative and quantitative essays of phenolic compounds. The results indicated the presence of flavonoids, tannins, coumarins, and saponins in the ethanolic extracts. The quantitative analysis using the statistical design showed that total phenols values were 1377.692 mg/g (factors: absolute ethanol, pH 10, drug ratio 1:20 and 1 day maceration) while flavonoids values was 123.367 µg/g (factors: ethanol 70%, pH 10, drug ratio 1:20 and 7 days maceration). When the cytotoxicity assay was performed using *Artemia salina* Leach, it did not show any toxic capability considering the CL50 obtained, being far from the prediction of what could be toxic (above 1.000 µg/ml). The antioxidant capacity was equivalent to 53.29% of DPPH for the best condition of the phenol extractions total (factors: absolute ethanol, pH 10, drug ratio 1:20, and one-day maceration). No similar reports were found in the literature, showing that these findings in the roots are significant for many biological investigations.

Financing: PIBIC institucional – CUSABC.

CFSP060

Chemical study of arruda (*Ruta graveolens* L.) cultivated at the farmahorto of the IFRJ campus in Realengo

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Introduction and objective: Arruda (*Ruta graveolens* L.) is a perennial species that belongs to the Rutaceae family. Among all the secondary metabolites produced by Arruda, the alkaloids stood out, which presents important pharmacological activities. The objective of this work was to isolate and identify alkaloids produced by a species of Arruda cultivated at IFRJ.

Materials and methods: The crude ethanolic extract was obtained in the rotary evaporator. After the partition in chloroform, the samples were purified in silica gel column chromatography with dichloromethane and ethanol in ascending order of polarity. The fractions and sub-fractions were obtained by thin-layer chromatography and revealed in UV developer (254 nm), as well as identified by analysis of NMR spectrum ¹H and ¹³C (1D).

Results and conclusion: Three secondary metabolites were isolated: N-metyl-4-methoxy-2-quinolone, a 2-quinolone alkaloid, kokusaginine, and dictamnine, both furanoquinolones alkaloids. Previous studies demonstrated antifungal activity for N-metyl-4-methoxy-2-quinolone and antimicrobial activity for dictamnine and kokusaginine. Kokusaginine has also shown inhibition of the acetylcholinesterase enzyme, thus having the potential to treat Alzheimer's disease. The presence of these alkaloids confirms the identification of the species. Since these substances have great biological potential, the usage of *Ruta graveolens* L. for pharmacological and therapeutic purposes deserves to be pointed out.

Financing: CNPq.

CFSP061

Chronic anti-inflammatory effect of water and ethanolic extract of *Cereus jamacaru* (mandacaru) in arthritis model

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Introduction and objective: The species *Cereus jamacaru* (Mandacaru) is one of the most abundant in the northeast region of Brazil. Population use suggests numerous medicinal benefits. Therefore, the objective of this study was to evaluate the chronic anti-inflammatory activity in the arthritis model of crude aqueous (EA) and ethanolic (EE) extracts of *C. jamacaru*.

Materials and methods: The extracts were prepared from the species collected in Pernambuco. The *in vivo* test was carried out on adult Swiss mice from the UFAL Vivarium. It was approved by the Animal Use Ethics Committee (27/2018). The anti-inflammatory evaluation was analysed using the Freund's Complete Adjuvant Experimental Arthritis Syndrome induction assay.

Results and conclusion: For anti-inflammatory activity, in AS, it was possible to verify a statistically significant reduction of paw edema on days 15 and 20 ($p < 0.05$) and on days 18, 19, and 21 ($p > 0, 01$) of treatment. EE decreased significantly from day 15 ($p < 0.05$) and days 16 to 21 ($p < 0.001$) resembling the results obtained on the treatment with dexamethasone, standard glucocorticoid used in the treatment of arthritis, which significantly decreased, also from day 15 ($p < 0.05$) and from days 16 to 21 ($p < 0.001$). Control with and without arthritis remained within expected standards. Thus, this research contributes to the ethnopharmacological study of species *C. Jamacaru* and corroborates the use in folk medicine as an anti-inflammatory.

Financing: CAPES, FAPEAL.

CFSP062

Chronic contamination effects in zebrafish exposed to methylphenidate

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Introduction and objective: Misuse of methylphenidate, in addition to incorrect disposal, has been leading to contamination of aquatic environments. Considering its important effects on the human body and the environmental risks when residues are disposed of in the water, the objective of this research is to evaluate the effects in zebrafish by chronic contamination of water with methylphenidate.

Materials and methods: For this study, 108 zebrafish were put in chronic exposure trials, with increasing concentrations of methylphenidate. A mother solution of 1mg/mL of methylphenidate was distributed in the aquariums, concentrations of 0.875 µg/L, 1.875 µg/L, and 3 µg/L, in addition to the control group. A social preference test was used to evaluate behavioral changes. Oxidative stress was evaluated by total protein levels, non-protein thiols, and lipid peroxidation.

Results and conclusion: The main result noticed is that methylphenidate causes the behavior of social aversion. Fish avoided the shoal and also preferred to be isolated. This result is of great importance, considering that the usual behavior of the zebrafish is to swim in a shoal. In this case, any isolation is a signal of great stress for the species. There was no locomotor effect. No changes related to oxidative stress were observed. This project has already been approved by CEUA (Animal Use Ethics Committee), by protocol number 030/2014.

Financing: FAPERGS number ARD 17/2551-000804-9.

CFSP063

Chronic myeloid leukemia

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Introduction and objective: Chronic myeloid leukemia (CML) due to the translocation between chromosomes 9 and 22 is frequently diagnosed in routine hematological exams. The earlier it is diagnosed, the greater the chances of cure. The objective of this study is to show the importance of technological development in the treatment of CML.

Materials and methods: The present work was developed taking as reference the collection of information from books, safe websites and the Scielo and Google academic databases, highlighting those published in the last 19 years and excluding articles available in other languages. Keywords: Cancer; Chronic myeloid leukemia; Tyrosine kinase inhibitors; Philadelphia; Chromosome translocation.

Results and conclusion: The evolution in the understanding of the biology of chronic myelogenous leukemia (CML) has led to the development of highly effective target therapy, but monitoring during the treatment is necessary to evaluate drug response and possible occurrences of additional chromosomal alterations that lead to therapeutic failure without symptoms. Second generation TK inhibitors are effective in most patients resistant or intolerant to imatinib. However, resistance is still a relevant clinical problem. A better understanding of resistance mechanisms, as well as the development of new molecules, will contribute to the further improvement of CML treatment.

CFSP064

Clinical and laboratorial profile of rare coagulopathies in the state of Pernambuco

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Introduction and objective: In coagulation, every factor has a specific function from the initiation of coagulation to the stabilization of fibrin. The deficiency of some factors is considered rare and results in bleeding frames of varied intensity. The aim of this study is to characterize, from a clinical and laboratory perspective, patients with rare coagulopathies.

Materials and methods: The study was performed on patients with a diagnosis of coagulation factor II, V, X, XI, XII, or XIII deficiencies, who had been attending the HEMOPE Foundation, Brazil, since January 2008, CEP nº 3.055.310. The parameters analysed were: time of diagnosis, APTT, PT, bleeding time, platelets, coagulation factor assays; clinical manifestations; family history, serological testing, and treatment.

Results and conclusion: Of 87 patients with clotting factor deficiency initially analysed, 10 had an only deficiency of one factor. Five of them had FV deficiency (1.3%, 0.5%, 8.9%, 27.1%, 32%) one FV-FVIII (FVIII: 9.4%, FV:7.9%), one FX (40.1%), one FXI (6%), one FXII (44%) and one FXIII (0.8%). The most frequent clinical manifestations found were oral bleeding after exodontia and epistaxis. The infusion of fresh plasma (42%) and the drug tranexamic acid (25%) were the most used treatments, followed by infusion of the deficient factor (17%) and the drug epsilon-aminocaproic acid (8%). Although the low population frequency, it is essential to understand the different deficiencies of coagulation factors for a correct diagnosis, follow-up, and efficient treatment of patients.

CFSP065

Clinical isolates' epidemiological study of carbapenem-resistant Enterobacteriaceae on hospitalized patients at the University Hospital of Londrina

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Introduction and objective: Carbapenem-resistance among the Enterobacteriaceae family has become a public health issue. As a result, the therapeutic failure leads to an increase in morbidity and mortality of patients, highlighting the need to develop ways to prevent and control these infections through epidemiologic studies that evaluate enterobacteria isolated of patients.

Materials and methods: This study examined Enterobacteriaceae isolates that showed resistance to carbapenems from 2009 to 2016, in patients at the University Hospital of Londrina. The samples were identified by the automated system Vitek[®]2 BioMérieux, and the susceptibility to antimicrobials was performed using panels for Gram-negative bacilli 238 and 239. The research to blaKPC gene was performed with specific primers.

Results and conclusion: In this period, 23,900 enterobacteria were identified, of which 4,374 of them were resistant to carbapenems, being *Klebsiella pneumoniae* the most frequent with 77.6%. The blaKPC gene was detected in 71.8% of the isolates, being *K. pneumoniae* the most common microorganism that presented the blaKPC gene with 82.3% isolates. Regarding the resistance profile, it was more than 90% resistant to carbanems, resistant to gentamicin (72.9%) and amikacin (51.4%). This study also concluded that *K. pneumoniae* (79.1%) was the most frequently isolated microorganism of general/rectal swabs. These results point out to high levels of carbapenem resistance among enterobacteria, mainly in *K. pneumoniae*, at the University Hospital of Londrina.

CFSP066

Clinical performance of pharmaceuticals in the care of oncological patients in a medical high complexity public hospital in the Amazon

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Introduction and objective: Antineoplastic treatment and its symptomatological conditions mostly require polypharmaceuticals. Based on this, this study sought to highlight the importance of pharmacotherapeutic follow-up to cancer treatment through the identification, prevention, and resolution of the main Drug Related Problems (PRM).

Materials and methods: A quantitative, qualitative, cross-sectional research, held from October to November 2018, at the pharmaceutical office of a public hospital in the interior of the Amazon. Twenty electronic records were analysed, and the PRMs were classified according to the II Granada Consensus through a form based on the SOAP method. This work received approval number 2.927.297 from the IESPES Ethics Committee.

Results and conclusion: Of the identified PRMs, 20% were of need, 25% adhered, 30% safety, 15% effectiveness, and 10% had no problem. Interventions such as non-pharmacological measures, drug scheduling, health education, referral, and drug dispensing. Outcomes were 55% resolved, and 45% prevented. Among the 20 participants, 90% obtained pharmaceutical care focused on an unknown PRM. Safety and adherence stand out as the most identified PRM; these can be considered centered on the pharmacist's action, which, by providing the patient guidance, can promote empowerment towards treatment, increased safety, thus, avoiding secondary problems due to the inappropriate use of medicines.

CFSP067

Clinical pharmacist interventions in the emergency department of a private hospital in São Paulo

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Introduction and objective: The emergency department (ED) is specialized in the acute care of patients 24/7. It is necessary to identify and classify the interventions made by clinical pharmacists in order to demonstrate their importance at the ED of our hospital.

Materials and methods: A retrospective/descriptive study was performed in a private hospital in São Paulo. The pharmacist interventions made from January to May 2019 during prescription validation were quantified and assessed. The information was collected at the electronic health record of the hospital. Approval of the Ethics Committee CAAE: 71451317.2.0000.5670.

Results and conclusion: In conclusion, 926 prescriptions were assessed and there were 2,283 clinical pharmacist interventions, an average of 457 interventions/month. The interventions were classified and quantified as follows: medication reconciliation, 1,101 (48.2%); medical history update, 715 (31.3%); administration time, 208 (9.11%); dosing, 61 (2.67%); VTE prophylaxis, 48 (2.1%); glucose monitoring, 46 (2.0%); inappropriate/unnecessary drug, 40 (1.75%); therapeutic indication, 37 (1.62%); self-medication form, 15 (0.66%); and frequency, 12 (0.53%). This study demonstrates the importance of the clinical pharmacist role in the emergency department. It was possible to say the interventions helped to improve the quality of medication use and patient safety.

CFSP068

Clinical pharmacy and patient safety: characterization of pharmaceutical interventions in the Intensive Care Unit (ICU)

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Introduction and objective: Patients admitted to Intensive Care Units (ICU) are considered high risk and targets of medication errors and adverse drug events (ADEs) due to the high complexity of pharmacotherapy required in treatment. The objective of this study was to evaluate the pharmaceutical interventions (PIs) carried out in the ICU of a tertiary hospital.

Materials and methods: In this quantitative-retrospective study, medical prescriptions of 52 ICU beds from November/2018 to April/2019 were evaluated with the aid of a pharmacotherapeutic follow-up form. The PIs were classified according to the acceptability of the multidisciplinary team, type of intervention and therapeutic class involved (Institutional Ethics Committee: 13.083-887).

Results and conclusion: In the study, 1470 IFs were performed with 91.6% acceptability, 56.4% of which were among the classifications: unnecessary medication (21.9%), untreated condition (15.4%), suprathereapeutic dose (12.4%) and route of administration (9.1%). The highest rate of IFs was generated by opioids (17.3%), followed by antimicrobials (15.4%) and anticoagulants (13.1%). These therapeutic classes represent 45.8% of IFs. Considering only the 15 most recurrent drugs, seven high-alert medications were present (midazolam, fentanyl, enoxaparin, unfractionated heparin, morphine, propofol and noradrenaline), which correspond to 43.0% of the IFs performed. Thus, the activity of the clinical pharmacist is effective in preventing drug-related adverse events – especially those of high-alert, increasing patient safety.

CFSP069

Clinical pharmacy interventions in the bone marrow transplant service in a tertiary public hospital: focus on patient safety

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Introduction and objective: The prescription evaluation by clinical pharmacy can identify therapy-related problems, enabling actions to prevent medication errors. This study aimed to quantify and characterize pharmaceutical interventions in order to emphasize the importance of clinical pharmacists for the care of these patients.

Materials and methods: This study was a prospective, quantitative, and descriptive research conducted during 12 months in the Clinical Hospital (UNICAMP). Medical prescriptions were evaluated, and interventions discussed with the prescriber. The interventions and potential errors were classified for clinical impact and clinical significance, respectively. Acceptability by the team was also observed.

Results and conclusion: Eight hundred and fifty-six prescriptions were evaluated, and 85 (10%) presented some error, totaling 96 errors. The main interventions were related to the therapeutic regimen (50%); within this incorrect dose was the most prevalent error. The clinical impact of the interventions was mostly classified as very significant, and the clinical significance of potential errors as significant. Of the interventions performed, 87 (92%) were accepted by the multidisciplinary team, which highlights the importance of this activity. The clinical pharmacist's role in this service, along with active participation in the multidisciplinary team, can prevent avoidable errors, promote health and well-being, and prevent disease, effectively contributing to the patient's safety.

Financing: CAPES (Financing Code 001)

CFSP070

Clinical results of the comprehensive medication management in an adult Intensive Care Unit

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Introduction and objective: Critically ill patients are subject to the occurrence of drug therapy problems due to the complex pharmacotherapy. The performance of the clinical pharmacist influences the effectiveness and safety of the treatment. This work aims to describe the results of a Comprehensive Medication Management service offered to patients of an adult Intensive Care Unit.

Materials and methods: A descriptive study of the results of the clinic service (Apr 2017 – Nov 2018), based on the theoretical and methodological framework of Pharmaceutical Care Practice. The data were collected from pharmaceutical records. The drug therapy problems were classified according to the Pharmacotherapy Workup method. The study was approved by the Research Ethics Committee (CAAE 80125417.6.3001.0073).

Results and conclusion: 146 patients were followed up, with 512 drug therapy problems. Most were related to safety (37.7%) and indication (37.5%) of medications. The main causes were high dose (23.0%, by dose adjustments), need for additional medication (18.9%, drugs for electrolytic, glycemid and prophylactic control) and unnecessary medication (18.6%, by removal of not indicated antibiotics). Most problems (23.6%) were related to systemic antibiotics. 81.6% of the problems were solved. 451 interventions were implemented, 92.9% of which (n=419) with physicians, most of which were accepted (n=344, 82.1%). A high number of drug therapy problems have been detected, mainly safety problems. The high acceptability of interventions reinforces the need for the service applied to the critical patient.

CFSP071

Coexistence and cooperation: practice of collaborative methodologies in distinct environments with similar results

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Introduction and objective: Coexistence and cooperation are required skills from the 21st-century professional; however, the difficulty in dealing with differences and the growing sense of intolerance are factors present in different environments. This work aims to approach coexistence and respect, as well, to arouse interest in the importance of the subject.

Materials and methods: Report of experiences with collaborative methodologies applied in different environments, with collaborators and managers of an extensive pharmacy network, boarders of socio-educational institutions for juvenile offenders and refugees. Dialogue, cooperative games and circular dances were adopted to address issues related to coexistence and cooperation.

Results and conclusion: The working environments covered small and large corporations, including educational institutions such as schools, universities, and foundations of socio-educational measures, with audiences from young students to senior managers. All places sought improvements in the environment and coexistence. Right after the practices, the participants' statements showed gratefulness for the opportunity of having this experience and for awakening their self-knowledge and the necessity to look at a subject, individually and collectively important. In all cases, the process must be continued with more meetings, to reach more participants. Such practices can bring reflections on cooperation, raising awareness about the importance of coexistence, regardless of the environment.

CFSP072

Consumption of psychoactive substances among college students of the life and health sciences area at the University of Santa Catarina

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Introduction and objective: Drug use occurs at all ages, but in the university life period, it tends to be more common. This study aims to investigate the use of licit and illicit drugs, bringing the prevalence of the use, as well as the pattern of consumption among students from the life and health sciences at UNOESC (Universidade do Oeste de Santa Catarina).

Materials and methods: It was carried out a cross-sectional, quantitative, exploratory, and descriptive study with 101 academics during the month of June 2018. The research was done through an anonymous questionnaire containing 15 questions about the consumption of psychoactive substances and socioeconomic data. The approach took place in the classroom during academic activities. Ethical protocol: 2.578.800.

Results and conclusion: Among the participating university students, 94.0% used alcohol, 21.0% tobacco, and 14.0% marijuana. Regarding the age of first use of alcohol, 44.7% reported having consumed between 11 and 15 years old, while tobacco users after 18 years old (38.1%) and concerning marijuana 50.0% experienced for the first time between the ages of 16 and 18. Other drugs such as ecstasy, LSD, amphetamines (without a prescription) and lança perfume, were also consumed between 16 and 18 years old (50.0%). These results do not differ from other studies carried out among university students from other regions of the country, being a recurring theme in several national and international studies, as this is a relevant subject that may be capable of influencing the academic and personal life of the university.

CFSP073

Contingency plans for water injections

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Introduction and objective: Water corresponds to an input of extreme importance for the pharmaceutical industry since it must meet the pharmacopoeial specifications through its physical-chemical and microbiological quality. Thus, the study was carried out in a company in the interior of the state of São Paulo, which collects raw water from artesian wells and performs its treatment for the production of water with high purity content as required by the production process.

Materials and methods: The water collected from the well is treated by sand filters, softeners, reverse osmosis, and distillation. To avoid risks of contamination in the industrial process, alert and action limit values were elaborated.

Results and conclusion: The water used in the company was monitored for 26 consecutive weeks, so the parameters did not exceed the specifications. The contingency plans for water for injection presented effectiveness and the methodologies applied to obtain quality water were successful in meeting ANVISA specifications.

CFSP074

Cordia verbenacea extract inhibits increase in number of mast cell and provokes collagen degradation on hairless mouse skin after UVB irradiation

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Introduction and objective: Plants are source of molecules with many biological activities. *Cordia verbenacea* extract (CVE) is already well recognized by its anti-inflammatory and antioxidant activities. Thus, the aim of this study is to evaluate CVE therapeutic potential in the UVB irradiation-induced cutaneous lesion model.

Materials and methods: Due to previous results, the hairless mice were treated with an oral dose of CVE (30.0 mg/mouse), 1 hour before the irradiation, and immediately after (irradiation dosage of 4.14 J/cm²). Samples of skin were collected 12 h after the end of the irradiation. The dorsal skin was stained with toluidine blue, and Masson's trichrome and the sections were examined using a light microscope at 40x and 100x magnification (mast cell count and collagen fibers, respectively). This study was approved by the Animal Ethics Committee of the Londrina State University (CEUA) no 030/2015, process n° 1818.2015.2400.

Results and conclusion: Results from sections stained with Masson trichrome show that UVB-exposure led to intense collagen fiber degradation, while treatment with CVE (30 mg/Kg) showed a protective effect against collagen fibers damage. In the same way, UVB increased the number of mast cells in the dermis, and animal samples treated with CVE did not show this effect. In conclusion, CVE given orally to mice before and after exposure to UVB inhibited the increased number of mast cells in the dermis and provoked collagen degradation. These results indicate that CVE is a promise for the prevention of UVB-induced cutaneous damage.

CFSP075

***Cordia verbenacea* extract's effectiveness in reducing UVB radiation-induced epidermal thickness and the sunburnt number of cells**

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Introduction and objective: Among many photo chemoprotective agents, medicinal plants packed with antioxidant and anti-inflammatory molecules are promising. Its anti-inflammatory activity widely recognizes *Cordia verbenacea* DC. This study aimed to evaluate the *C. verbenacea* extract (CVE) therapeutic potential in the UVB irradiation-induced cutaneous lesion model.

Materials and methods: In previous results, hairless mice got treated orally with a CVE 30.0 mg/mouse dose one hour before irradiation, and immediately after (irradiation dosage of 4.14 J/cm²). Skin samples were collected twelve hours after radiation, which showed hematoxylin and eosin stains on the dorsal skin (epidermal thickness and the number of sunburnt cells, respectively). This study was approved by CEUA (n. 1818.2015.24).

Results and conclusion: Epidermal thickness and sunburnt cell presence are common histologic features of UVB exposed skin. In this work, the UVB-exposed animals' skin was significantly thicker than the one from mice not exposed to UVB, but treatment with CVE 30 mg/kg maintained epidermal thickness as unexposed controls. Likewise, UVB increased the number of sunburn cells, and the animals treated with CVE 30 mg/kg did not show such growth. The results show the CVE as a promising way to prevent UVB-induced cutaneous damage.

Financing: CNPq, CAPES.

CFSP076

Correlation between serum levels of interleukin-18 and cardiovascular risk in patients with type 2 *Diabetes mellitus*

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Introduction and objective: Interleukin-18 (IL-18) is a cytokine produced by phagocytic cells, which may promote pancreatic β -cell dysfunction and the development of atherosclerosis in conjunction with other inflammatory mediators. The aim of this study is to determine the correlation between IL-18 levels and cardiovascular risk in patients with type 2 *Diabetes mellitus*.

Materials and methods: One hundred twenty-five patients with DM2 (40 - 75 years old) and 101 patients in control were analysed. IL-18 was quantified in serum samples by ELISA. Glycemia, HbA1c, lipid profile, albuminuria, ApoB, and ApoA-I were determined by automation. Statistical analysis was performed by SPSS 16.0 software through a one-way analysis of variance (ANOVA) with Tukey post-test.

Results and conclusion: When compared to the control, IL-18 levels of the diabetic patients were larger (127.7 to 501.5 vs. 74.7 to 429.9) as well as triglycerides (175.79 \pm 113.35 vs. 140.01 \pm 70.26). A positive correlation was also found between serum levels of IL-18, glycemia, HbA1c, albuminuria, and ApoB/ApoA-I ratio in patients with DM2. It has been demonstrated the role of IL-18 as a predictor of insulin resistance in diabetes and consequent atherosclerotic risk, corroborating to previous data in the literature.

Financing: Laboratory of clinical and toxicological analysis-LACT.

CFSP077

Customer satisfaction on pharmaceutical service of blood pressure measurement

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Introduction and objective: The pharmacist's role in controlling and preventing arterial hypertension is essential. This research aimed to estimate the satisfaction of a University Pharmacy costumers when taking their blood pressure, and use it later to implement this action in other pharmacies.

Materials and methods: The study took place in a university pharmacy after CEP's approval, under CAAE: 98807318.9.0000.5515. Interviewed customers were over 18 years, used pharmaceutical services when taking their blood pressure, and had to answer a questionnaire of customer satisfaction. For data analysis and tabulation, descriptive statistics were put on Excel's action supplement.

Results and conclusion: There were 100 interviews, 53% of customers were female, aged 18 to 72 years. The dominant age group was 18 to 29 years (53%). Of 14 hypertensive clients, 12 were ill and varied from 50 to 69 years old. 11% used antihypertensive medications, 3% were smokers and consumed alcohol, and 12% engage in physical activity. They evaluated the environment and services provided with a high score (99.2%) and said they would recommend it to a friend, family member, or acquaintance. 94% of the customers said they would pay for these services, and 64% would pay from R\$5 to R\$10 reais for it. Actions to encourage pharmacies to provide these services should be taken, for it would improve general health.

CFSP078

CYP3A5 and ABCB1 polymorphisms influence tacrolimus exposure in Brazilian and Spanish kidney transplant recipients

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Introduction and objective: Understanding the genetic factors that determine the exposure to one immunosuppressive drug emerges as a complementary strategy to therapeutic drug monitoring. This study investigated the influence of polymorphisms in genes that encode biotransformation enzymes and membrane transporters on the clinical outcome of kidney transplant recipients.

Materials and methods: Brazilian (n=275) and Spanish (n=86) recipients were treated with immunosuppressive regimen containing tacrolimus, everolimus, mycophenolate and steroids. Ten polymorphisms (CYP3A4 rs2740574, CYP3A5 rs776746, ABCB1 rs1128503, rs1045642 and rs2032582, ABCC2 rs3740066 and rs2273697, ABCG2 rs2231142, SLCO1B1 rs2306283 and rs4149056) were analysed. Data were recorded for up to 12 months (#517/09; #0339/11).

Results and conclusion: The CYP3A4*1B and CYP3A5*1 alleles were more frequent in Brazilian (20.7% and 29.1%) than in Spanish subjects (2.3% and 9.3% respectively, p<0.001). On the other hand, Spanish individuals showed a higher frequency of SLCO1B1 c.388A allele (58.7% versus 43.6%, p<0.001). In both samples, non-expressers of CYP3A5 (*3/*3 genotype) showed higher tacrolimus exposure than the expressers (p<0.05). Moreover, in Spanish individuals, this exposure was also modified positively or negatively in the presence of the ABCB1 c.3435TT or c.3435CT genotypes, respectively. The results confirm the impact of the CYP3A5*3 SNP on long-term exposure to tacrolimus in Brazilian or Spanish kidney recipients. Furthermore, ABCB1 c.3435C>T variant also influences tacrolimus monitoring in Spanish subjects.

Financing: FAPESP, CNPq.

CFSP079

Cytotoxic effect of acetogenins from graviola peel extract (*Annona muricata* L.) to decrease in carcinogenicity of leukemic cell HL-60

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Introduction and objective: The graviola's Acetogenins (ACGs) has a cytotoxic effect in tumor cells. Considering that peels are wasted by the industry, tests in the HL-60 cell will be presented, identifying the presence of the metabolites in the extract obtained and the possibility to apply these residues.

Materials and methods: The peels were obtained in the Sitio Verde Market, Guarulhos, SP and dried in the laboratory hothouse with air circulation at 40°C. The hydroethanolic preparation extract was carried out according to the methodology of Farmacopéia bras. (1959) fractional percolation. The extract was subjected to phytochemical screening and *in vitro* assay in the HL-60 cell.

Results and conclusion: By checking the action of the hydroethanolic extract of graviola's peel containing ACGs, the reduction of the HL-60 cancer cells is expected. In addition, phytochemical screening for the identification of secondary metabolites present in the extract will be performed, since other studies were focused on fruit pulp and leaves. Therefore, if the results are positive, in addition to the anticancer potential, the environmental impact generated by waste disposal can be minimized in a sustainable way.

Financing: School of Health Sciences, Anhembi Morumbi University, São Paulo, Brazil.

CFSP080

Data sources for drug utilization research in Brazil

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Introduction and objective: Data sources must be available, accessible, valid and reliable in order to provide information for Drug Utilization Researches (DUR). A summary of data sources for Brazilian DUR was not found. The study aimed to develop an inventory of national data sources for DUR in Brazil.

Materials and methods: Research on scientific literature using databases (PubMed, LILACs, and others); website search from institutions (government, academic, private); liaising with national data providers and health experts. The data sources were characterized by accessibility, coverage, data provider, type of data sources and setting. A descriptive analysis was performed.

Results and conclusion: Thirty-six national databases were identified, of which 13 (36.1%) were publicly and conveniently accessible, 8 (22.2%) had limited access; 24 reported national data (66.6%); 16 (44.4%) were from both public and private sector; 5 (13.9%) were sourced from pharmacy records, 10 (27.7%) from other records; 7 (19.4%) from both hospital and ambulatory setting. The findings showed that although there are a greater number and variety of Brazilian databases, access still is a barrier for researchers. Access to data sources should be transparent and feasible to optimize DUR.

Financing: ISPE.

CFSP081

Description of pharmaceutical services carried out in university pharmaceutical consulting of a Distrito Federal education institution

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Introduction and objective: Pharmaceutical care in clinics has been reported as an integral practice of patient care focused on achieving better clinical outcomes and quality of life. The intention is to describe the pharmaceutical interventions through the pharmaceutical services and to identify problems related to pharmacotherapy.

Materials and methods: It was a descriptive and prospective study regarding pharmaceutical consultations held at the pharmaceutical office of a private educational institution in the Distrito Federal from April 2017 to July 2019. A research project by the Research Ethics Committee registered through the Research Ethics Commission, also known as the CEP/ CONEP system (approval number 83529317.5.0000.5058).

Results and conclusion: Forty-eight patients were followed, 75% female with an average age of 51 years old. The main health problems reported were: hypertension (n = 31, 64.6%), diabetes mellitus (n = 24, 50.0 %), depression (n = 8, 16.7%) and dyslipidemia (n = 7, 14.6%). Five hundred thirty-five pharmaceutical services were performed, being health screening (n = 268, 50.1 %) the most performed, followed by health education (n = 79, 14.8%). Among the problems related to pharmacotherapy, 45.61% (n = 26) were related to need, 29.8 % (n = 17) to effectiveness and 24.5 % (n = 14) to safety. The performance of pharmaceutical services makes it possible to perform practice aimed at promoting health and well-being as observed in our findings.

Financing: UNICEPLAC.

CFSP082

Design and development of oral tablets containing standardized extract of *Curcuma longa* L. (zingiberaceae)

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Introduction and objective: The extract of *Curcuma longa* L. is indicated for mediation and relief of inflammation and pain, with recommended daily dose from 250 to 500 mg, equivalent to 50 to 100 mg of curcuminoids. Objectives: design and develop an herbal medicine containing standardized extract, produced from the roots of *C. longa* L. (Zingiberaceae), also known as saffron.

Materials and methods: The dry extract of *Curcuma longa* L. was standardized in curcuminoids by HPLC-UV. Afterward, the extract (250 mg) and the excipients were classified and compressed using an 11 mm biconcave and circular punch. After that, the hardness, friability and average weight of the tablets were analysed.

Results and conclusion: The dry extract, produced from the roots of *Curcuma longa* L., was standardized to curcuminoids (18%-22%) by high-performance liquid chromatography (HPLC) coupled with ultraviolet detection (UV) and the analytical methodology was validated. Then, tablets containing a standardized extract of *Curcuma longa* L. were developed and produced by direct compression. Accelerated and long-term stability studies are being conducted to define the expiry date and the period of its use.

Financing: CNPq; CAPES.

CFSP083

Determination of arsenic in pickled sardines commercialized in the city of Natal, Rio Grande do Norte

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Introduction and objective: The consumption of fish has been increasing every year due to its nutritive characteristics. However, these fishes may present health risks if toxic chemical elements contaminate them. The objective of this study is to evaluate the concentrations of total arsenic present in samples of canned sardines sold in the city of Natal, RN.

Materials and methods: Three samples of canned sardines from different manufacturers were used. Initially, the process of mineralization was performed by the dry way, and subsequently quantification by UV-VIS molecular absorption spectrophotometry. The determination of the concentration of each sample was performed in duplicate, to minimize the possibility of eventual errors.

Results and conclusion: The results indicated that all samples had arsenic concentrations above the established limit. Specifically, sample 1 presented a concentration almost three times higher than the concentration allowed for consumption. According to ANVISA (in its RDC N° 42, of August 29, 2013, which has the MERCOSUR technical regulation on maximum limits of inorganic contaminants in food), the maximum concentration of arsenic allowed in fish is 1 mg/kg (or 1 µg/g). The results indicate that canned sardines sold in the city of Natal, RN presents a considerable level of contamination by arsenic. It is necessary to moderate the consumption of this type of food by the population since poisoning by the ingestion of arsenic can cause adverse health effects.

CFSP084

Determination of captopril disulfide in captopril tablets distributed by the public and private sectors in the city of São Paulo, Brazil

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Introduction and objective: The oxidative degradation of captopril (CP), an antihypertensive drug, results mainly in captopril disulfide dimer (CPDS), related to sulfur odor, leading to non-adherence to pharmacological treatment. The aims of this research were to quantify CPDS, to relate the perception of sulfur odor with CPDS presence, and to verify package-inserted odor information.

Materials and methods: Two CP 25 mg batches distributed by the public sector and eleven distributed by the private sector were included in the study, with an expired one being used to evaluate CPDS. The method to quantify CPDS is described in the Brazilian Pharmacopoeia using HPLC. Analysts performed the perception test of the sulfur odor exhaled from tablets withdrawn from the blisters. The package-inserted information was evaluated by the description of the contents.

Results and conclusion: According to the Brazilian Pharmacopoeia, the maximum limit for CPDS is 3.0%. The expired medicine presented 4.4% of CPDS, while the others were in accordance with the specification. Most analysts considered sulfur odor perceptible for medicines with a CPDS content above 0.5%. Regarding the texts about sulfur odor inserted in the packaging, the references were: none (3 batches), characteristic odor (2), slight sulfur odor (1), slight sulfur odor without decreasing the efficacy (7). The patient's perception of sulfur odor even within the tolerated limit of the degradation product may lead to non-compliance and product rejection, impairing the treatment of hypertension. Correctly guidance to the patient through the package-inserted information and monitoring of the quality of CP tablets are relevant to the Brazilian Public Health System.

CFSP085

Determination of moisture and ash contents in conventional commercial carrot samples with certified organic seals

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Introduction and objective: Consumption of organic foods has been increasing in recent years, and this increase is related to the constant search for food quality by the consumers. The objective of this work was to evaluate the moisture content and inorganic residues in organic certified carrot samples and conventional carrot samples.

Materials and methods: Moisture and ash contents were determined according to the description in the Brazilian Pharmacopoeia (1988). The method for moisture determination is based on weight loss under a drying oven and aims to determine the amount of volatile substances under the conditions specified in the monograph. Ash determination is based on weighting sample residues after burning them in temperatures above 500°C.

Results and conclusion: The carrot samples studied in this work, both conventional and organic certified, presented similar values of both moisture and ash, without significant differences.

CFSP086

Determination of parameters for quality control of the pau d'arco elixir (*Tabebuia avellanedae*) for phytotherapy

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Introduction and objective: Pau D'arco (*Tabebuia avellanedae*) is popularly used as an antineoplastic agent. Its pharmacological activity is attributed to lapachol, a naphthoquinone. This work's purpose is to determine the concentration of lapachol in the Pau D'arco elixir by High-Pressure Liquid Chromatography (HPLC) and physicochemical parameters for quality control.

Materials and methods: For lapachol determination (Fonseca et al. 2003) the conditions were: RP chromatography using C₁₈ column 250x4.6 mm; mobile phase CH₃OH and 5% CH₃COOH solution (80/20 v/v); 0.8 ml/min isocratic flow, 20 minutes; wavelengths of 251 and 278 nm for UV detection. The physicochemical parameters were determined according to the methodology from the 5th Brazilian Pharmacopoeia to pH, viscosity and density.

Results and conclusion: The product had a pH = 5.3 ± 0,1, mass density = 1.0637 g/mL ± 0,05, and viscosity = 1.5792 ± 0,04. The HPLC analysis demonstrated that the lapachol content in the Pau D'arco Elixir is 40 µg/ml, was inferior to the values described in the literature for the expected pharmacological action. For a product that, in the form and concentration presented, has been used by cancer patients in herbal medicine programs in the public health system in Northeast Brazil, presenting improvement in clinical picture and quality of life. This fact justifies the observations that the purified lapachol is less active than the plant extract, in other words, the herbal complex, suggesting a synergism of actions of other substances such as beta and alpha lapachone and lapacholate, aiming to achieve the therapeutic effect.

CFSP087

Determination of protein content in cereal bars

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Introduction and objective: Cereal consumption has grown. By realizing the growth of this market, supplying companies began to elaborate their products with a higher protein percentage making their products preferred due to their offered nutritional value. Thus, the purpose of this work was to quantify the protein contents present in commercially available cereal bar samples.

Materials and methods: For the determination of total nitrogen in the samples, the Kjeldahl method was performed with a correction of non-protein nitrogen. All samples analysed are in accordance with the values shown on labels of the commercially available samples.

Results and conclusion: All samples analysed are in accordance with the values shown on labels of the commercially available samples.

CFSP088

Development and characterization of fast-dissolving films for oral administration of captopril

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Introduction and objective: Fast-dissolving oral delivery systems are a solid dosage form which disintegrates or has a fast dissolution (< 1 min) when placed into the mouth, without drinking or chewing. The present work aimed to prepare and characterize oral fast-dissolving films of captopril to develop a dosage form for a quick action onset.

Materials and methods: Fast-dissolving oral delivery systems containing captopril were prepared by the solvent casting method. The films were evaluated for morphology, mechanical, and colorimetric properties. The dissolution profiles of the films were assessed and compared to the dissolution profile of captopril tablets available in the pharmaceutical market.

Results and conclusion: The films' thickness varied from 40 to 110µm, and there was a direct link between polymer concentration and the films' thickness. No significant adhesion differences were observed. The elastic modulus, obtained from the stress test, depends on the nature of the plasticizer, and the elongation percentage depends on both factors - polymer quantity and plasticizer nature. The values of water activity in orodispersible films were above 0.7, indicating the need for the addition of a conservative in the preparations. The orodispersible films presented a slower release rate than the one observed for captopril tablets, indicating the drug's retention by the polymer.

CFSP089

Development and *in vitro* evaluation of the effectiveness of dental gel and mouthwash containing essential oils on cariogenic microorganisms

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Introduction and objective: Dental caries are a multifactorial pathology, and its prevention involves the brushing of the teeth and the use of oral hygiene products. The objective of this research is to develop a dental gel and mouthwash containing essential oils of *Mentha piperita* and *Piper nigrum* and submit them to evaluation against the microorganism *Streptococcus mutans*.

Materials and methods: The essential oils of the *Mentha piperita* and *Piper nigrum* were analysed. Pre-formulation studies of mouthwash and dental gel formulations were carried out, as well as evaluation of the stability of the developed formulations and evaluation of the antibacterial activity *in vitro* through the agar diffusion test.

Results and conclusion: Dental gel and mouthwash formulations were developed using 2% of essential oils (0.5 g of *Piper nigrum* and 1.5 g of *Mentha piperita*). These preparations were stable under the conditions (oven at 37°C, room temperature, and refrigerator at 4-8°C), with no change in appearance, color, taste, or odor. They obtained pH 5.0 and pH 6.9 and presented an inhibition zone of 10 mm and 11 mm. It was possible to verify significant results since 50% and 55% of inhibition were obtained in relation to the Vancomycin disk on a strain of *Streptococcus mutans*. It was concluded that the essential oils incorporated in the formulations have antimicrobial activity, being indicative of the use of these oils for dental products in the fight against dental caries, but further studies should be carried out.

Financing: Unoeste.

CFSP090

Development and validation of a dissolution method for determination of the dropropizine tablets

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Introduction and objective: Dropropizine is a drug used in the treatment of cough, marketed internationally as tablets. However, it does not present a monograph described in official compendiums. Thus, this study aimed to develop and validate an analytical methodology capable of evidencing significant changes in formulations and tablet manufacturing processes.

Materials and methods: The suitable *in vitro* dissolution profile for 60 mg tablets was obtained using 900 mL 0.1M HCl at 37°C as dissolution medium and USP apparatus of 1 (basket) at 35 rpm. The 5 mL samplings were run at the times of 5, 10, 15, 30, 45, and 60 min, diluted 1:1 (v/v), and filtered. An ultraviolet spectrophotometric method was developed with a detection wavelength of 249 nm in the first-order derivative for the quantification of the dissolved. The validation processes followed international guidelines.

Results and conclusion: The developed method was precise (RSD < 5.0%) and linear in the range of 5 to 40 µg/mL (R² = 0.999), enabling it to quantify accurately between 15% and 120%, adequate for analysis of the dissolution. It was specific using first-order derivative with specific determinations at 249 nm. The calculated limits of detection and quantitation were 0.48 µg/mL, and 1.59 µg/mL, respectively. The validated method was applied for the analysis of the tablets produced in our laboratory and the ones commercially available, presenting dissolution ranging from 14.73% to 85.93% and 18.19% to 101.56%, respectively. When compared statistically, they presented a difference factor (F1) of 12.85 and a similarity factor (F2) of 55.10 in agreement with the requirements. The method obtained responses within the dynamic range of the equipment and adequate coefficient of determination as recommended in validation guides. In addition, the comparative dissolution profile indicated similarity, being indicative of a pharmaceutical equivalence between the formulations. In this way, it becomes a simple and efficient alternative for analysing tablet performance.

Financing: PIBIC- UFRJ; CNPq.

CFSP091

Development and validation of a selective HPLC-UV-fluorescence method for metformin and methylene blue determination in skin permeation studies

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Introduction and objective: The success of skin delivery systems for metformin (MET) and methylene blue (MB) depends on their ability to improve the drugs' skin penetration. When designing these systems, a selective and sensitive quantitative analytical method is required. A RP-HPLC method was proposed for the quantification of MET and MB using *in vitro* skin permeation studies.

Materials and methods: The assays were carried out by HPLC using a C₈ column. A mixture of phosphate buffer pH 5.2 (10 mM) containing sodium dodecyl sulfate (10 mM) and acetonitrile (50:50,v/v) was used as a mobile phase, at a flow rate of 1.0 mL/min. The UV detection was used for MET (230 nm), and fluorescence detection was used for MB (λ_{exc} 630 nm; λ_{em} 678 nm). The method was validated according to the Brazilian National Sanitary Surveillance Agency's guideline.

Results and conclusion: The method has presented elution of MET at 3.8 min and MB at 10.7 min, and it demonstrated selectivity and sensitivity for skin permeation/retention studies. The linear equation obtained by weight least square regression was: $y = 103473x + 1081$ for MET, and $y = 198615x + 18885$ for MB. The correlation coefficient, y-intercept, and residual sum of squares data all exhibited accepted values, supporting linearity data. The LLOD was 0.44 and 0.20 $\mu\text{g/mL}$, and LLOQ was 1.33 and 0.62 $\mu\text{g/mL}$ for MET and MB, respectively. RSD values were lower than 3.7% for both drugs at 0.1%, demonstrating precision (repeatability). Intermediate precision (day and analyst) was supported by ANOVA analysis ($p < 0.05$). In conclusion, the method is suitable for the determination of MET and MB in skin permeation studies.

Financing: Fapesp.

CFSP092

Development and validation of analytical methodology employing HPLC-UV for cannabis quantification

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Introduction and objective: Cannabidiol (CBD) is a phytocannabinoids, found in *Cannabis sativa*. Over the last years, CBD has been increasingly studied for treatments of several diseases, and different formulations have been developed. This study aimed to develop and validate a method for CBD quantification using *in vitro* release studies.

Materials and methods: This study used HPLC-UV and RDC 166/2017 as a regulator for the parameters analysed (selectivity, linearity, precision, quantitation limit, detection limit). Statistical analyses were performed using BioEstat 5.0 software. The optimized conditions were: C₁₈ column; a mobile phase constituted of methanol/acetonitrile/water (50:30:20 v/v) at 1.0 mL.min⁻¹ flow rate; 50 μL injection volume; and detection at 208 nm.

Results and conclusion: The CBD retention time was 7.78 minutes. The method showed selectivity for CBD since the receptor solution had no peaks in CBD retention time, and the diode array detector (DAD) showed peak purity. The method was linear in a concentration range of 1 to 20 $\mu\text{g. mL}^{-1}$ ($y = 410702x + 80348$), and with correlation coefficient (r) of 0.9981. The method shows to be precise with %RSD values between 0.13 and 1.05 for repeatability, and the intermediate precision of the samples was statistically different at concentrations of 2.5, 7.5, and 20 $\mu\text{g.mL}^{-1}$. The accuracy (% recovery) values were 102%, 98,8% and 98,91%. The DL and QL values were 0.055 $\mu\text{g. mL}^{-1}$ and 0.166 $\mu\text{g.mL}^{-1}$ respectively. In addition, no matrix effects were observed at 208 nm. In conclusion, a suitable and validated method is important to achieve good results for the method used. Also, the method tested showed adequate selectivity, linearity, precision, accuracy, adequate QL, and DL with satisfactory results according to Resolution RDC 166/2017.

Financing: Capes.

CFSP093

Development of a dissolution method using *in silico* tools to evaluate the *in vitro* release of poorly soluble drugs from immediate release tablets

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Introduction and objective: *In silico* tools can provide reliable data based on the biopharmaceutical characteristics of the drugs, resulting in more efficient method development in terms of time and cost. The objective was to explore the DDDPlus™ software in order to develop a discriminative dissolution method for hydrochlorothiazide (HTZ) and valsartan (VAL) formulations.

Materials and methods: A full factorial experimental design with three factors and three levels was used to develop the *in silico* dissolution method; the variables were the formulation, sinker use, and stirring speed. Some *in vitro* assays were conducted to use preliminary experimental data to obtain the calibration constants in the software and simulate the remaining experiments.

Results and conclusion: The formulation composition had a significant effect on the dissolution profiles, as well as the use of the sinker. The stirring speed 75 rpm allowed to differentiate between formulations. The use of *in silico* tools enables the work with a full factorial design and the obtaining of data to support the selection and identification of the significant parameters. Thus, the final conditions of the dissolution method established were: 900 mL of phosphate buffer pH 6.8 as the dissolution medium, 75 rpm of stirring speed, and use of the sinker to avoid the fluctuation of the formulations. The developed method using DDDPlus™ proved to be discriminatory for HTZ and VAL, and the totality of each drug was released from the formulations.

Financing: CNPq, DEINFAR.

CFSP094

Development of a topical phytoterapic with moisturizing, healing and antiseptic properties

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Introduction and objective: The difficulty of healing is one of the complications self-reported by patients with diabetes mellitus due to the low nutrient and oxygen supply to the lower limbs. Thus, the present study proposes the development of a topical phytoterapic with moisturizing, healing and antiseptic properties in order to aid in conventional therapy in cases of tissue regeneration.

Materials and methods: An oil-in-water emulsion was developed using a self-emulsifying liquid-crystal wax, in which extracts of green papaya and guava were added, both with healing action. Two antimicrobial essential oils (Rosemary and Melaleuca) were combined, in addition to the moisturizing and repairing active ingredients: D-panthenol, Hyaluronic acid, Propanediol, Saccharide Isomerate and Macadamia nut oil.

Results and conclusion: The emulsion was successfully obtained and presented itself stable after four laboratory tests. Stability was monitored for 90 days, and the cream remained stable under different temperature conditions (4°C, 25°C and 45°C). The texture, appearance and sensory are suitable to the patient's needs. The thin, sensitive and cracked skin requires a non-sticky product that must be easy to apply and remove. All the active ingredients added to the emulsion can moisture and heal the skin, as well as minimize the occurrence of secondary infections due to the antiseptic properties of the essential oils.

CFSP095

Development of biphasic oil with analgesic action

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Introduction and objective: Phytotherapy is an emerging pharmaceutical specialty in ascension, which aims the treatment of infirmity through medicinal plants. The current work presented as objective the development of an innovative phytotherapeutic product in the form of a biphasic oil, associating the species *Arnica montana* and *Pterodon ermaginatus* with analgesic action.

Materials and methods: To develop the formula in the oily phase, it was used essential oils of *Calendula* and *Mint*; emollients: Parafol[®] and Vegelip[®], considered ecological; the antioxidant BHT; and Vaseline as the vehicle. In the aqueous phase, it was added colorant of Sucupira and glycolic extract of *Arnica* as active ingredients, methylparaben and propylparaben as preservatives, glycerin as humectant, and as vehicle alcohol, and water.

Results and conclusion: This work was part of the practical curricular components of Phytotherapy and Pharmacokinetics, where a phytotherapeutic formula was proposed in the pharmaceutical formula of biphasic oil with analgesic activity. During the manipulation of the formula, turbidity in the aqueous phase was observed. In order to correct this aspect, the surfactant agent Eumulgin HRE 40[®] was used. However, after agitation of the oil, a white layer with milky appearance was formed between the phases, which intensified proportionally to the agitation of the product. This phenomenon is a result of the surfactant action which, in contact with the oily phase of the product after homogenization, emulsified part of the oil. Thereby, the future proposition is to adjust the components of the phases, among them the surfactant agent, and monitor the stability through “shelf life” studies, in order to guarantee its quality and therapeutic efficiency to society.

Financing: Faculdades Integradas de Bauru (FIB), Farmácia Formulare.

CFSP096

Development of chromatographical techniques using corn starch as an adsorbent in characterization of coumarins in medicinal plants extracts

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Introduction and objective: Thin Layer Chromatography (TLC) and Preparative Chromatography (PC) are techniques used in pharmacognosy. *Mikania glomerata*, *Justicia pectoralis*, and *Amburana cearensis* are medicinal plants rich in coumarins. This study aims to evaluate the techniques TLC and PC using corn starch as an adsorbent in the characterization of coumarins in plant extracts.

Materials and methods: The tests were performed with starch TLC using a mobile phase of C₆H₁₄/CH₃OH (1:1 v/v) with ethanolic extracts of the species compared to a coumarin standard (CS). The result was compared to the chromatographic profile of the extracts using the same eluent system on silica TLC. Then, the coumarin purification of the extracts with PC using starch plates and the selected mobile phase was performed.

Results and conclusion: It was possible to visualize spots with the same Retention Factor (Rf) values for extracts in the CS in starch TLC and silica TLC techniques. However, it was observed that the values obtained in starch TLC were higher, proving that it is a less polar adsorbent. After the revelation of the preparative plates of PC, it was possible to evaluate that the chromatographic starch was able to separate the coumarins, proving to be an efficient chromatographic method. The fractions separated by the starch PC were scraped, solubilized in ethanol, and tested on silica TLC comparing to the CS where the isolation of coumarins was confirmed by the identical Rf value obtained. The chromatographic techniques using starch as adsorbent showed efficient presenting low operational cost.

CFSP097

Development of cosmetic formulation containing nanoencapsulated anti-acne drug

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Introduction and objective: Dicarboxylic acid, widely used in acne, may cause some adverse effects. It happens due to the excess of the drug necessary to promote the pharmacological effect, as it is dispersed in the commercialized pharmaceutical forms, which hampers the absorption. Based on this, this study proposes to develop a stable nanoemulsion containing the drug for topical use.

Materials and methods: Through the solubility study and experimental design, the formulation was obtained using high shear homogenizer and high-pressure homogenizer. The formulations developed were submitted for three months in a 30°C and 40°C climate chamber. To obtain a semisolid pharmaceutical form, the viscosity agent Pemulen®TR1 was added.

Results and conclusion: Nanoemulsion was obtained by working the number of cycles to which the formulation was subjected in the high-pressure homogenizer. The homogenization cycles allow the drop size reduction. The addition of a poloxamer P407 surfactant was required for drug stabilization and encapsulation. The formulations with the semisolid aspect demonstrated stability in particle size measured by dynamic light scattering and in the physical analysis performed in photoanalytical centrifuge due to the formation of the nanoemulsion support network.

CFSP098

Development of dentifrice containing microencapsulated curcumin obtained by dry microemulsion technique

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Introduction and objective: Curcumin is a non-toxic pigment found in *Curcuma longa* plant's rhizome that has antioxidant, anti-inflammatory, antiseptic, and anticarcinogenic activities. This study presented a microencapsulated curcumin-based toothpaste obtained by the dry adsorption emulsion technique (DAE) for therapeutic purposes against oral pathologies.

Materials and methods: Curcumin microcapsules were obtained by applying the DAE technique to a water and oil emulsion system that contained hydrophilic and lipophilic silica, calcium stearate, castor oil, and water. The systems, together with crude curcumin, both in microencapsulated, and placebo form, were classified by pH, viscosity, spreadability, optical microscopy, and spectral measurements. Besides that, centrifuge and foam tests were performed to evaluate the quality and stability of the formulations.

Results and conclusion: Curcumin microcapsules were obtained as a finely granulated powder and incorporated into a toothpaste base (pH around 6-7), which resulted in a new formulation yielding 94%. The centrifuge tests revealed no separation of formulation and spreadability; Raman spectroscopic and optical microscopic observations describe the presence of curcumin within the silica microcrystals. Tests have shown the same viscosity and foam from commercially available dental creams. According to the expected pharmacological properties of curcumin, it is possible to suggest future applications of the created toothpaste for photodynamic therapy to reduce dental problems and other topical oral pathologies.

CFSP099

Development of electrochemical sensors for quantification of emerging contaminants department of analytical chemistry and physical chemistry, UFC

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Introduction and objective: The promethazine (PMZ) is used for its properties: antihistaminic, sedative and others. It causes adverse effects in humans; its determination in commercial formulations and biological samples is essential. Therefore, an electrode was developed to determine PMZ. The objective is to develop a sensor capable of detecting PMZ in contaminated samples.

Materials and methods: The method is based on the anodic oxidation of PMZ on a glassy carbon electrode modified by magnetic nanoparticles of Fe_3O_4 functionalized with polyethyleneimine ($1\text{mg}\cdot\text{mL}^{-1}$). The techniques used were Cyclic Voltammetry and Square Wave Voltammetry. The experiments were performed on PGSTAT101 connected to the electrochemistry cell in phosphate buffer pH 7.0 with different PMZ concentrations.

Results and conclusion: The experiments resulted in an irreversible oxidation peak of 0.61 V (vs Ag/AgCl /Cl) in pH 7.0 phosphate buffer containing $2.91 \times 10^{-5} \text{ mol L}^{-1}$ PMZ in the Square Wave Voltammetry methodology with $f = 100 \text{ s}^{-1}$, $a = 50 \text{ mV}$ and $E_0 = 2 \text{ mV}$. A linear correlation between I_p and [PMZ] values was observed for [PMZ] ranging from $1.5 \times 10^{-6} \text{ mol L}^{-1}$ to $8.43 \times 10^{-6} \text{ mol L}^{-1}$, following the equation $y = 0,27x + 1.91 \times 10^{-7}$ where $r = 0.98851$. LD and LQ values were respectively 3.97×10^{-7} and 1.32×10^{-6} , these were calculated as recommended by IUPAC. Relative standard deviation (RSD) of reproducibility ($n = 5$) and repetition ($n = 7$) the values were 3.9% and 2.0%, respectively.

Financing: Cnpq, CAPES, UFC, Gelcorr.

CFSP100

Development of medicine collectors in the extension project: rational use of medicine and environment

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Introduction and objective: The construction of the instruments for medicine disposal originated in the extension project of the University Vale do Taquari Univates, "Rational use of medicine and environment: raising awareness on the disposal of medicine," a project developed to raise awareness of the rational use of medicine by the community.

Materials and methods: The project, a partnership between the University of Vale do Taquari (UNIVATES) and the City Hall of Lajeado, Rio Grande do Sul, enabled the task of raising awareness about the Rational Use of Medicine in Municipal Schools of Elementary Education (EMEFs) and Primary Health Care (APS) units of the same territory, associated with the development of expired and obsolete medicine collectors.

Results and conclusion: Security, mainly for children, was the base for the development of instruments, on available space of the unit, such as the facility of collection. The construction of the collectors occurred during the validity of the project. Its arrangement in the APS units occurred after the completion of the project activities. The collectors were assigned to 12 APS units in the city, which presented dispensaries of medicine, however without dispensing the Ordinance SVS / MS No. 344, of May 12, 1998 medicine, phytotherapics, and insulin therapy, due to the associated risks and the impossibility of pharmaceutical orientation. The availability of these collectors allows the correct disposal of chemical residues and the rational use of medicine.

Financing: CAPES.

CFSP101

Development of organogel of pracaxi oil (*Pentaclethra macroloba*) and fumed silica for cosmetic use

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Introduction and objective: The general intent of this project is to develop organogels containing Pracaxi oil (*Pentaclethra macroloba*) and to evaluate the interaction of the oil with the formulation, its physicochemical characteristics, as well as its potential use as a moisturizing cosmetic product.

Materials and methods: The physicochemical characteristics of Pracaxi oil were evaluated by determination of hydrophilic-lipophilic balance (HLB), density, free fatty acids (AGL), and spreadability factor (SF). Organogel formulations containing Tixosil (15%), antioxidant (0.01%), and Pracaxi oil were prepared, which after 24 hours, were subjected to organogel spreadability tests.

Results and conclusion: The oil spreadability was $6.17 + 0.44$ mm, the oil HLB was in the range of 5.73 and 6.76, the percentage of free fatty acids obtained was 6.16% and density of 0.89 g/ml. The organogel was translucent orange in color, with organogel SF of $1.50 + 0.12$ mm²/g. For a better understanding of the properties of the organogel, the following tests will be performed: tests of antioxidant activity, thermal analysis, biocompatibility, solution-gel transition temperature, and Infrared.

CFSP102

Development of semi-solid film-forming systems *in situ* containing anesthetics for the treatment of *Herpes simplex*

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Introduction and objective: Most *Herpes simplex* type 1 infections are asymptomatic, remaining in a latent state, but the virus may be periodically reactivated. Local anesthetics present pain-relieving action, anti-inflammatory action, and antiviral action. The project aims at the development of a polymer composition containing local anesthetics for the treatment of cold sores.

Materials and methods: Three compositions containing HPMC K100, polycarbophil, and the prilocaine hydrochloride and lidocaine hydrochloride drugs, associated at a ratio of 1:1, in different concentrations, were submitted to the evaluation of *in vitro* drug release profiles, performed on modified vertical diffusion cells. The quantification was done by HPLC. A continuous flow rheological test was performed in the rheometer.

Results and conclusion: Composition F1 (2.5% of each drug) presented *in vitro* drug release of 95.01% for prilocaine and 80.18% for lidocaine, while formulation F2 (5.0% of each drug) presented *in vitro* drug release of 112.47% for prilocaine and 94.25% for lidocaine and F3 (8.0% of each drug) of 126.40% for prilocaine and 104.21% for lidocaine. It can be concluded that the *in vitro* drug release of prilocaine hydrochloride was higher than lidocaine hydrochloride and that the polymeric system used did not influence the release of the drugs at the end of 48 h of experiment. All three compositions showed pseudoplastic behavior, and the increase of the drug content in the compositions led to the increase of the initial viscosity. Therefore, the composition F3 presented higher viscosity.

Financing: FAPESP (2018/07995-1), CNPq (406500/2016-9), FAPESP 2014/22451-7.

CFSP103

Development of slow release repellents based on nanoparticles and hydrogels

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Introduction and objective: Long duration repellents have gained prominence in the market. In the case of topical applications, modified release systems may reduce the product amount of application as well as its toxicity. The study aimed to develop and characterize sustained release systems based on nanoparticles and hydrogels for insect repellents application.

Materials and methods: The systems were prepared using two active compounds. The nanoparticles were prepared by the anti-solvent methodology and the hydrogels by high-speed homogenizer method. After systems characterization, *in vitro* release assays were performed using the two-compartment technique, and the active ingredients analysed by HPLC.

Results and conclusion: The results showed that the active ingredients (Ai) were released at a low rate in relation to the active ingredients only. For the Ai1 and Ai2, it was observed $43 \pm 0.8\%$ and $9 \pm 2.5\%$, respectively. When the encapsulated repellents were inserted in the hydrogel, the release rate decreased to $38 \pm 1.6\%$ and $6 \pm 5.7\%$, for Ai1 and Ai2. The results are promising and showed that the encapsulation could promote a slow release of insect repellents over time.

Financing: MCTIC-CNPq, MEC-CAPES, MS-Decit, FNDCT N° 14/2016 – Zika Virus Prevention and Action – Process: 440350/2016-6 and FAPESP for scholarship C.B.R. (grant #2018/02404-5).

CFSP104

Diagnosis of waste generation in the municipalities of Vale do Taquari, Rio Grande do Sul

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Introduction and objective: The generation of solid health waste (RSS), especially medicines, is one of the most significant contemporary challenges in the Pharmaceutical Assistance cycle. Thus, the objective of this study is to verify the method used for drug disposal in Vale do Taquari, Rio Grande do Sul, and if there is compliance with the current legislation.

Materials and methods: A cross-sectional study, covering the 36 municipalities of Vale do Taquari, is underway. The professionals responsible for the management of the Pharmaceutical Assistance (PA) in the public municipal scope are being interviewed using a structured questionnaire. The Research Ethics Committee approved the project of Univates under No.3.438.923.

Results and conclusion: The study compiled data for six municipalities, all with a population of fewer than 10,000 inhabitants. Most of them (83.3%) provide dispensing of drugs at one pharmacy only, which attends around 98 users per day. Only one municipality had an RSS management plan present; however, all of them have a contract with an outsourced company to collect and dispose of overdue or out-of-date medicines. Also, it has been reported that users are informed about the discarding verbally. Some proceed in the same in the units surveyed. It is noteworthy that in two municipalities, there isn't any collection of correlates. Thus, there is a need for interventions to reduce the environmental impact of inappropriate waste disposal practices.

Financing: CAPES.

CFSP105

Dietary supplements of Omega 3: evaluation of nutritional labelling and healing potential

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Introduction and objective: Among its functions, Omega 3 has been associated with tissue repair and wound healing. Because it is essential, its consumption must be done through diet or dietary supplements. The objectives of this study were to evaluate the parameters present in nutritional labels of Omega 3 supplements and their potential to repair wounds.

Materials and methods: The study evaluated 26 brands of Omega 3 dietary supplements acquired in local trade against the legislations, and two were used in the Bioassay. This study was submitted to evaluation and approved by the CEUA of the UFRJ (Protocol MAC043). Then, 24 mice were submitted to tissue lesion and divided into three groups: control group (GC), wounds treated with physiological solution, Omega 3 Group 1 (GOT1) and Omega 3 Group 2 (GOT2), wounds treated with commercial fish oil from brands 1 and 2 respectively.

Results and conclusion: Only 3% of the brands presented itself as indicated by the legislation studied. The lack of the potential allergen nutrient declaration (in this case, fish oil) stands out as the main example of non-conformity observed, although others have been found as the absence of quantitative declared for EPA and DHA, functional metabolites of obligatory declaration. During the biological assay, GOT2 showed the greatest healing level and GOT1 the smallest, when compared to the other groups. In the last week of the experiment, the wounds of all the groups were completely closed. We conclude that 97% of the non-conformities described in this study demonstrate the need for greater rigor in the supervision of these supplements by the responsible authorities, since such irregularities can induce the consumer to use them in an inadequate way, which corroborates the results found in the biological assay, since GOT2 was more effectively in relation to healing when compared to other groups, thus suggesting a possible adulteration in the fish oil used at GOT1.

Financing: FAPERJ.

CFSP106

Difficulties in the practice of pharmaceutical attention in community pharmacies of a city in the west region of Pará

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Introduction and objective: Pharmaceutical Care (PC) is a practice in which the pharmacist has the responsibility to ensure the patient's pharmacotherapeutic needs, but the pharmacist faces obstacles in this practice in pharmacies and drugstores. The objective of this study was to identify the main difficulties in performing pharmaceutical care.

Materials and methods: This is a descriptive study with a quantitative and qualitative approach, with a questionnaire for pharmacists of pharmacies and drugstores in the municipality of Santarém, west region of Pará. The data obtained were analysed by descriptive statistics and content analysis. This study was approved by the IESPES Human Research Ethics Committee, under number 2976676.

Results and conclusion: Of the 73 pharmacists, 67% claimed to have implementation difficulty, being exposed to insufficient time, inadequate environment, devaluation and excess attributions as the main factors affecting the development of the PC. In content analysis, that is, in the pharmacists' speech on how PC was performed, it was found that 67% presented answers that show some aspect with the studied theory about the concept of PC. This work contributed to the identification of variables that interfere in the development of pharmaceutical care in pharmacies and drugstores, giving subsidies for the creation of mechanisms to overcome them, for the rescue of the profession before society, promoting health care to the patient, the family and the community.

Financing: Hope Institute of Higher Education (IESPES).

CFSP107

Difficulties on pharmaceutical assistance in drugstores in the city of Jacareí, SP, Brazil

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Introduction and objective: Pharmaceutical assistance aims at increasing drug treatment effectiveness and detecting problems related to pharmacotherapy. The aim of this research was to identify the accomplishment of pharmaceutical assistance in drugstores, as well as the main obstacles faced by pharmacists in their accomplishment.

Materials and methods: A close-ended questionnaire designed by the authors was submitted to pharmacists working at drugstores located in the municipality of Jacareí, SP, Brazil. The applied survey was approved by the Ethics Committee under protocol number 2.512.774. Thirty pharmacists were interviewed in total, with 15 professionals working at chain pharmacies, and 15 at independent pharmacies.

Results and conclusion: Most of the interviewees alleged they have not been doing pharmaceutical assistance because the pharmacy owners have not been stimulating those practices; in addition, they do not feel prepared to do so, and technical literature is not available to be consulted at the workplace. Some have reported using leaflets, while others have consulted more experienced employees. Lack of time was described as an impediment, as many professionals accumulate both administrative and management tasks, and some have been receiving a drug sales commission. They also reported that the time to assist a single patient adequately is considerable, and it would be prohibitive to assist many patients due to the resulting financial losses associated with the sales reduction and the need to hire more employees.

CFSP108

Disposal of drugs of domiciliary origin: analysis of the knowledge of pharmacy students about the theme

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Introduction and objective: Medications, depending on their characteristics, may be hazardous to public health or the environment if they are improperly disposed of. Thus, the aim of this work was to evaluate the knowledge and attitudes of Pharmacy students of the Federal University of Rio de Janeiro, Brazil, regarding the disposal of medications.

Materials and methods: 69 university students were interviewed through a questionnaire approved by the Research Ethics Committee (ethics committee CAAE protocol number 70285317.8.0000.5699). The questionnaire was designed to provide information on the behavior and knowledge of the interviewees regarding the medicine residues generated and about the management of drug residues and their impact on the environment.

Results and conclusion: In relation to the behavior assumed by the interviewees regarding the generated drug residues, 46% of the students stated that they throw the drugs in the trash when they realize it will no longer be used. This number rises to 67% when the medicine passes its expiration date. Regarding the best way to dispose of unused or expired drugs, 67% of the respondents believe that delivering them to a pharmacy, health agency, or an institution committed to disposal is the best alternative. However, 67% of the respondents stated that they did not have knowledge of places responsible for the collection of expired or unused medicines, which reflects the absence of a public policy and educational actions related to the theme in the city of Macaé, RJ, Brazil.

Financing: PROFAEX-UFRJ (2018, 2019-2020).

CFSP109

Distinctive antimicrobial activity based on minimum inhibitory concentration (MIC): an adapted methodological proposal

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Introduction and objective: The model allowed the evaluation of samples with identical conditions. A comparison method was used to analyse experimental data, and create a database with the similarity of answers, expressed quantitatively as a correlation coefficient. Based on this, this study proposed a method for determining different antimicrobial activity.

Materials and methods: For this analysis, the microorganism MIC values tested against the test compound were converted to their logarithmic values. The \log_{10} (MIC) values are used to calculate the average $[M_{\log}]$ relative to the test compound. For data preparation, each \log_{10} (CIM) amount was subtracted from its corresponding average to create a Delta value, therefore $D = M_{\log} - \log_{10} (\text{CIM})$.

Results and conclusion: Comparative data analysis required a graphical understanding of average antimicrobial activity. The graphic consists of a pattern created by delineating Delta values, both positive and negative, and generated through the MIC values set. The positive and negative values plotted along the vertical line represent the average response of all microorganisms tested for the study sample. The positive values projected on the right represent the microorganism sensitivity that exceeds the mean. The negative values seen on the left represent the microorganism sensitivity below average. A bar on the right indicates that this microorganism's MIC happens at a lower concentration than the average one required for the other ones tested.

Financing: CAPES.

CFSP110

Dosage adjustments of prescribed medicines for pediatric patients using renal replacement therapy

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Introduction and objective: The administration of drugs in the pediatric population is a challenge, since 80% of the medicines are not tested in this group. The challenge becomes greater when the patient has renal failure. The objective is to describe the performance of the pharmacist in dosage adjustment of medications in prescriptions for patients hospitalized with renal failure.

Materials and methods: A retrospective study will be conducted with analysis of the pharmaceutical interventions on patients hospitalized for renal failure, from January 2017 to December 2018 in the ICU. The number of patients with renal failure will be checked, the classes of drugs prescribed, the number of interventions performed to adjust the dose according to the therapy, and the number of adjustments actually made.

Results and conclusion: In this period, 47 patients used renal replacement therapy, 103 interventions were used to adjust medication doses, 82% of the interventions were accepted or justified by the severity of the patient's infectious condition and 18% of the interventions were neither accepted nor justified. About the class of the medicines, there were: 1% anti-hypertensive, 1% anti-viral, 2% antifungal, 4% gastric shields (Histamine receptor antagonist) and 90% antibacterial drugs. In conclusion, the joint work of the physician and the pharmacist can contribute to increase safety and decrease toxicity to patients.

CFSP111

Drug interactions in prescriptions for patients of a hospital in Louveira, SP

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Introduction and objective: Hospitalized patients are often exposed to drug interactions. Some of these interactions are potentially dangerous and can seriously harm patients' health. The aim of the present study is to identify and classify drug interactions in prescriptions for patients of a hospital in Louveira, SP.

Materials and methods: Data about pathologies and medications were collected from 50 patients' prescriptions between June and August 2016. Drug interactions were identified by the site drugs.com and classified as pharmacokinetics or pharmacodynamics, and A, B, C, D, or X. Ethics approval for the study was granted by UNIANCHIETA's Ethics Committee (Protocol n° 1.583.638).

Results and conclusion: Medical prescriptions of 21 female and 29 male patients, aged 18 to 90 years old, were analysed. Cardiovascular diseases were the most prevalent (26.6%), followed by infectious respiratory diseases (22.8%). The most used drugs were antihypertensives (14%), followed by antibiotics (12%) and psychotropics (11%). Also, 141 pharmacokinetics and 286 pharmacodynamic drug interactions were identified, with risk A (24), B (20), C (88), D (259), and X (36). The pharmacodynamic and D-risk drug interactions were the most prevalent, and it is necessary to modify the pharmacotherapy of these patients because D-risk classification is dangerous to the health of patients.

CFSP112

Drug interactions with antimicrobials in a general hospital

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Introduction and objective: The interaction between drugs and antimicrobials is one of permanent risk, mainly due to drug polytherapy to which the hospital patient is subjected. This study aimed to evaluate the profile and prevalence of drug interactions involving antimicrobials in a large general hospital in the interior of São Paulo.

Materials and methods: A descriptive study where all prescriptions were analysed, one day a week, for ten weeks, from April to June 2017 at the Clinic, Surgical and Pediatric wards, Pediatric and Adult ICU, and Emergency Care – approved under number 58/2016. Drugs were classified according to ATC, and interactions were classified as contraindicated, major, moderate, and minor using databases Micromedex 2.0 and Drugs.com.

Results and conclusion: A total of 2,231 prescriptions were analysed, 63.2% (807) contained antimicrobial and 86 (10.7%) of these with potential interactions – 12 (13.9%) contraindicated, 20 (23.2%) major, 53 (61.6%) moderate and 1 (1.16%) minor. Clarithromycin + simvastatin was the most prevalent among contraindicated interactions (10; 83.3%) and ciprofloxacin + simvastatin (5; 25%) among the major ones. Clinic and Surgery wards and Adult ICU showed a higher prevalence of interactions, respectively 44 (51.1%), 21 (24.4%) and 18 (20.9%), with 11 (25%), 7 (33, 3%) and 3 (16.7%) contraindicated or major. In conclusion, clinical monitoring of prescriptions and patients, besides warning and diffusion systems to staff, could contribute to the quality of pharmacotherapy, as well as to patient safety.

CFSP113

Drugs behavior and potential in composite biosolid from TEE and its implications in public health

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Introduction and objective: Considering the need to find alternatives for the beneficial use of sludge produced in sewage treatment plants (TEEs), mainly agricultural use, the present work aims to evaluate the structure and behavior of the drugs in sludge from TEE, submitted to the composting process.

Materials and methods: The physic-chemical properties of selected drugs and their behavior in TEEs, considering the persistence tendency on the sludge, and the ecotoxicological potential when disposed of in the soil, using the QSAR-ECOTOX-EPA model. Sludge composting line installation: characterization of crude and composted sludge; quantification of drugs by HPLC and their behavior in composting. The evaluated drugs are in the most consumed compounds list in Brazil 2016/17 (ANVISA, 2018).

Results and conclusion: The preliminary results regarding the octanol/water partition coefficient, showed: $\log Kow < 2.5$: high hydrophobicity and low absorption tendency in biomass and lipid fractions of suspended solids; $2.5 < \log Kow < 4.0$: moderate tendency of absorption in these matrices; $\log Kow > 4.0$: highly hydrophobic and high sorption potential in the solids present in the sewage. Preliminary results show that atenolol, carbamazepine, paracetamol, and clonazepam showed Log Kow of 0.16, 2.30, 0.46 and 2.53 respectively, with low sorption tendency, and no bioaccumulation potential. The Ibuprofen (3.79) has a moderate tendency and simvastatin, a high tendency of sorption (4.68), both potentially bioaccumulative. Agricultural use of biosolids is a controversial issue because of the potential adverse that impacts on human health. In the name of safety, stringent standards, high-quality, criteria and restrictions of use are imposed. Standards should be based on risk assessment, but there is a lack of data on the subject, and there is still no clarity as to what constitutes a tolerable risk in the context of standard composition.

CFSP114

Drugs distribution chain evaluation for average units through complexity logistics performance indicators

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Introduction and objective: Public organizations are complex units to manage, requiring efficient management of the logistics of drugs. The objective of this study is to evaluate the drug distribution logistics through logistics data, ensuring better implementation of the PA operations and patient safety.

Materials and methods: This study performed a quantitative descriptive research of type at Ipojuca, PE, with pharmaceutical auxiliaries and pharmacists. Drug distribution was evaluated in the city through logistics data performance. Dimensions: reliability in delivery time, flexibility in service, disaster recovery, confidence, knowledge of the team, and post-delivery support.

Results and conclusion: The results evaluate the functioning of the drug distribution chain, the importance of efficient stock management, the flow of information, and the actual demand plan. The study shows that some dimensions need improvements, such as the ones related to communication and information, the correct amount of products, professional satisfaction, reliability in delivery time, flexibility in service, and failure recovery. It is becoming apparent that some dimensions evaluated demand operational changes, given the high added monetary value, continuity logistics processes, the credibility of the services, and the construction of a positive image, but mostly, the increased survival of users.

CFSP115

***E. coli* sensitivity profile isolated from urocultures of women attended in basic health units in Londrina, Paraná - Brazil**

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Introduction and objective: The resistance of *E. coli* to antimicrobials has increased significantly, especially regarding commonly used antibiotics in the treatment of uncomplicated urinary tract infections, such as ampicillin, sulfamethoxazole, cotrimoxazole, and quinolones. The aim of this study was to determine the frequency of use and sensitivity profile in patients in the city of Londrina – Paraná, Brazil.

Materials and methods: The urocultures were conducted from May 2016 to April 2017 by the Centrolab Laboratory – the central laboratory of the municipality of Londrina. Bacteria were identified by the Vitek 2[®] automated system (bioMérieux). The sensitivity profile was analysed through the SPSS 16.0 software. Positive male and newborn urocultures were excluded, including female-only positive urocultures in the final sample.

Results and conclusion: In the analysed period, 8.189 urocultures resulted positive, with *E. coli* accounting for 79.4% of the total, followed by *Klebsiella pneumoniae* (9.2%), *Proteus mirabilis* (5.2%), *Citrobacter koseri* (1.6%), and other microorganisms (4.6%). Excluding male and newborn urocultures, an increase in sensitivity was observed except for sulfamethoxazole-trimethoprim, corresponding to 68.7%, and nalidixic acid (68.8%). The treatment of uncomplicated UTIs is usually performed with a first-choice antibiotic such as sulfamethoxazole-trimethoprim and quinolones, but resistance has increased in recent years. In locations where resistance to SMX-TMP is greater than 20%, use should be made with caution because of the risk of therapeutic failure. In the studied municipality, 31.2% of the population is resistant. Finally, regarding the quinolones, ciprofloxacin has a total of 19% of resistant strains.

Financing: CNPq, Araucária Fundação.

CFSP116

Economic-clinical protocol: rational use of terlipressina in varicous digestive hemorrhage's treatment

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Introduction and objective: Protocol justified by negligence to rational use when observing variables: gender, weight, the height of patients, adjusted dosages, and treatment time after endoscopy without rebleeding — these variables related to the most appropriate dosage and treatment time. The goal was adherence in rational use and compliance with variables.

Materials and methods: Protocol comes down to printed form; it ensures compliance with correct dosages. Medical prescriptions should meet the established parameters, with mandatory filling forms. Dispensation occurred exclusively through correct adhesion. Multiprofessional team involved and trained. Previously unused doses and stability after reconstitution reflected in improved pharmacoeconomics.

Results and conclusion: Comparing the periods without and with the use of forms, the implementation of protocol reflected in a decrease of the average consumption of ampoules/patient from 29.12 to 19.73, and a total annual financial outlay of R\$ 765,750.00 to R\$ 557,250.00. Clinical conditions analysed demographic data, clinical data on admission, Child-Pugh patient's classification, endoscopy data, control of acute bleeding in the first five days as recommended by the V Baveno Consensus, and other data. Educational roles were reworked, and the economy of extremely scarce public financial resources was promoted, without prejudice to rational use. Therefore it was possible to treat more patients with fewer resources by adjusting the doses and adhering to the possibility of intermediate doses, considering the stability after reconstitution.

CFSP117

Efavirenz's solubility enhancement by amorphous solid dispersions

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Introduction and objective: Efavirenz is a High Activity Antiretroviral Therapy (HIV-1 infection treatment) component. It belongs to BCS' Class II, and it shows strong permeability and low solubility (less than 10µg/mL). In this study, solid dispersions SD was obtained by the solvent evaporation method, aimed to enhance its solubility through amorphization.

Materials and methods: SD drug: the carrier (poloxamers 188 and 407) used in a proportion of 1:3 was prepared on a rotary evaporator under a reduced pressure of 40°C. The samples were assessed by X-Ray Powder Diffraction (XRPD) and the equilibrium solubility method (shake-flask technique). Quantities of SD were added in each media buffers pH 1.2, 4.5 and 6.8 until it reached saturation, and shaken at 150rpm for 72 hours at 37°C.

Results and conclusion: Results have shown that poloxamer 188 and poloxamer 407 were unable to promote complete amorphization of SD by XRPD. However, those same carriers were able to stabilize the binary mixture and significantly increase efavirenz solubility for over two thousand times.

Financing: CAPES.

CFSP118

Effect of *Allium sativum* L. germinated bulb on wound healing skin in wistar rats

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Introduction and objective: Garlic (*Allium sativum* L.) is one of the most important bulb crop grown in the world. It is rich in allicin, closely related to vascular endothelial growth factor and angiogenesis in the skin. The purpose of this study was to evaluate the effect of germinated bulb garlic extracts on the wound healing skin.

Materials and methods: Germinated garlic bulb alcoholic extract at 10% (w/w) carried in emulsion (EE) compared to placebo in an emulsion (PE) in male Wistar *Rattus norvegicus*. Two parallel incisions were made on the right (EE) and left (PE) sides of rat's back and the tissues were prepared for histological and morphometrical analysis (3rd, 7th, and 14th day) after the beginning of the assay.

Results and conclusion: After three days, the surrounding wounds showed fibrinous crust, new blood vessels (bv), and a large amount of inflammatory cells, but there was no difference in the treatments. Both treated lesions decreased inflammatory infiltration, granulated tissue, and fibroblastic proliferation after seven days. On the 14th day, both areas showed a reduction of bv, fibroblasts, and a large amount of collagen fibers in the extracellular matrix of connective tissue. In EE treated area, there was a better organization of matrix fibers, extracellular, and thicker collagen fibers. The repairing process was faster when compared to the PE treated area. Thus, it is possible to conclude that germinated garlic bulb alcoholic extract improves the wound healing skin in rats.

CFSP119

Effect of auriculotherapy for chronic low back pain

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Introduction and objective: Lumbar pain is one of the most common complaints found in clinical practice. Estimates indicate that 80% of the world's population will present at least one episode of low back pain throughout their lives. This study evaluates the effect of auricular acupuncture treatment on the perception of patients with chronic low back pain.

Materials and methods: The recruited patients signed the TCLE, and the pre and post-treatment questionnaires were applied in due courses. The treatment was performed in 5 auriculotherapy sessions with the stimulation of the following points: Shen Men, Kidney, SNV, lumbar region, Anxiety, Insomnia, Subcortex, and Liver.

Results and conclusion: In relation to health habits, 60% of volunteers do not receive treatment for low back pain, and 90% consider their health regular. In the evaluation of pain, 10% of the volunteers responded they considered their pain moderate, and 90% found it of high intensity. The results of the post-treatment showed that all (100%) patients responded well to the treatment, with a significant improvement in the quality of life to everyone. All of them emphasized getting out of bed more easily, 80% sleeping better at night, 80% standing for more than 30 minutes, 90% walking a few blocks, 90% sitting on chairs for a few hours, etc. Thus, it was concluded that acupuncture treatment for chronic pain and inflammatory processes improves patients' quality of life, especially those with chronic lumbar pain.

CFSP120

Effect of *Vitex polygama* extract and fractions on vincristine-induced neuropathic pain in mice

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Introduction and objective: Neuropathic pain is a severe health problem where conventional treatments are inefficient or have several side effects on the patient. Since natural products resulted in several analgesic drugs, this work studied the effects of *Vitex polygama* plant extract (VPE) and its fractions on a vincristine-induced neuropathic pain model in mice.

Materials and methods: The pain was induced in mice through intraperitoneal injection (i.p.) of vincristine (0.1 mg/kg) for a period of ten days and was attested by the hot plate test, which recorded the hind paw raise latency. VPE (or fractions) were injected (5-30 mg/kg, i.p.) 1 h before the hot plate test. Saline (0.9% NaCl) or Morphine (10 mg/kg) were used as controls. Animal Care and Use Committee protocol #MAC051.

Results and conclusion: The administration of vincristine induced pain in mice, as observed by the decrease of the hind paw raise latency (5.03 ± 0.25 s) compared to the saline group (11.95 ± 1.11 s). When animals were treated with VPE, an analgesic effect was observed in all doses. For purposes of effect comparison treatment with 10 mg/kg of VPE produced a latency of 10.6 ± 1.3 s compared with the 8.75 ± 1.11 s of morphine. The VPE fractions (buthanol and dichloromethane) were also able to reduce. Thus, we concluded that *Vitex polygama* extract and fractions promoted analgesia in animals with vincristine-induced neuropathic pain, indicating that the plant extract could be the source of new analgesic drugs to the treatment of neuropathic pain.

Financing: FAPERJ; CNPq.

CFSP121

Effectiveness of educational intervention in improving knowledge and skills regarding herbal medicine among healthcare providers

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Introduction and objective: Herbal medicine has undeniable relevance as popular therapy. Despite this, the literature demonstrates a lack of knowledge among healthcare providers about the risks and therapeutic potential of herbal drugs. This study evaluates the effectiveness of an educational intervention in improving knowledge and skills among healthcare providers.

Materials and methods: A non-randomized experimental study, analytical and prospective, was performed with 17 primary health care professionals. Knowledge and skills were analysed before and after a multifaceted educational intervention.

Results and conclusion: There was a significant difference between the concepts considered satisfactory (above 7 points) before and after the educational intervention (Chi-square $p=0.005308$) and overall scores (Wilcoxon Rank test $p=0.00076$). Improved reporting skills for adverse event reporting were also noted. The multifaceted educational intervention proves to be an effective strategy to increase the knowledge and skills about medicinal plants and herbal drugs.

Financing: CAPES.

CFSP122

Effects of escitalopram on mice dental development

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Introduction and objective: Due to its fewer side effects, the antidepressant Escitalopram (ESC) has been the first-choice drug in the treatment of depression in pregnant women. With the lack of information on the influence of ESC in odontogenesis, this study aimed to investigate the possible changes in tooth formation when the drug is used during gestation.

Materials and methods: Thirty female mice were used, distributed in a treated group (GT) with ESC at a dose of 20 mg/kg and a control group (CG) with a saline solution via gavage from the 5th to the 17th day of pregnancy. The head of the first fetus of the right uterine horn of each female was removed for histological analysis of odontogenesis. Statistics: chi-square and Fisher's tests. CEUA approval: 17937.2017.35.

Results and conclusion: Larger absence of mitotic figures in the ameloblastic layer: GT (15%) GC (0%); lower polarization index of the ameloblasts layer: GT (22.5%) GC (5%); higher malformation index of the star reticulum: GT (27.5%) GC (7.5%). Highest rate of malformations in the Hertwig sheath: GT (35%) GC (7.5%). Higher frequency in matrix secretion by odontoblasts: GT (52.5%) GC (22.5%). Highest frequency of advanced development: GT (47.5%) GC (22.5%). Major dental morphological alteration: GT (35%) GC (2.5%). The results suggest that ESC is teratogenic on mice tooth formation. Changes in the growth of dental germs have consequences that compromise the oral health of the child. Further clinical investigations must be performed to analyse the degree of changes in humans.

Financing: CAPES.

CFSP123

Effects of resistin on the activation of phagocytes of obese pregnant women

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Introduction and objective: Obesity during pregnancy has potentially harmful effects on neonatal development since there is an intense interrelation between mother and child, which can probably modulate the child's immune system. The aim of this study is to evaluate if Resistin is able to modulate the activation of obese mothers' phagocytes.

Materials and methods: Samples of blood were collected, considering the pre-gestational nutritional status of 15 mothers divided according to their BMI (eutrophic=5, overweight=5, and obese=5). The viability, phagocytosis index, and microbicidal activity of colostrum mononuclear phagocytes were evaluated by the fluorescence microscopy technique with acridine orange.

Results and conclusion: It was observed that, regardless of nutritional status and Resistin treatment, no cell viability differences were found in both groups. Resistin treatment was able to modulate the phagocytic and microbicidal activity of phagocytes in all nutritional states, and also increase the microbicide index in the obese group. This result suggests that there is an interaction of cells and Resistin, representing an important immunomodulatory stimulus in the pregnancies of women with altered weight.

Financing: CAPES, CNPq, FAPEMAT.

CFSP124

Effects of time adjustment of drugs in hypertensive elderly patients using polypharmacy

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Introduction and objective: In Brazil, 36 million adults are affected by hypertension; among them, more than 60% are elderly. Polypharmacy can increase the risk of adverse reactions and drug interactions. The objective was to evaluate the effects of time adjustment of drugs in hypertensive elderly.

Materials and methods: It is a pilot study with non-randomized intervention allocation. The pharmacological follow-up was in the treatment of Systemic Arterial Hypertension in the elderly of a reference center for the elderly in Presidente Prudente, in 2018. The ethical aspect of the research was approved by CAE: 90826418.2.0000.5515.

Results and conclusion: The intervention was performed in the pharmaceutical consultation by adjusting the drug schedules in order to avoid drug interactions. The pharmacotherapy follow-up contributes to the control of blood pressure and promotes quality of life for these elderly people. Pressure values in relation to pre- and post-intervention were evaluated by the Fisher's Extract test, comparing the data from the first and fourth visits. No associations were found in any of the pairs of variables. The conclusion is that the context of the individual's uniqueness influences decision making for an effective outcome. Emotional factors and pain can lead to typical physiological alterations of aging, which, if not interpreted in an integral manner can generate harmful consequences to health.

Financing: University of Oeste, Presidente Prudente, São Paulo, Brazil.

CFSP125

Elaboration and effectiveness of the quality control of the red propolis of alagoas's microencapsulates

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Introduction and objective: The red propolis of Alagoas (PVA) is rich in flavonoids, phenolic acids, benzophenones and terpenes, favoring its use in the development of pharmaceutical, cosmetic and alimentary formulations, due to its antioxidant and antimicrobial activity. The objective of this work is the elaboration and quality control of microencapsulated PVA.

Materials and methods: From the hydroalcoholic extract the microencapsulated was obtained through the spray dryer technique. The formulation was characterized in terms of total phenolic and flavonoid content and its antioxidant activity, using the Folin-Ciocalteu, $AlCl_3$ and DPPH methods. The microencapsulated was used in the production of gelatinous capsules and, later, the dissolution profile was verified.

Results and conclusion: The microencapsulation presented reddish coloration and light appearance, homogeneous and loose to the naked eye, contents of 19.1% for phenolic compounds and 2.9% for total flavonoids. The formulation showed a high antioxidant activity since it reduced 90% of DPPH in concentrations starting at 25 μ g/mL. The dissolution profile of the capsules containing the microencapsulated was characteristic of an extended release formulation. It was possible to microencapsulate the PVA extract through the spray-dryer process obtaining a formulation rich in flavonoids and phenolic compounds with marked antioxidant activity. The PVA capsules showed compliance to the unit weight according to the 5th edition of the Brazilian Pharmacopoeia, in addition to its dissolution profile being of prolonged release.

Financing: UFAL, CNPq, Fapeal, Capes

CFSP126

Elaboration of educational booklet: capacity building for Community Health Agents (CHAs)

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Introduction and objective: The Community Health Agents (CHAs) establish links with the community and investigate the present difficulties. The training enables the transmission of basic guidelines. The main goal was to propagate the idea of training for CHAs, starting in the city of Lajeado, -RS and spreading to all cities of the 16th Regional Health Coordination (CRS).

Materials and methods: An instructional manual was elaborated to approach subjects related to administration, storage, and disposal of medication. It was delivered to all CHAs of the city. From a pre-established schedule, the cooperators met, and through training, discussed topics mentioned in the first meeting.

Results and conclusion: The results are satisfactory in the interest of propagating the information received to the neediest community. At each meeting, different orientations are given according to the schedule and doubts that arise during the home visits. The activities disseminated to the other cities of the 16th CRS indicated a reduction of costs with services. The commitment of all professionals in health and education promotion results in the user's autonomy in adherence to the treatment. The dissemination of services and training promotes the integration of the health network and allows the opening up of new fields of action for professionals.

CFSP127

Elaboration of standardized pharmaceutical report for pharmacokinetic and pharmacodynamic (PK/PD) parameters of vancomycin

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Introduction and objective: The Clinical Pharmacy Service of the University of São Paulo Hospital performs the dosage adjustment of vancomycin through the analysis of pharmacokinetics and pharmacodynamics parameters (PK/PD) in pediatric unity. In order to improve the registration of this service, it was proposed standardized models of the pharmaceutical report.

Materials and methods: Some requests were not included; specifically, the evaluated requests and technical reports of the Vancomycin Dosage Schedule Individualization attended in 2018 that did not allow the calculation of the Area Under the Curve (AUC). Based on this review, six report models were evaluated, one for each likely outcome, considering dosing adjustment, no dosing adjustment, or infeasibility of the calculation.

Results and conclusion: In 2018, 46 PK/PD analyses were performed to obtain the Vancomycin Dosage Schedule Individualization, of which 46% (n=21) required dosing adjustment, 32% (n=15) had adequate AUC not requiring adjustment, and in 22% (n=10) it was not possible to identify the recommended conduct. The report models were proposed to reduce subjectivity in the presentation and interpretation of the results, presenting standardized fields. The models include information about blood sampling, serum levels of vancomycin results, isolated microorganism, AUC calculation result, and suggested conduct. This study showed the importance of recording the clinical pharmacist's role in the therapeutic monitoring of drugs and, consequently, improve the effectiveness and safety of drug use through pharmaceutical interventions.

CFSP128

Epidemiologic schistosomiasis profile in Ipojuca, Pernambuco

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Introduction and objective: The schistosomiasis is endemic at Pernambuco state, which has the third-largest positive rate. In Ipojuca, the seasonal infection risk increases at a rate of 81.4% of infectivity. Therefore, this study aims to describe the epidemiological profile of schistosomiasis in that municipality.

Materials and methods: This study conducted an epidemiological research of sectional type in Ipojuca, Pernambuco, from information available at the DATASUS base, of all cases of the disease, in residents, reported in the Program Control of Schistosomiasis (PCS), from 2012 to 2016.

Results and conclusion: In 2015, the disease was responsible for the death of 119 people in Pernambuco. The endemicity of schistosomiasis in Ipojuca includes demographic, socioeconomic, and behavioral factors. Affected age groups are between 10 and 59 years old, predominantly in males. Despite the public policies that favor the control and elimination of the disease, the city of Ipojuca presents a positivity rate of 4.52% reported in the PCS at the Datasus site, with decreasing records over the years. However, the laboratory Oswaldo Cruz Foundation (Fiocruz), shows up to 31% infection rates in the region. Therefore, it is concluded that the epidemiology of this disease is significant, serious, and requires immediate action from the public sector, municipal and state health department.

CFSP129

Epidemiological aids analysis in the elderly in Brazil

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Introduction and objective: With the transition of the age pyramid in Brazil and the increase in human immunodeficiency virus (HIV) contamination in the elderly, the understanding of the epidemiological profile creates subsidies to reduce new cases in this age group. This paper aims to analyse the epidemiological profile of the elderly diagnosed with AIDS in Brazil.

Materials and methods: It is a cross-sectional, time series from 2007 to 2017, using secondary databases arising from the DATA-SUS platform. The study population was defined as elderly, as their ages were above 60 years. There were analyses of variables such as sex, transmission source, population incidence, and region. The data were compiled and critically analysed using the SPSS 13.0 program.

Results and conclusion: Ten thousand eight hundred seventy-five new cases of AIDS have been identified. Among them, 57% (n= 6,251) were male, a fact that is relevant to all regions of the country. The most significant risk of transmission is via sexual activity, through heterosexual intercourse in most of these cases — the regions with higher concentrations are Southeast, South, and Northeast, respectively. The increase in survival coupled with changes in sexual behavior of the elderly, access to medicines for erectile dysfunction, and resistance to using condoms have given a new epidemiological profile of AIDS in the elderly in recent years. Moreover, sex education actions directed to this population, aiming to deconstruct complex contexts constructed culturally as well, which reveals a transition compared to the last century.

CFSP130

Epidemiological profile of a health strategy unit's users with cancer diagnosis in the municipality of Santo André - SP: associated risk factors

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Introduction and objective: Cancer has a specific natural history; one healthy cell goes through several transformations until it reaches the tumor form. The aim of this study is to describe the epidemiologic profile of users with cancer diagnoses accompanied by the family health strategic unit of the municipality of Santo André and correlate the possible associated risk factors.

Materials and methods: Quantitative research is the form of the present work. Descriptive studies with primary data analysis were used. The data were collected between June 2017 and February 2019 at a Family Health Unit located in Jardim Sorocaba. As data source, the study relies on the medical records from patients, interviews, and forms after acknowledge and approved by the TCLE.

Results and conclusion: Eighteen cases of cancer in the studied region were found. From the neoplasms encountered, the highest prevalence was from mouth, tongue, and esophagus cancer, which encompass the type of head and neck cancer. Other types of cancer identified involved breast, ovary, skin, bladder, intestine, and nervous system. It's perceived, analyzing the results, that low scholarship, low income, and poor housing conditions, which are the kind of reality the population in focus is exposed to, have an important part and can also influence the development of these neoplasms. As well as unhealthy eating habits, sedentary lifestyle, and smoking, other exposure factors are related to the type of cancer represented in each case of this research.

CFSP131

Epidemiological profile of patients with minor disorders attended in private community pharmacies in Maceió, AL

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Introduction and objective: Although the use of over-the-counter (OTC) medicines to treat minor disorders is increasing in community pharmacies, the prevalence of such clinical conditions associated with this use still is insufficiently researched. The purpose of this study was to determine the prevalence of minor disorders that led to the use of over-the-counter medicines.

Materials and methods: A cross-sectional study conducted in five private community pharmacies between the months of September and October 2018, to obtain the report of the main complaints, signs, and symptoms that led the patients to use over-the-counter medicines. The data were collected using a form, in which sociodemographic variables, daily habits, reports of major complaints, signs, and symptoms were investigated.

Results and conclusion: A total of 209 patients were interviewed, 62.2% female. The average age was 40.4 years. The main prevalent complaints were headache (41.63%), myalgia (11.48%), cold and/or flu (11.0%), and painful processes (10.52%). In addition to the main complaints, the most common secondary signs and symptoms were rhinorrhea (9.57%) and throat irritation (7.17%). Headache was mentioned by the majority of patients, being more frequent in female patients (65.5%) and less common among elderly individuals (11.5%). Half of the patients who reported the use of OTC to treat painful processes were between 40-59 years old while single patients (60.9%) and those aged 18-25 years old (43.5%) had more colds and flu ($p=0.01$).

CFSP132

Error determination of prescription and dispensation of medicines in an infectious disease reference hospital in Fortaleza, Ceará

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Introduction and objective: Errors involving medications frequently occur in hospitals and are multidisciplinary in nature. Medication dispensing error is any avoidable event that may lead to inappropriate medication use. The objective is to determine the types of errors of prescriptions and dispensations that occurred in a public hospital.

Materials and methods: It is a retrospective and descriptive study using the electronic prescriptions and dispensations of the ward of a public hospital. Data were collected from September 2017 to July 2018 and analysed twice a week. A record was created to register prescription errors and for statistical analysis. Microsoft Excel 2013 was used.

Results and conclusion: In conclusion, 3,107 prescriptions were identified with 30,999 prescription drugs, an average of 9.97 items per prescription and, of these, 40% (12,424) contained prescription errors. Of those, 12,424 were presented errors in the prescription: 56.8% (7,062) were prescribed without the pharmaceutical form; 36.1% (4,486) without dosing; 2.7% (331) prescribed by trade name. In the dispensation, 172 errors were found, with 80.23% being by the omission of the dose and 16.90% by the wrong dose. Although the prescription is electronic, there is still a significant percentage of errors. Good dispensing practices are paramount for patient safety. It is essential that the hospital adopts a safe and efficient system of prescription and dispensation, with the participation of the pharmacist.

CFSP133

Ethnopharmacological study of medicinal plants used by patients assisted by the Basic Health Unit in Itacoatiara, AM

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Introduction and objective: The habit of using medicinal plants for the purpose of healing and prevention of diseases goes back to the beginning of human civilizations. The objective is to rescue the popular knowledge by obtaining information about the medicinal plants used by patients assisted by BHU Paulo Gomes da Silva.

Materials and methods: In this sense, this cross-sectional epidemiological study was developed, based on information obtained through a semi-structured questionnaire, applied in order to rescue the popular knowledge with the population assisted by a Basic Health Unit in the municipality of Itacoatiara, AM. The ethical aspects were appreciated and approved by CEP, via Brazil Platform CAAE (88678218.0.0000.5020).

Results and conclusion: The socioeconomic profile is composed of individuals of the female gender, aged from 18 to 77 years old, single, complete high school and income of less than one minimum wage. The ethnopharmacological profile confirms that popular knowledge related to the use of medicinal plants is transmitted through parental generations, with a prevalence of uses and therapeutic indications related to pathologies in general. A worrying fact is the frequent substitution by users of this UBS of allopathic medicinal products for medicinal plants motivated by the false belief that these do not cause harm to health. Thus, these results contribute to public policies based on the rescue and appreciation of popular knowledge related to the use of medicinal plants in the scope of SUS.

Financing: UFAM.

CFSP134

Evaluating adherence to drug treatment in insulin-dependent patients of a Basic Health Unit in the interior of São Paulo

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Introduction and objective: *Diabetes mellitus* has insufficient insulin action or secretion. Care for this disease in Primary Health Care includes support for change in lifestyle due to the great economic and social burden. The Single Health System fully funds clinical management. This study aimed to know the patient's behavior in adherence to drug treatment.

Materials and methods: The approach was a retrospective, cross-sectional, quantitative descriptive research. Patients enrolled in a Basic Health Unit located in the interior of the state of São Paulo were evaluated, with validated questionnaires from the Morisky-Green questionnaire and adapted by the Brief Medication Questionnaire (BMQ). The ethical aspect of the research was approved by CAE: 86994918.0.0000.5515.

Results and conclusion: Thirty patients were evaluated, 18 female and 12 male, with a mean age of 65.6 years and 53.4% with incomplete primary education. Self-care is present in 66.7% of the interviewees. The Morisky-Green test indicated that 36.7% of the patients were adherents, and 63.3% did not present adherence to pharmacological treatment. The BMQ showed: 9 patients with a regimen domain score indicating potential non-adherence, 12 patients with belief domain score, and 29 patients with memory domain score. Pain during insulin injection was one of the most common reports in the belief domain. The study allowed the understanding of how a diabetic patient lives. It is essential that all health professionals are involved in patient care, as well as discuss the most effective coping mechanism for *Diabetes mellitus*.

Financing: UNOESTE.

CFSP135

Evaluation and development of orodispersible films for losartan potassium delivery to the oral cavity

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Introduction and objective: Fast-dissolving oral delivery is a solid dosage form that dissolves within one minute when placed into the mouth without the need for drinking or chewing. This study's purpose is to prepare oral dissolution films of Losartan Potassium to develop a dosage form with a quicker start, which is highly convenient for its administration.

Materials and methods: The orodispersible films were prepared by the solvent casting method and using factorial planning, with two factors varying in three levels that resulted in eight formulations. The films were evaluated regarding their morphology and mechanical properties. The dissolution profiles of orodispersible films were analysed and compared to those of Losartan Potassium tablets available at the pharmaceutical market.

Results and conclusion: Thickness and rupture resistance values varied according to the amount of polymer, while the elasticity and adherence of the module depended on the plasticizer's nature. All films were transparent; however, air humidity influenced on the glycerin and PEG₄₀₀ made films opacity. The films prepared with PEG₄₀₀ felt more unctuous to the touch, as observed in the photomicrographs. Orodispersible films and tablets presented expected release behavior, obeying first-order kinetics.

CFSP136

Evaluation of the elderly's drug profile

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Introduction and objective: Health problems and the need for drug treatment are expected when one ages. The elderly present difficulty concerning drug-treatment adherence and it's a reason for important health complications of this age group.

Materials and methods: This was a cross-sectional observational study, in which 218 elderly individuals, aged 60 years or older, were interviewed from the Aging Group for the Elderly of the Social Services of Commerce (SESC), in the city of Maceió, in the period between August and December, 2016. They accepted and signed the TCLE, answering the socio-demographic questionnaire and the Brief Medication Questionnaire (BMQ).

Results and conclusion: The sample consisted predominantly of women (95.9%). Most of the elderly were widowed, retired and 42.3% earned 4 or more minimum monthly wages (monthly wage \$ USD 300.00). The average drug intake per day was 2.38 units, predominantly antihypertensives. With respect to adherence, 80.8% of those reporting difficulty in remembering to take their medication exhibited low adherence. Low adherence was also identified in those earning less than 1 minimum monthly wage. There is an intense repercussion of non-adherence to treatments among the elderly since the prevalence of chronic diseases in this age group implies treatments that require a high consumption of medications, as well as changes in behavior and lifestyle habits, which may make adherence difficult.

CFSP137

Evaluation of antinociceptive and anti-inflammatory activities of replaced synthetic chalcones 24, 31, and 41 in the formaline *in vivo* test

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Introduction and objective: In previous studies conducted by this research group, the *in vitro* anti-inflammatory activity of substituted synthetic chalcones 24 (LC24), 31 (LC31), and 41 (LC41) was demonstrated. Therefore, the aim of this study was to evaluate the antinociceptive and anti-inflammatory effects of these synthetically modified chalcones *in vivo*.

Materials and methods: The animals were pretreated intraperitoneally with the DMSO (vehicle), morphine or chalcones LC24, LC31, or LC41 at the dose of 30 mg/kg. After 30 minutes, intraplantar injection of 20mL formalin (2.5%) was performed. Then, the time the animals spent licking or vigorously agitating the paw was recorded. Experiments were approved by the ethics committee CEUA of UFRJ/Macaé, under protocol MAC044.

Results and conclusion: In the first phase (neurogenic), only LC24 (30 mg/kg) presented a significant antinociceptive effect when compared to the negative control, reducing the licking time from 59.4 ± 5.3 (DMSO) to 27.6 ± 4.1 s ($P < 0.05$). In the second phase (inflammatory), only LC41 (30 mg/kg) presented significant anti-inflammatory effects when compared to the negative control, reducing licking time from 362.4 ± 20.1 (DMSO) to 199.5 ± 29.2 s ($P < 0.05$). Morphine (10 mg/kg) inhibited both phases, for 28.0 ± 4.4 ($P < 0.05$) and 238.5 ± 16.0 s ($P < 0.05$) in the first and second phases, respectively. It can be initially concluded that LC24 may have antinociceptive action by way of central analgesic action, and LC41 has antinociceptive activity by anti-inflammatory action.

Financing: PIBIC/UFRJ.

CFSP138

Evaluation of average treatment of main infections in an antimicrobial stewardship program

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Introduction and objective: Optimization of antimicrobial (ATM) use time is one of the essential strategies for the Antimicrobial Stewardship Program (ASP), aiming at minimizing exposure to these drugs and reducing the development of bacterial multidrug resistance. The objective of this study is to evaluate the average time of antimicrobial use in a University Hospital.

Materials and methods: Descriptive study related to the management of the average time of ATM use with infection topographies and the ATM free days of patients followed by the ASP interdisciplinary team in 2018. The study was carried out through a retrospective analysis of the information contained in the program's electronic database — study approved by the Research Ethics Committee under protocol 2.945.868.

Results and conclusion: Of the 798 PGTA-monitored infections in 2018, 44.99% (359/798) were blood infections, 32.70% (261/798) respiratory; 22.30% (178/798) of the gastrointestinal tract and the average time antimicrobial use in days was 8.82; 11.80; 9.40, respectively. Regarding antimicrobial free days, 1769 days were noted, where 658 (37.20%) days were for blood infections, 243 (13.74%) for gastrointestinal tract related and 838 (47.37%) for respiratory. The conclusion is that ASP has demonstrated progress in time management of the antimicrobial therapies analysed.

CFSP139

Evaluation of bacterial growth inhibition in float rich fibrin (PRF) obtained in the presence and absence of antibiotic

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Introduction and objective: Platelet-Rich Fibrin (PRF) is an autologous platelet concentrate that virtually eliminates the risk of disease transmission, except for those caused by contamination in the preparation. Therefore, the objective is to evaluate the inhibition of bacterial growth in platelet-rich fibrin (PRF) obtained in the presence and absence of antibiotics.

Materials and methods: PRF was obtained from human blood, in the presence and absence of antibiotics, collected from healthy non-smokers who do not use medication. The fibrin membrane was cut into smaller pieces and placed on sterile PCA (Plate Count Agar) present in a petri dish, where they were evaluated to assess the risk of contamination during the process of obtaining PRF in the absence and presence of the antibiotic.

Results and conclusion: Based on the research results, PRF is not able to inhibit bacterial growth by itself, however, with the incorporation of the antibiotic in the membrane, there was a significant reduction in bacterial growth compared to samples without the same.

CFSP140

Evaluation of cardiovascular risk in Brazilian and African through the hs-CRP and the ApoB/ApoA-I ratio

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Introduction and objective: Cardiovascular diseases are the leading cause of death in the world and they can be triggered by atherosclerosis, being important to identify asymptomatic individuals who are more predisposed. This study aims to correlate the cardiovascular risk obtained with the determination of hs-CRP and ApoB/ApoA-I ratio in healthy Brazilian and African young adults.

Materials and methods: Weight, height, waist circumference, percentage of body fat, and systemic blood pressure were measured. Furthermore, fasting blood samples were taken for biochemical analysis. Triglycerides, total cholesterol, HDL-c, apolipoproteins A-I and B and hs-CRP were measured on automated equipment using commercially available kits.

Results and conclusion: After statistical analysis, it was found that, body mass index, waist circumference, fat (%), triglycerides and ApoB/ApoA-I ratio were higher in Brazilians, while HDL-c and ApoA-I, were higher in Africans, but hs-CRP did not present significant difference. In Brazilians, the ApoB/ApoA-I ratio was related to obesity factors and lipid profile, but in Africans, it was related only to lipids. In the binary logistic regression analysis, it was found that men, in general, have higher risk of myocardial infarction through the values of hsCRP; odds ratio 1,904 (CI95%: 1,152–3,146) and ApoB/ApoA-I ratio: Odds Ratio 2,144 (CI95%: 1,343–3,424), respectively. Thus, the anthropometric and biochemical parameters of Brazilians, especially men, predispose them to greater risks of cardiovascular diseases.

Financing: Laboratory of Clinical and Toxicological Analysis-LACT.

CFSP141

Evaluation of composition and hemolytic activity of *Morus nigra* L.

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Introduction and objective: The genus *Morus* has many chemical compounds with important antioxidant properties. The *Morus nigra* species is considered as a great phytochemical and biological potential. Phenolic compounds are sources of natural antioxidant foods, their antioxidant activity is useful with reactive oxygen species (ROS), as studies have shown.

Materials and methods: Leaves of *M. nigra* were macerated with ethyl alcohol (70%), the maceration extract was concentrated in a rotary vacuum evaporator under reduced pressure. The HPLC-ESI-MS/MS technique also evaluated the profile of phenolic compounds, and the hemolytic activity and toxicity of the species were analysed by *in vitro* assays.

Results and conclusion: Thirteen phenolic compounds were identified, of which Epicatechin, gallic acid, and ellagic acid were found in the largest concentration. This study identified Epicatechin and salicylic acid in the *Morus* genus. The evaluation of the hemolytic activity of *M. nigra* presented 12% hemolysis at 1000 µg/mL, indicating that the hydroalcoholic extract of the leaves had low hemolytic activity. Hemolytic activity is considered preliminary for the evaluation and viability of plant toxicity.

Financing: Unisociesc, UFSC.

CFSP142

Evaluation of cytotoxic effect of extract obtained from bacteria associated to *Palythoa variabilis*

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Introduction and objective: Given the growing lethality of cancer across the globe, marine natural products prove to be a rich source for the discovery of drugs from the microbiota associated with cnidarians. The goal of this work was to prospect cytotoxic extracts obtained from marine bacteria associated with *Palythoa variabilis*.

Materials and methods: Thirty-two strains from the marine bacteria library (MicroMarin) were cultivated on the A1 agar medium. After seven days of incubation, the crude extracts were obtained from EtOAc extraction of the culture of each strain (BRA-XXX). SRB assay evaluated Cytotoxic activity in either a qualitative screening (5 and 50 µg/mL) on HCT 116 or quantitative by concentration curve on one macrophage and three tumor cell lines.

Results and conclusion: Nine extracts showed cytotoxic activity > 90% on HCT 116 (colon cancer) tumor cells at both concentrations. Additionally five extracts exhibited activity > 70% at 50 µg/mL. BRA-508 strain stood out for presenting growth inhibition above 90% on HCT 116, and RAW264.7 (macrophage) showed 70% and 85% for 5 and 50 µg/mL, respectively. Interestingly BRA-507 inhibited macrophages at the 50 µg/mL but did not on HCT 116. The same extract was tested against B16-F10 (melanoma) and L929 (mouse fibroblast) cell lines with mild inhibition, 20% and 19%, respectively. The microbiota associated with *Palythoa variabilis* is a promising source of natural products with cytotoxic activity. The BRA-507 strain extract showed selectivity only for the genetically modified macrophage line (RAW264.7).

Financing: CNPq; CAPES.

CFSP143

Evaluation of epidemiological profile and care performance in the tuberculosis control program, in Guanambi, BA, 2010-2018

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Introduction and objective: Tuberculosis, a severe worldwide public health problem, is the single-agent infectious disease that causes the most deaths, surpassing HIV. An analytical epidemiological study, with a retrospective cohort to assess the epidemiological profile and performance of care on the tuberculosis control program in the municipality of Guanambi, between the years 2010 and 2018.

Materials and methods: Data collection was performed with SINAN and the Tuberculosis Control Program department of the municipality. Descriptive analyses were performed with frequencies and percentages for categorical and average variables and standard deviation for age. Furthermore, indicators for the municipality were calculated as a function of time and the total in the studied period.

Results and conclusion: From 2010 to 2018, 88 tuberculosis cases were reported, of which 85.2% were cured, 2.3% were transferred, 1.1% had a diagnosis change, 1.1% died, 8.0% were in progress at the time of data collection, and 2.3% had no information. The highest indexes for the municipality during the period were: closed cases (0.92), cured cases (0.85), bacteriologically confirmed new cases (0.85), contacts of examined cases among the registered ones (0.85), and new cases tested for HIV (0.82). The municipality had low rates of abandonment of new cases (0.0%), closed cases with death (0.01), and retreatment cases (0.09) during the studied period. It has been shown that the number of tuberculosis cases has been stable over the past two years, and that treatment has been effective.

CFSP144

Evaluation of facial cosmetics use on wrinkling reduction, self-esteem and women's quality of life

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Introduction and objective: Aging is a continuous biological process characterized by cellular and molecular changes. Skin changes can lead to changes in self-esteem and life quality. The present study aimed to evaluate the impact of cosmetics use on the signs of aging, self-esteem, and quality of life to women.

Materials and methods: A prospective, longitudinal, and double-blind study was carried out in 43 women aged 45 to 60 years old. They were randomly divided into two groups: control and test. Images were captured at baseline after 60 days, for qualitative and quantitative analysis of wrinkles at rest and movement. The study also evaluated self-esteem, quality of life, and levels of significance for all analyses it was set at 5%.

Results and conclusion: The results obtained showed that the association of the anti-aging actives exhibit good results in the reduction of wrinkles at rest as well as in the periorbital region. In addition, participants who used the anti-aging formulation had an improvement in their levels of self-esteem and quality of life. Considering the psychological and environmental domain in the before and after treatment, no results were observed for the control group. In conclusion, it was observed that the use of cosmetic formulations with anti-aging properties promotes improvements not only in the cutaneous aspects of the aging process, but also in the level of self-esteem and life quality of aging women.

Financing: Alianza Cosmetics, Industry and Trade Ltda, Galena Chemical and Pharmaceutical Ltda, Ricaro Import Industry and Trade of Packaging, and Supplies Ltda.

CFSP145

Evaluation of factors influencing type 2 Diabetes *mellitus* treatment in patients with metformin monotherapy

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Introduction and objective: Metformin is the first choice of drug therapy for type 2 diabetes. However, factors such as blood glucose measurement, diet, and sleep quality are essential for glycemic control. This study aimed to correlate non-pharmacological treatment elements in patients with metformin monotherapy.

Materials and methods: It is a descriptive study conducted with 48 patients on metformin monotherapy. The research was approved by the Ethics Committee of the Federal University of Ceara, with protocol number: 86293118.3.0000.5054. Data were obtained through a questionnaire about diabetes diagnosis time, diet, and sleep quality. Capillary blood glucose was measured after the application of the questionnaire.

Results and conclusion: Of the 48 patients, 18.75% (n = 9) exhibited postprandial capillary blood glucose above 180 mg/dL. Regarding the time of diagnosis, 52.08% (n = 25) have a diagnosis time of less than five years, and of these, 72% (n = 18) do not follow a diet (p = 0.045); while 47.91% (n = 23) have a diagnosis time greater than 5 years, and of these, 56.5% (n = 13) follow a diet. In addition, 66.67% (n = 32) of the patients have a high sleep quality. Therefore, the use of metformin is helping in glycemic control; since then, only a small portion of them had capillary blood glucose above the recommended. Most patients with a diagnosis time below five years were found not to be on a diet, while most of those older than five years were on a diet. It was observed that most patients do not have sleep disorders.

CFSP146

Evaluation of herbicide embryotoxicity glyphosate active principle and surfactant on zebrafish (*Danio rerio*)

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Introduction and objective: Brazil has been occupying a prominent position in agribusiness. The herbicide based on glyphosate (HBG) most used is RTR. It is quite toxic to animals, but some studies suggest that the toxicity is related to the surfactants POEA. In this study, the toxic effect of the Gly, POEA, and RTR was evaluated through the acute exposure on *D. rerio* embryos.

Materials and methods: The embryos were exposed and evaluated in a 24-well plate for up to 96 hours observing their vital and developmental parameters through the Leica AZ microscope.

Results and conclusion: The embryotoxic activity on *D. rerio* of the compounds (RTR, Gly, and POEA) is of the concentration-time dependent type. The RTR was the most embryotoxic, presenting LC50/24 h, 44.6 times higher than Gly and six times higher than POEA. Exposure to RTR showed a decrease of bpm at 24 and 48 hours times. Gly affected bpm with difference only at 24 and 48 hours times. The POEA, unlike Gly, presented a change in bpm at 48 and 72 hours times for the concentrations of 50, 25 and 12.5 µg/mL. The morphological changes observed were pericardial edema, spinal curvature, with advancing exposure, especially in sub-lethal concentrations. Finally, the results showed high toxicity of RTR compared to Gly and POEA and a great concern for human health, using the experimental model *D. rerio*.

Financing: FAPEG.

CFSP147

Evaluation of home pharmacies of patients with Diabetes Mellitus type 2

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Introduction and objective: The research aimed to evaluate the home pharmacies of patients with Diabetes Mellitus type 2 who lived in a city in the interior of the state of São Paulo, Brazil, as well as check the clinical variables, body mass index (BMI) and glucose levels of this population in periods of fasting.

Materials and methods: A home visit was carried out where the user, a patient with diabetes mellitus type 2, was asked to show all available medications at the residence, as well as their place of storage. Verifications on weight, time, and glucose levels of the patients were also carried out. The research was approved by the ethics committee of Paulista University (UNIP) under registration number 3.065.798.

Results and conclusion: The results showed that 6% of these users were utilizing a hypoglycemic medications that was not prescribed in their last prescription, and 25% of the population was managing the hypoglycemics with incorrect dosages. Regarding the clinical variables, it was observed that 73% showed blood glucose above an acceptable level, and more than half of this population is obese. From the results, it was concluded that there is a notorious lack of information amongst people with diabetes. This misinformation concerns the dosage of medications and even basic concepts, such as the importance of being evaluated periodically by the primary care multidisciplinary team with regards to weight and blood glucose control.

CFSP148

Evaluation of labeling for weight control food against current legislations

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Introduction and objective: Weight management foods are products that partially or fully replace meals to reduce, maintain, or gain bodyweight. They are exempt from registration and available for sale without any restrictions on consumption. The objective was to assess the conformity of general and specific labeling according to current legislation.

Materials and methods: Fourteen products sold in commercial pharmacies in Recife, Pernambuco, were evaluated. There was a collection of mandatory information from general and complementary labeling, nutritional information and list of ingredients, mandatory information that must appear on the main panel and the food category packagings, according to specific legislation, assessing the level of compliance.

Results and conclusion: All products were classified as a “partial meal replacement.” In 95%, compliance for mandatory general information was verified, but nutritional information about trans fat values was not presented, even though it is mandatory. All products presented prohibited information suggesting the rate of weight loss. In 86% of the products, the minimum energy value per portion was not met, 50% did not meet the value for protein, and none for the linoleic acid portion. Only seven required vitamins had the proper value for the portion. The non-mandatory registration and current legislation, which has not had any updates or revision, promote non-compliance and contribute to lack of softness, which may lead to risks and compromise the health of the consumer.

CFSP149

Evaluation of medication adherence to antiretroviral therapy in HIV/AIDS-infected patients: study conducted in Mogi Guaçu, SP

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Introduction and objective: Medication adherence to antiretroviral therapy (ART) by HIV/AIDS-infected patients is extremely important for longevity and quality life. This study aimed to investigate medication adherence to ART among HIV/AIDS-infected patients, as well as to describe the profile of these patients treated at the local dispensing center in Mogi Guaçu, SP.

Materials and methods: It was applied two instruments data collection: medical records of patients with HIV/AIDS from 2011 to 2016; and the report issued by the Computerized System for Antiretroviral Control (SICLOM), which enabled to verify the assiduity of drug withdrawal by patients during the period of study. Ethical Approval CAAE n° 64980117.7.0000.5679.

Results and conclusion: Data from 172 patients were evaluated, with male (n = 120; 70%) aged from 20 to 29 years (29%) predominance. The most frequent treatment regimen (62%) was efavirenz 600 mg + zidovudine 300 mg + Lamivudine 150 mg. Only 36% of the patients were regularly getting medication, while 18% had one to five irregularities, and 46% stopped getting medicines more than five times. The results show a probable non-adherence to ART, which was below compared to other studies conducted in Brazil. Proper use of the medications is essential for the maintenance of defense cells, and for balancing of the viral load, consequently providing a better quality of life to patients.

CFSP150

Evaluation of medicinal products and the quality of life of patients with vitiligo

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Introduction and objective: Vitiligo is within the group of dermatological diseases that affect the self-esteem of the carrier, and can trigger anxiety and depressive frames. The present research aims to verify the prescription drugs of the class of antidepressants or benzodiazepines and their relationship with vitiligo.

Materials and methods: This is a cross-sectional study, which was conducted with the participation of thirty patients with vitiligo, assisted by the Department of Dermatology at the São Paulo State University (Unesp) of Botucatu, including men and women. All of them answered the questionnaire regarding the type of medication prescribed, its adverse effects and whether it was related to vitiligo.

Results and conclusion: Of the people examined, 27% have started to make use of medications to decrease symptoms of depression and anxiety due to vitiligo. Among antidepressants, the reported was fluoxetine (80%), and among the benzodiazepines, diazepam was the prevalent one (50%). When asked about the side effects, drowsiness and irritation were the ones that prevailed. With the data presented, the importance of proper pharmaceutical medicine for these patients is evident, for better adhesion and monitoring to the proposed treatment.

CFSP151

Evaluation of mineral waters' potability in public sources of the city Águas de Lindoia, São Paulo

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Introduction and objective: Water consumption is essential for human life, and water quality is essential to prevent numerous cases of contamination and disease. This study aimed to verify the drinkability of different public sources available in the city of Águas de Lindoia, indicating possible contamination regarding the presence of total coliforms and *Escherichia coli*.

Materials and methods: Forty-five water samples from five different public sources available to the population were analysed. Fifteen samples were collected in dry weather, 15 samples in rainy weather, and 15 samples five days after the end of the rain. For microbiological research, the methodology of use described in the COLItest® Kit was used, and the data were processed using Microsoft Office Excel software.

Results and conclusion: The results obtained in the research of total coliforms were positive in three (60%) of the five public sources analysed. The presence of turbidity and coliforms in the majority of cases occurred during rain and after rain. Of the analysed samples, 15.55% showed positive results for turbidity, 15.55% positive results for coliforms, 6.66% positive results for *Escherichia coli*, and 62.24% were negative for the tests performed. The results showed that only two of the five verified sources meet the requirements of the responsible agencies, mentioned in ANVISA's RDC N° 275. These data prove the need for frequent potability assessments in order not to put in risk the health of the population who consumes these waters.

CFSP152

Evaluation of over-the-counter drug sites: using information quality assessment criteria on health websites

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Introduction and objective: The information provided on drug websites today is considered a health issue. The content does not have a certification, which guarantees the user the veracity of the information provided on the web. This study aimed to make a checklist with questions and websites selected according to a theoretical survey.

Materials and methods: The tool used was a quality assurance tool checklist with questions elaborated by the article "Criteria for assessing the quality of information on health sites: a proposal, 2015." It was applied to the drugs in the article "Prescription Drugs: consumption profile and the toxic risks of acetaminophen." The other drugs studied were selected according to the author's criteria.

Results and conclusion: For analysis, graphs and studies were made showing the importance of revising the current legislation on drug advertising in the virtual scope. In addition, certification and better disclosure to incorporate the law and the certificate issued by the Oswaldo Cruz Foundation, Sérgio Arouca quality assurance seal. The studied websites are not regulated according to the established criteria and, therefore, the proposal highlights the effective use of the seal on the drug sites. Also, 54% do not meet the minimum requirements, based on the criteria analysed according to the checklist, content, and design items with conformance above 50%, technical items had more than 50% disapproval. Given that, although sites meet some specific criteria, in general, they are not in compliance.

CFSP153

Evaluation of profilaxia of postoperative nausea and vomiting in a surgical initiation unit

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Introduction and objective: Postoperative nausea and vomiting (PONV) are frequent complications, which can reach an incidence of 80% in patients at high risk for this event. Based on this, this study aims to evaluate the prophylactic strategy of PONV in a surgical hospitalization service of a teaching hospital.

Materials and methods: A cross-sectional observational study was performed to obtain information regarding the risk factors for PONV. A structured questionnaire was applied to 79 patients, based on the adapted Apfel instrument. Doctor's prescriptions were also assessed. The Research Ethics Committee approved this study of the Sergipe University Hospital (CAAE: 71407417.0.0000.5546).

Results and conclusion: Regarding the prevalence of PONV, 22.78% reported only nausea, 3.79% reported vomiting, and 11.39% reported having both after the surgical procedure. Considering the risk factors, 3.79% of the patients had no risk factors for PONV, 17.72% had one factor, 53.16% had two factors, 24.05% had three factors, and only one patient (1.26%) presented all four risk factors. The most prescribed antiemetic was ondansetron (45.57%). In 94.94% of the patients, the route of administration was intravenous even when 67.08% had oral integrity. PONV prophylaxis performed at the evaluated hospital does not follow the risk criteria. The implementation of criteria and the establishment of a therapeutic guidance protocol would allow better results effectiveness.

CFSP154

Evaluation of prophylaxis after possible exposure to human rabies virus in notified accident

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Introduction and objective: Human rabies is transmitted by the inoculation of its virus contained in the saliva of an infected animal. Its prophylaxis will depend on animal factors and exposure conditions. The objective of this study is to evaluate the use of Anti-Rabies Serum (ARS) and Anti-Rabies immunoglobulins (RIGs) in the last 12 months in a University Hospital.

Materials and methods: Data were collected from an online worksheet about indications for ARS/RIGs. The following parameters were analysed: patients who attended or not the University Hospital to receive ARS or RIGs, suspended indications, untreated patients due to unavailability of the products, and the animal's species, in the period from 06/2018 to 05/2019. This research was approved by CEP UEL n° 2.650.235.

Results and conclusion: Of the 363 patients who had been indicated to receive ARS or RIGs in that period, 243 (66.9%) attended the UH, of which 172 (47.4%) received ARS and 71 (19.6%) RIGs. Among the patients who did not use it, 16 (4.4%) were due to lack of the medication at the hospital and 89 (24.5%) did not attend. Due to the negative results of the examination for rabies or animal localization, 15 (4.1%) of the referrals were canceled. About the animal species, the dog was the most frequent (47.9%), followed by cats (22.3%). Although the main indication for RIGs to patients who have previously used and/or presented some hypersensitivity to ARS, the relatively high number of use in the present study can be attributed to the momentary unavailability of ARS by the 17^a Regional de Saúde.

CFSP155

Evaluation of surgical antibiotic prophylaxis in a university hospital

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Introduction and objective: Surgical site infection is the leading preventable cause of morbidity and mortality in operated patients. The indiscriminate use of prophylactic antimicrobials favors the selection of resistant bacterial strains. This study aims to characterize the use of prophylactic antimicrobials in a university hospital.

Materials and methods: A Cross-sectional descriptive study conducted in May 2019 at the Clinical Hospital of the Federal University of Pernambuco, approved by the Ethics Committee under the number CAAE 01206918.3.000.8807. The following were identified: potential for surgical contamination, medical specialty, antimicrobial class, the dose used, and the expected duration of prophylactic antimicrobial records.

Results and conclusion: There was an evaluation of 105 surgical records classified as clean 68.6%, potentially contaminated 21.0%, contaminated 6.7% and infected 3.8%. The specialties that most requested prophylaxis were: orthopedics 42.9%, general surgery 17.4% and obstetrics 15.2%. The most commonly used antibiotic was cephalothin 61.9%, among 37 different antimicrobial drugs prescribed, followed by ciprofloxacin 12.4% and ampicillin 11.4%. Inappropriateness was observed in 28.6% requests regarding the duration of therapy. All regimens were adequate with respect to dose. It is essential to highlight the joint work among the surgical team, the clinical pharmacy, and the hospital infection control committee, to result in greater adherence to antibiotic prophylaxis, cost reduction, and selection of resistant bacterial strains.

CFSP156

Evaluation of the activities of a hydrogen sulfide donor phthalimide analog, PTD-H₂S, in experimental models of pain

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Introduction and objective: The demonstration of thalidomide activities stimulated the development of many phthalimide analogs. Since hydrogen sulfide (H₂S) plays important roles in pathophysiological processes, such as pain, this study evaluated the effects induced by a new H₂S donor phthalimide analog, PTD-H₂S, in models of inflammatory, nociceptive and neuropathic pain in Swiss mice.

Materials and methods: PTD-H₂S (62.5, 125 or 250 mg/kg) was administered per OS 1 hour before intraplantar injection of carrageenan (600 µg) or exposure to noxious heat (hot plate, 50 °C) and 14 days after intraperitoneal injection of paclitaxel (8 mg/kg) in models of inflammatory, nociceptive and neuropathic pain, respectively. The paw withdrawal threshold (PWT; g) or the latency(ies) of each animal was measured.

Results and conclusion: PTD-H₂S did not alter the latency in the hot plate or the PWT after paclitaxel administration. However, PTD-H₂S (125 or 250 mg/kg) increased the PWT evaluated 2, 4, and 6 hours after carrageenan injection. In conclusion, PTD-H₂S exhibits activity in a model of inflammatory pain by reducing mechanical allodynia induced by carrageenan. These results show that PTD-H₂S should be further evaluated and the interest in the ongoing investigation of this hybrid as a candidate for an analgesic drug reinforced.

Financing: FAPEMIG, CNPq, PRPq/UFMG, CAPES.

CFSP157

Evaluation of the adherence to hypertension in treatment in a drugstore in the town of Jardim, Ceará

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Introduction and objective: Systemic Arterial Hypertension is a multifactorial clinical condition characterized by the elevation of blood pressure levels ≥ 140 and/or 90mm/Hg. The objective of this research was to analyse the main factors to the adherence of antihypertensive treatment in patients treated at a drugstore in Jardim, CE.

Materials and methods: It was a descriptive, prospective, and cross-sectional study with a quantitative approach, in a drugstore. The research instrument applied in this study was the Adherence to Refills and Medication Scale (ARMS). The project was submitted and approved by the Research Ethics Committee of Faculdade de Juazeiro do Norte (FJN) under opinion 2.919.637.

Results and conclusion: One hundred hypertensive patients were interviewed, of which 24% were 58-67 years old. Females predominated with 55%, and people with incomplete elementary school represented 24%; 29% were farmers; 40% were overweight. The best adherence occurred in 67% of the patients. Risk factors such as alcoholism and overweight are related to the difficulty in adherence. Drugstores should think of strategies to promote pharmaceutical care and support patients' quality of life.

CFSP158

Evaluation of the antifungal activity of *Psidium guajava* L. (guava) leaf extract

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Introduction and objective: Among the plants that are available in Brazilian biodiversity, guava (*Psidium guajava* L.) shows that the phytochemical study of the leaves has an action against *Candida albicans*, among others. This work aims to evaluate the antifungal action of *P. guajava* leaf extract against *Candida* sp, *Escherichia Coli*, and *Streptococcus A*.

Materials and methods: The method used to prepare the 20% extract was by macerating the vegetable drug, using 70% alcohol as a solvent. For evaluation of antimicrobial activity, strains of the standard microorganisms of *Escherichia coli* (ATCC 25922), *Streptococcus agalactiae* (ATCC 13813), and *Candida* (ATCC 102311) were used. The disc diffusion method with wells was used and dispersed the *P. guajava* extract.

Results and conclusion: In the three seeded plates, the inhibition halo of 22 mm was observed in the extract well, proving the effectiveness of the extract of *P. guajava* leaves for *Candida*. The result of the sensitivity of *Candida* strains to the extract has significant value since 70% of fungal infections in the oral and oral region are due to *Candida* yeasts. However, the solvent well showed no inhibition halo against yeast, confirming that there is no interference from the diluent. Plates seeded with *E. coli* and *S. agalactiae* bacteria also presented inhibition halo with averages of 21.3 mm and 11 mm, respectively. Considering that these bacteria are responsible for causing meningitis in newborns, the insertion of *P. guajava* extract in drug formulations for the treatment of the above diseases is pertinent.

CFSP159

Evaluation of the antileishmanial activity of thiosemicarbazones and tiazols derived from isatin and chloro-isatin

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Introduction and objective: Neglected tropical diseases are transmissible and occur, for the most part, in tropical countries. In this group, the Leishmaniasis is one of the main parasitic diseases, and treatment is still very limited. The objective of this work was to synthesize and evaluate compounds in order to be used in the treatment of Leishmaniasis.

Materials and methods: The compounds were synthesized using a simple methodology. Cytotoxicity was assessed by MTT assays and determined against macrophage cells. The anti-Leishmania activity was evaluated against the promastigote and amastigote forms of *Leishmania amazonensis* and *Leishmania infantum* species, and miltefosine was used as a positive control.

Results and conclusion: Among the compounds, LAB-Int1 presented the best result against the amastigote form of Leishmania, with an IC₅₀ 10.16 μM and IS 20.58 for *L. amazonensis*, close to the values of the reference drug, miltefosine (IC₅₀ 7.08 μM and IS 19.65). In the activity for the promastigote form of Leishmania, it was observed that the compounds LAB-Int1, LAB-1D, LAB-2A, and LAB-2D stood out for the two Leishmania species tested, with results superior to miltefosine. The LAB-Int1 compound presented the best result against the promastigote form of Leishmania, with an IC₅₀ of 5.07 μM and IS 41.29 for both *L. amazonensis* and *L. infantum*. It can be concluded that it was possible to synthesize compounds with good anti-Leishmania activity, especially LAB-Int1, which was four times more selective than miltefosine.

Financing: CNPq, FACEPE.

CFSP160

Evaluation of the antimicrobial potential of *Allium porrum* extract and vegetable in natura against bacteria found in drinking fountains of municipal parks

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Introduction and objective: The hands represent one of the largest cross-contamination vectors if not properly sanitized. The lack of proper handwashing makes drinking fountains a public object for bacterial dispersion; frequent cleaning with efficient products is essential. This study evaluated the antimicrobial potential of the *Allium porrum* in natura and its hydroglycerina.

Materials and methods: The protocol of disinfestation of for plant sample was followed to produce the extract, which was macerated for eight days. The antimicrobial sensitivity testing was done by the agar well diffusion method. The antimicrobial activity of the extracts was determined by measuring the mean zones of inhibition (mm) produced against the bacterial isolates.

Results and conclusion: The 10% *A. porrum* extract inhibited the growth of microorganisms in both BHI and MacConkey culture medium, with inhibition halos of 22.9 ± 5.5 mm (n=9) e 17 ± 3.3 mm (n=9) respectively, possibly being more efficient in Gram-positive than Gram-negative microorganisms. It also showed higher microbial inhibition capacity than fresh leek in both media, and at all collection points. Fresh leek in the BHI medium presented an inhibition halo of 17 ± 1.4 mm (n=9). These results show that more studies are needed to identify leek's antimicrobial active ingredients, their polarity, and the best extraction vehicle for these principles. In conclusion, the hydroglycerated extract of *A. porrum* and the fresh vegetable do present antimicrobial activity *in vitro*.

Financing: UNIP.

CFSP161

Evaluation of the biological action of biogenic silver nanoparticles (AGNP-BIO) in the *in vivo* model of experimental leishmaniotic lesions

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Introduction and objective: New therapeutic alternatives are being sought in the fight against leishmaniasis as a result of unsatisfactory chemotherapy, motivating the search for new drugs. This study investigates the biogenic silver nanoparticles action obtained from *Fusarium oxysporum* on collagen deposition and nitric oxide levels in leishmaniotic lesions of BALB/c.

Materials and methods: Lesions of *Leishmania amazonensis*-BALB/c infected mice (CEUA 8595.2018.89) were treated with 5% nPAG gel for 30 days. The lesions were evaluated for the level of NO by the Griess method and stained with Picrosirius red with polarization for morphometric analysis of collagen. As a positive control, infected BALB/c without treatment were used and, as a negative control, animals inoculated with PBS.

Results and conclusion: After the 5% nPAG gel-treatment, it was possible to demonstrate significant enhancement in the quantification of collagen and a reduction of NO levels in the samples. The analysis of Picrosirius red staining in the slides of BALB/c mice leishmaniotic lesions evidenced an increase of 240.62% in the formation of type III immature collagen for the AgNP-bio treatment group ($p > 0.05\%$). In the analysis of NO by the Griess method, an anti-inflammatory action was observed with 45.02% of reduction in NO formation in the treated samples when compared to the control group ($p > 0,05\%$). Our data demonstrated that this alternative therapy was able to modulate the inflammatory response and to accelerate the healing of the lesion, becoming an alternative to be considered for further *in vivo* investigations.

CFSP162

Evaluation of the content of heavy metals in *Fucus vesiculosus*

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Introduction and objective: Self-medication with herbal medicines is hugely worrying, as their supervision is deficient in many retail outlets. The objective of this work was to perform, through an atomic absorption spectrophotometer, the analysis of heavy metals content in the samples of *Fucus vesiculosus* from Santos, SP.

Materials and methods: An atomic absorption spectrophotometer was used to analyse the number of heavy metals in *Fucus vesiculosus* samples. It also has a comparative bibliography review, so that the relevance of the pharmaceutical professional concerning self-medication of herbal medicines could be evaluated.

Results and conclusion: Analyses of the samples revealed that for Cu, Cd and, Pb metals, the concentration at 1 g is zero. For Mn, Zn, and Fe, although the concentration is low, less than 1%, it should be remembered that a person takes about five capsules a day, which in the long run, can cause problems to the user. *Fucus vesiculosus* is not recommended for long term use. Some sources allow its use as a laxative, but its utility is not well documented (Duke, J. A., 1991). Although less used than in conventional medicine, plants are proving to be an alternative in contemporary times, especially by the female population. The indiscriminate pursuit, and the lack of regulation and quality control in places such as emporiums, can potentially create problems for public health.

Financing: PROIN (UNISANTOS).

CFSP163

Evaluation of the influence of experimental parameters in the dissolution of vitamin e in soft gelatin capsules

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Introduction and objective: Vitamin E is part of the group of compounds where α -tocopherol is the most active and studied form due to its antioxidant action. The objective is to develop means that favored the dissolution of vitamin E, following the general guidelines for the dissolution test published by Anvisa, in addition to the rupture test proposed by the American Pharmacopeia.

Materials and methods: Due to the absence of a dissolution methodology described in official compendium for soft gelatin capsules of vitamin E, the basis for the development of the dissolution test was an adaptation on the dissolution for solid pharmaceutical forms Immediate Release oral – Ffsoli, ANVISA, dissolution testing and related quality attributes published by the American Pharmacopeia.

Results and conclusion: The results showed that by following the general guidelines for the method of dissolution testing, unsatisfactory results were obtained, even with the addition of surfactants and higher rotational speed. Thus, confirming the non-applicability of this test for soft gelatin capsules of vitamin E. On the other hand, the rupture test showed that all the capsules were approved under the conditions specified in the US Pharmacopeia. Therefore, demonstrating the effectiveness of this test to perform the quality control of soft gelatin capsules of vitamin E.

CFSP164

Evaluation of the microbiological stability of basic and acid polyethyrolitic concentrate solutions for hemodialysis produced by a private hospital

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Introduction and objective: The stability of pharmaceutical products depends on environmental factors such as temperature, humidity, light, physical, chemical, and microbiological properties, manufacturing processes, and packaging. The study proposal was to evaluate the microbiological stability of acid and basic hemodialysis solution produced in a private hospital and stored in bulk.

Materials and methods: Samples from three different batches were collected aseptically between April and May 2019, directly from storage tanks and immediately after production. The sampled solutions were stored under the same climatic conditions as the storage tanks and aliquots were removed daily for the microbiological analysis. Heterotrophic bacteria were counted in triplicate according to the Brazilian Pharmacopoeia.

Results and conclusion: The results showed that the basic hemodialysis solution has a maximum microbiological validity of four days. According to Brazilian Sanitary Rule no. 8/2012, the microbial count for this sort of solution is limited to 100 CFU/mL, and this was exceeded only after the fourth day, thus allowing the hospital three more days for its validity since it stipulates a maximum time of storage in the tanks of 24 hours. For the acid hemodialysis solution, the hospital defined a shelf life for 15 days, but the results showed the microbial load was absent in the three batches for 24 consecutive days, which was the total time of the study. It has thus shown that the acid solution stored in the tanks maintains its microbiological quality by that time.

CFSP165

Evaluation of the pharmaceutical equivalence of ibuprofen tablets by test dissolution profile

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Introduction and objective: In pharmaceutical tablets, the comparative dissolution profile is the main way of evaluating pharmaceutical equivalence. Based on this, it was suggested the dissolution profiles of ibuprofen 600mg tablets in reference, generic and similar.

Materials and methods: Three different ibuprofen tablets samples (generic, similar, and reference) were analysed in the dissolution assay. Six units of each were tested individually in a phosphate buffer at pH 7.4 (900ml), in a basket apparatus at a 150rpm speed, and the samples were collected in five, ten, fifteen, twenty, and thirty minutes intervals, and read at 221nm.

Results and conclusion: All drugs met the pharmacopoeial specifications for percentual dissolution (at least 60%) within 30 minutes. Also, according to the National Agency of Sanitary Surveillance's RDC parameter n. 31 of August 11th, 2010, the variation coefficient values did not exceed 10% within ten minutes, which indicates a pharmaceutical equivalence among the analysed samples. Based on the results obtained through variation coefficient values, the conclusion is that there is a pharmaceutical equivalence between the samples.

CFSP166

Evaluation of the quality of treatment with warfarin one year after the finalization of pharmaceutical care

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Introduction and objective: Studies showed that pharmacists could improve the efficiency of therapy with warfarin. However, there are no studies showing this benefit in the long term. Thus, the aim of this study was to evaluate the quality of treatment with warfarin one year after the finalization of pharmaceutical care in patients with poor quality of anticoagulation therapy.

Materials and methods: This study included 262 patients with poor anticoagulation (time in the therapeutic range – TTR<50% - based on the last three values of international normalized ratio (ethics committee SDC 4033/14/013). A pharmacist followed them up for 12 weeks. Furthermore, they were evaluated one year before the start of the follow-up and one year after the finalization of pharmaceutical care.

Results and conclusion: TTR meaning one year after pharmaceutical care was significantly higher than the TTR meaning one year before (56.5% vs. 31.3%, respectively; $p<0.001$). When the TTR meaning of 12 weeks of pharmaceutical care (54.1%) and the TTR meaning one year after were compared, no statistical difference was observed. In addition, the patient groups were divided according to TTR ranges and identified that one year before the pharmaceutical care. 46.6% of the patients presented TTR $\leq 30\%$ and only 6.5% of the patients presented TTR $\geq 70\%$. After one year of the intervention, only 11.8% presented TTR $\leq 30\%$ and 24.4% presented TTR $\geq 70\%$ ($p=0.01$). This study demonstrated that pharmaceutical care was beneficial in the long term for patients with atrial fibrillation and for treatment of poor quality anticoagulation.

Financing: FAPESP, CNPq, CAPES.

CFSP167

Expanding access to anti-asthma agents in Brazil

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Introduction and objective: The “Saúde Não Tem Preço” (SNTP Program) was implemented to increase access to medicines in Brazil; eight medicines for the asthma treatment have been supplied free of charge in private pharmacies. This study aimed to evaluate access to antiasthmatic agents during the first year of its availability in the SNTP Program.

Materials and methods: A longitudinal and observational study, based on the number of sales units of asthma medications supplied in 55 thousand private pharmacies in Brazil, during the period between June 1, 2011, and May 31, 2013. There was a comparison between the number of traded units supplied in the first 12 months of the SNTP Program and the number of traded units supplied in the 12 months before its implementation.

Results and conclusion: Eight drugs for the treatment of asthma, which were included in the SNTP program, had increased from 20.9% (Ipratropium 0.25 mg/mL) and 270.7% (beclomethasone 50 mcg/dose) the number of traded units supplied in the first year of gratuity offered by the program. The most significant increase observed was 20 times higher than the growth of the Brazilian pharmaceutical market in the same period (13%). Medicines containing the same active ingredients of asthmatics agents of the SNTP program, but at concentrations not available for gratuity, showed a reduction of 39.5% in the number of traded units supplied after implementation of the SNTP Program. The SNTP Program contributed to the expansion of access to asthma medications in Brazil, indicating that this public health policy achieved its goal.

CFSP168

Expenditure with medicines and health products in Federal University Hospitals

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Introduction and objective: Federal University Hospitals (FUH) are teaching and research centers that integrate the Unified Health System in Brazil by offering care services at different levels of complexity. Given the mission of the FUH, this study aimed to assess the budgetary impact of expenditure on medicines and health products between 2016 and 2017.

Materials and methods: Twenty-nine FUH were included in the study; they were classified according to complexity in hierarchical strata (HS) by the non-hierarchical k-means clustering method. Subsequently, the spending related to the purchase of medicines and health products, and their correlations with hospitalization data were evaluated considering the 2016-2017 biennium.

Results and conclusion: Spending with medicines totaled R\$ 211,250,196.06 in 2016, and R\$ 202,076,205.44 in 2017, while for health products, the amount was R\$ 213,740,979.96 in 2016 and R\$ 233,989,703.83 in 2017. There was an 11% reduction in the ratio of spending on hospitalization for medicines between the years, and an increase of 3% in this parameter for health products. There was no statistical difference between the average spending on medicines and health products of the different HS. Given the limitations imposed on revenues destined to the financing of public health services, there is a need for further studies on the analysis of hospital spending to guide decision-making by managers and optimize health spending, allowing for improvements in the hospital management process.

CFSP169

Expenditure with medicines in public hospitals of the Distrito Federal, Brazil

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Introduction and objective: The right to health encompasses pharmaceutical services, and in this context, medicines are important technologies in health care with significant representativeness in the percentage of expenditures, especially in hospitals. Thus, this study aimed to analyse drug spending in 15 public hospitals in the Federal District (Brazil) in 2016.

Materials and methods: The study included 15 public hospitals under the management of the Federal District Health Department, which were classified according to complexity in hierarchical strata (HS), by the non-hierarchical k-means clustering method. Subsequently, the spending related to the acquisition of medicines and their relation to hospital production data were evaluated.

Results and conclusion: Spending with medicines totaled R\$ 90,206,849.50 in 2016, considering the 15 hospitals. On average, R\$ 660.00 was spent per hospitalization and R\$ 96.00 per procedure. Anti-infectious medicines accounted for about 50% of drug spending, followed by medicines that act on the nervous system, which accounted for 15% of spending. Expenditure with medicines was related to hospital complexity, which was consistent with the provision of services. The results showed the need for greater attention on the part of managers regarding the rationality of the use of resources; in this context, the pharmaceutical managerial and care services are vital.

CFSP170

Exposure to bupropion hydrochloride in pregnant mice compromises fertility and promotes congenital

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Introduction and objective: Bupropion hydrochloride (BUP) is an antidepressant, and it is used in the treatment of depression and cessation of smoking. The objective was to investigate the intrauterine effects of mice and congenital malformations in offspring submitted to BUP during the gestational period.

Materials and methods: Female pregnant Swiss mice divided into treated groups (G1), and control groups (G0) administered via gavage 40 mg/kg of BUP solution and distilled water, respectively, for 17 days. On day 18, they were submitted to euthanasia for intrauterine analysis, study, and evaluation of congenital malformations. Statistical: Student's test and Fisher's exact test. Approved by the Ethics Committee: 8722.2016.33.

Results and conclusion: G1 presented a significant increase in the number of resorptions (G0: [0.3333 ± 0.1869]; G1: [1.133 ± 0.3217], P= 0.0341) and resorption rate (G0: [3.311 ± 1.795]; G1: [11.33 ± 3.246], P= 0.0393) in relation to G0. There were no significant changes in the other parameters evaluated. In the visceral analyses of the groups, a significant increase in the palate malformation was verified (G0: [0%], G1: [11.76%], P= 0.0066) and nasal septum (G0: [0%]; 76%, P= 0.0066) when compared to G0, in the skeletal alterations there was a significant increase in the presence of malformation at the skull (incomplete ossification of the supraoccipital) (G0: [6.15%]; G1: [25%], P= 0.0037) and presence of reduced sternum (G0: [23.07%]; G1: [52.94%], P= 0.0006) when compared to G0. It is concluded that exposure to BUP has teratogenic potential.

CFSP171

Exposure to zolpidem affects on the reproductive performance of male mice

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Introduction and objective: Zolpidem (ZD) is hypnotic and effective in inducing and maintaining sleep. Subclass agonist of omega-1 receptors at GABA receptors. The objective of this study was to verify the toxicity and possible changes in the reproductive performance in male mice exposed to ZD during spermatogenesis.

Materials and methods: Approval: 264.2018.20. Design: treated group (G1) and control (G0). Gavage treatment: Zolpidem 10mg/kg and distilled water, respectively, for 35 days. Mating: after 45 days, with untreated females who, on the 18th day of pregnancy underwent euthanasia. Parameters: intrauterine development and congenital anomalies. Statistic: Student's t-tests, Mann-Whitney test, and Fisher's exact test.

Results and conclusion: There were lower values for the treated group, in relation to the control group: weight of the uterus (G0: 27.15 [21.12 - 30.47], G1: 16.89 [13.52 - 23.22]), number of fetuses (G0: 14.40 ± 4.81, G1: 8.60 ± 2.67). Skeletal malformations were found in the sternum (G0: 7%, G1: 28%), ribs (G0: 0%, G1: 10%); and visceral malformations in the bone marrow (G0: 2%, G1: 14%), in the brain ventricles (G0: 0%, G1: 10%), in the cornea (G1: 11%, G1: 31%), and in the trachea (G0: 2%, G1: 16%), being more frequent in the treated group. The results demonstrate that Zolpidem has a toxic potential and teratogenic effect on embryo-fetal development, serving as an alert for men of childbearing age who take the drug.

CFSP172

Factors that interfere with outpatients adhesion to antihypertensive treatment

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Introduction and objective: Systemic Arterial Hypertension (SAH) is a chronic disease with high occurrence but low control rates. Poor adhesion to treatment is what causes complications. This study focused on evaluating the prevalence of non-adhesion to antihypertensive treatment by outpatients and what factors lead to this.

Materials and methods: After signing the Informed Consent Term Study (Approval Letter n. 2.922.173), hypertensive patients of both genders, over 18 years old, attended the Integrated Health Outpatient Clinic of UNINOVE. They took a Morisky-Green Test (MGT), answered a hypertension knowledge questionnaire, and a sociodemographic and healthcare access questionnaire, all in one single interview.

Results and conclusion: A total of 62 patients were enrolled in the study, aged between 10.04 to 58.9 years. According to the MGT, they were classified as adhesion patients (AP-24.2%), non-adhesion patients (NA-24.2%), and moderate adhesion patients (MA-51.6%). Polypharmacy was not related to non-adherence. There were no differences among the groups regarding sociodemographic characteristics and healthcare access. Their knowledge about SAH was satisfactory, with self-assessed scores of AP: 7.9± 1.6; NA: 6.9± 1.4; MA: 6.5± 2.5, (p>0.05). However, the self-efficacy of AP can be related to changes in their diet to control the blood pressure (AP: 86.7%; NA: 40%; MA: 65.6%) and in the physical activity practice (AP: 46.7%; NA: 20%; MA: 18.75%). These data reinforce the impact of patient empowerment in treatment adhesion.

Financing: UNINOVE.

CFSP173

Fibrinolytic protease production by *Paenibacillus graminis* MC 2213 using seeds of *Gliricidia sepium* as culture medium

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Introduction and objective: Among biomolecules, proteases have been showing pharmaceutical fibrinolytic potential within the industry. Fibrin is the main component of blood clots. This study aimed to produce and evaluate the protease fibrinolytic activity of *Paenibacillus graminis* using *Gliricidia sepium* seeds as a substrate.

Materials and methods: The strain used was *Paenibacillus graminis* MC 2213 (source UFRJ-Microbiology Institute). It was grown in TSB medium for 24 hours and then inoculated in a modified MS-2 medium (soybean flour was replaced for *Gliricidia* seed). The conditions were 160 rpm and 29°C. A growth curve was performed for analysis of the microorganism protein, proteasic activity, and thrombolytic degradation capacity.

Results and conclusion: The *P. graminis* MC 2213 protease production during fermentation ranged from 8.86 U/mL to 15.9 U/mL. The best fermentation time was 96 hours, with 15.9 U/mL of protein activity. The protein dosage followed the microorganism growth curve response, and in the first 24 hours, there was a concentration of 0.609 mg/mL. At the end of the fermentation process, it was 0.255 mg/mL. The protease production by *P. graminis* explains the decrease of protein present in the medium. A 43.55% fibrin clot degradation percentage was obtained. Alos, *P. graminis* MC 2213 was able to produce a protease with fibrinolytic activity with direct action on fibrin clot degradation, thus having the potential for veterinary, pharmaceutical, and medical applications.

Financing: CNPq, CAPES, FACEPE.

CFSP174

Forced degradation study of the active pharmaceutical ingredient metformin hydrochloride

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Introduction and objective: Metformin hydrochloride is the main drug for the treatment of *Diabetes Mellitus* type 2, and industries should perform drug stability studies on it. This study aims to perform the study of forced degradation of the active pharmaceutical ingredient (API) metformin hydrochloride to verify the factors that lead to its degradation.

Materials and methods: The API samples were weighed and subjected to hydrolysis degradation under neutral (H₂O), acid (1M HCl), alkaline (0.1M NaOH) and oxidative (H₂O₂ 0.03%) conditions for 30 days; thermal degradation (oven at 60°C) for 15 days and photolytic degradations. At the end, all samples were prepared according to the forced degradation study protocol of LAFEPE and analysed by High-Performance Liquid Chromatography.

Results and conclusion: Results showed that only the alkaline hydrolysis condition was able to degrade the drug at a level higher than 10% and led to the formation of three degradation products that were compared by spectral analysis to related metformin substances and they were not the same substances. The acidic condition led to the formation of a peak, but this one presented low concentrations and did not lead to the decay of the drug content. The thermal and photolytic conditions did not alter the API in its visual aspect and, also, they did not degrade the drug. Therefore, it is concluded that metformin hydrochloride showed to be stable under the tested conditions in this study and that it should be avoided to increase excipients with alkaline characteristics in the formulations with the API.

Financing: LAFEPE, LTM.

CFSP175

Frequency of syphilis cases in women incarcerated in a prison of Mogi Guaçu, SP, from 2016 and 2017

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Introduction and objective: Syphilis is a notifiable infectious disease, sexually transmitted, whose etiological agent is *Treponema pallidum*. Another transmission route is vertical transmission and by blood transfusion. This study aimed to verify the frequency of syphilis cases in the female prison system in the city of Mogi Guaçu.

Materials and methods: This project was approved at PlataformaBrasil by number CAAE 87432318.3.0000.5679. The data were provided by the medical laboratory of the Municipal Hospital, from 2016 to 2017. Medical records provided information about the patients' age, the treponemal tests (TPHA) results, and VDRL test positivity. The positivity of VDRL tests in pregnant patients was evaluated.

Results and conclusion: A total of 711 medical reports were analysed, all from female penitentiary patients who underwent a VDRL test. A total of 159 (28.8%) tests had positive results. The confirmatory positive tests for syphilis (TPHA) was performed, and 139 (87.4%) were positive, 93 (66.9%) in 2017. Of the total positive, 31% were 33-39 years old. The age group with fewer rates (0.71%) was the one over 54 years old. Of the 711 medical records, 23 patients were pregnant (3.23%), and 5 (21%) were positive, aged 19 to 25 years (65%). This study evidences the requirement for health strategies aimed at the education, prevention, and early diagnosis of sexually transmitted diseases for this population within this social context.

CFSP176

Frequency of toxoplasmosis cases inpatients attended under the SUS in the city of Mogi Guaçu, SP

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Introduction and objective: Toxoplasmosis is an infectious disease caused by the protozoan *Toxoplasma gondii*. The aim was to verify the frequency of toxoplasmosis cases in patients treated by the Health Unic System (SUS) in the medical laboratory of the Municipal Hospital of Mogi Guaçu, São Paulo.

Materials and methods: This project was approved at Plataforma Brasil by CAAE 69571817.0.0000.5679. The medical records from patients who underwent toxoplasmosis tests in 2015 and 2016 were analysed. Patient gender, age, IgM values, IgG values, and avidity tests were recorded.

Results and conclusion: A total of 3343 medical records were analysed, and antibodies were detected in 1188 (36%) patients. There was a higher frequency in females, which totaled 1157 (97.4%) of the tests, aged 20-29 years old. IgG was the most frequent antibody, showing patients in the chronic phase of the disease, being 91% female. From the total of the 26 performed avidity tests, 92% (24) were in females, and 8 (30%) presented low avidity, which shows recent infection. Toxoplasmosis is a major parasitic infection, often symptomless. It can be severe in immunosuppressed and pregnant women, as it can cause sequelae to the fetus. Timely diagnosis and prevention are fundamental for the reduction of the disease and the promotion of human health.

CFSP177

Fungal incidence on oncological patients of the Amaral Carvalho Hospital – Jaú, SP, Brazil

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Introduction and objective: The fungal infections caused by *Candida* spp represents almost 90% of all nosocomial fungal processes. This research aimed at uncovering the main fungi found in different nurseries of the Amaral Carvalho Hospital in Jaú, São Paulo, Brazil, and also their resistance against the tested antifungal.

Materials and methods: A retrospective cross-sectional study of 5 years was carried out from January 2014 to December 2018, through data from the System of Laboratory Management MV 2000 of the Clinical Analysis Laboratory of Amaral Carvalho Hospital.

Results and conclusion: In 54.408 analysed exams, a positive result to fungi of 2.26% was observed, in which the gender *Candida albicans* shows up in 64.28% of the cases. The highest incidence of positive results to fungi was found out in seniors (60 years old), accounting for 52.19%, and in the male sex, 56.08%. The most utilized antifungal was Anfotericina B, with a sensibility of 44,8%, and Fluconazole, with a sensibility of 42.4% and resistance of 2.4%. The place with the greatest demand for care of this kind of pathology was the Intensive Therapy Unit, which presented 33.12% of the positive cases. The fungal pathologies were more aggravating in sectors with immunocompromised patients showing the risks it presented to hospitalized patients and the importance of frequent monitoring and control of these micro-organisms in different hospital environments.

Financing: Universidade Paulista.

CFSP178

GC-MS profile of hexane extract from *Drosera sessilifolia* A.St.-Hil. and *Drosera latifolia* (Eichler) Gonella & Rivadavia cultivated *in vitro*

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Introduction and objective: The medicinal use of *Drosera* spp. extracts have been described in the literature for the treatment of respiratory diseases, and antimicrobial and antioxidant activities. Their properties are due to secondary compounds. The present study aims to investigate the chromatographic profile of the hexane extracts from *D. sessilifolia* and *D. latifolia*.

Materials and methods: The plants were propagated *in vitro* in half-strength MS medium, containing 30% sucrose and 5% agar. Media pH was adjusted to 5.7 and autoclaving at 121°C. The cultures were incubated for a period of 6 months under a 16 h photoperiod at a temperature of 25°C. The samples were dried in an oven at 40°C for 48 hours and extracted with n-hexane. The compounds were analysed and identified through GC-MS.

Results and conclusion: The GC-MS analysis revealed 17 and 16 different compounds in *D. sessilifolia* and *D. latifolia*, respectively. The analysis of *D. sessilifolia* led to characterize long-chain hydrocarbons groups (22.49%), hexadecanal (0.48%), phytol (6.21%) and phytosterols, as campesterol (5.65%), stigmasterol (18.38%) and β -sitosterol (13.01%). On the other hand, *D. latifolia* showed the presence of hydrocarbons groups (37.60%), campesterol (1.54%), stigmasterol (10.61%), and β -sitosterol (3.19%). Phytosterols are bioactive compounds similar to cholesterol in its pharmacological importance, hexadecanal has antibacterial and antioxidant properties, and phytol is diterpene alcohol that presents various therapeutic activities, including anticancer and promising anti-inflammatory pharmacological activities.

CFSP179

Genotoxic and cytogenetic effects evaluation of *Bovine papillomavirus* protein (L1) associated with saponins

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Introduction and objective: *Bovine papillomavirus* is the etiological agent of bovine papillomatosis. The PVs phylogenetic classification is performed based on the sequence homology of the Open Reading Frame L1. This study aimed to evaluate the mutagenic and genotoxic potential of the protein L1, as well as its effects when associated with saponins and aluminum hydroxide.

Materials and methods: Genomic lesions, which, after processed without repairing can result in mutations, were detected by comet assay. Possible damages to genetic material caused by structural chromosomal changes, as well as chromosomal losses, were evaluated by the micronucleus test. Both tests were done on polychromatic erythrocytes and Vero cells. The evaluation of apoptosis and necrosis of treated Vero cells was made by AnnexinV/PI staining and flow cytometry.

Results and conclusion: The results, despite the two vaccine products (L1 + saponin and L1 + aluminum hydroxide), showed damages compatible with the positive control in the comet assay; and both increased the micronucleus levels in the Micronucleus assay. In the Cell Viability Assay, results with aluminum hydroxide were surprisingly positive, characterizing it as a safe adjuvant, and making viable its association with L1, which, although presented genotoxicity when analysed alone, had this deleterious action neutralized when associated with aluminum hydroxide. This may indicate that DNA damage, through the comet assay and micronucleus, does not lead to cellular apoptosis because they are not as severe as those caused by saponins; and can be repaired, since the increase of clastogenes is an event present on the apoptosis phase.

Financing: Butantan Institute.

CFSP180

Genotoxicity of levothyroxine and protective effect of *Ginkgo biloba* by the *Allium cepa* test

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Introduction and objective: Hypothyroidism is among the most common endocrine disorders and can be treated with synthetic T4 hormone. *Ginkgo biloba* is known to have many beneficial effects on human health. The *Allium cepa* test shows genotoxic effect. This work proposes to analyse the genotoxicity of Levothyroxine and the protective potential of EGb.

Materials and methods: *Allium cepa* bioassay was performed for control groups: positive (CuSO₄) and negative (H₂O); Levothyroxine 100 µg and EGb 1 g/L. The presence of chromosomal changes such as breaks, delays, bridges demonstrates genotoxic effects. The number of samples was five slides: 100 cells/anaphase-telophase; 500 cells/group. GraphPad Prism 6.0 was used for statistical analysis with 5% significance.

Results and conclusion: The data showed that the group treated with Levothyroxine 100 µg presented an increase in chromosomal changes in mitosis such as bridges, breaks and delays (89±2.30) compared to the control group (70±2.74), P<0.0001. Treatment with 1 g/L of standardized extract of *Ginkgo biloba* (EGb) resulted in a significant reversal of genotoxic effects caused by the synthetic T4 hormone (22±1.58); P<0.0001. This study demonstrated for the first time the genotoxicity of Levothyroxine 100 µg in *A. cepa* root cells and evidenced the protective potential of EGb, which significantly reversed the genotoxic effects of chromosome changes in the mitotic phase caused by the synthetic hormone used in the treatment of hormone replacement drugs, suggesting the use of phytotherapies in association with pharmacotherapies.

Financing: PIBIC-UNG.

CFSP181

Global analysis of the diffusion of ISO 13845 certification: the importance of quality management in the manufacture of medical devices

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Introduction and objective: Medical devices are prominent in the healthcare industry. The ISO 13485 standard proposed by the International Organization for Standardization is the most effective quality management tool for this follow-up. The objective of the present study is to characterize the diffusion of the number of certifications ISO 13485 issued until 2017.

Materials and methods: This is a descriptive study based on a literature review with a random database search. The quantitative data were obtained through the ISO Survey. The study was carried out with the data of the number of ISO 13845 certificates in 2017, in the regions with the highest number of certifications and in Brazil.

Results and conclusion: The results show a total of 31520 certifications in 105 countries in 2017. The regions with the highest number of ISO 13485 certifications are Europe (16341), North America (6590), and East Asia and Pacific (6138). Brazil, with 199 certificates, is the South American country with the highest number of certifications. This disparity in the number of certifications depends on internal factors in each country. In the medical device industry, product quality includes its intended function, safety, performance and therapeutic benefit to the patient. The standard describes the minimum requirements for an adequate and effective quality system for the production of safe and effective medical devices. The number of companies that have adopted the standard is growing every year.

Financing: CAPES/FAPEMIG.

CFSP182

Growth of *Chlamydomonas reinhardtii* using ammonium chloride as nitrogen source

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Introduction and objective: *Chlamydomonas reinhardtii* is a GRAS (Generally Regarded as Safe) microorganism that can be a great alternative food source due to its rich protein composition. Additionally, nitrogen is an essential macronutrient to microalgae growth. In order to improve cell growth, this microalga was cultivated under different nitrogen concentrations.

Materials and methods: *Chlamydomonas reinhardtii* wild strain CC1690 was grown in TAP media in two different ammonium chloride concentrations: 400 and 800 mg/L. Cells were cultivated in a shaker at 110 rpm, 25° C and the illumination of 120 $\mu\text{mol photons m}^{-2}\cdot\text{s}^{-1}$. Cell growth was daily monitored by cell counting, pH was also daily monitored using a pH Meter, and total soluble proteins were quantified according to Lowry.

Results and conclusion: During *C. reinhardtii* cultivation, the highest maximum cell concentration (14×10^7 cells/mL) and the best productivity value (36×10^6 cells/mL per day) were obtained when the cells were grown in cultivation medium containing 400 mg/L of ammonium chloride. The maximum cell concentration of 6×10^7 cells/mL and cell productivity of 16×10^6 cells/mL per day were reached when the cells were grown in cultivation medium containing 800 mg/L of ammonium chloride. The pH varied in the range of 7,0 to 8,7, and the maximum total protein obtained was 3.552 $\mu\text{g/mL}$. In conclusion, the best condition was TAP media containing 400 mg/L of ammonium chloride due to the fact that the cell concentration and productivity were higher than the one obtained in the media containing 800 mg/L.

Financing: FAPESP, processo n° 2018/23036-4.

CFSP183

Heterologous expression in *Pichia pastoris* and purification of aneurotoxin from *Tityus serrulatus* venom

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Introduction and objective: Protein heterologous expression allows the study of components which are hard to obtain from their natural sources, like the α -neurotoxin Ts5 found in the venom of the *Tityus serrulatus* scorpion. This study aims to analyse the transformation of the Ts5 synthetic gene in the yeast *Pichia pastoris* and the Ts5 heterologous expression and purification.

Materials and methods: The recombinant vector pPICZ A-rTs5 was linearized with PmeI and integrated into yeast cells through electroporation, confirmed by PCR. Expression screening was performed in the BMMY medium for 144 h and analysed by Tris-Tricine-SDS-PAGE and ELISA assays. The best expression condition was submitted to a laboratory-scale expression, and Ts5 was purified through the culture supernatant by affinity chromatography.

Results and conclusion: Seven colonies were positively transformed with the Ts5 synthetic gene. The expression screening showed a protein with a molecular mass similar to the native Ts5 produced in seven different conditions. The recombinant Ts5 was identified by ELISA assay in the culture supernatant of one colony in two different pHs that were selected for the laboratory scale expression. Culture supernatant was fractionated by affinity chromatography, and the recombinant Ts5 was eluted by the imidazol gradient. Concluding, one *P. pastoris* transformed colony is able to produce the recombinant Ts5 in two different conditions. This process will be useful to find the best expression condition to produce Ts5 in enough quantity to enable functional studies about this toxin, aiming its use as a pharmacological tool.

Financing: FAPESP, CNPq, CAPES.

CFSP184

Hybrid synthesis with prodrug characteristics of nitric oxide with ethinylestradiol

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Introduction and objective: Ethinylestradiol (EE) is used in most oral contraceptives. It is responsible for disturbance in coagulant factors and cardiovascular events. Nitric Oxide (NO) acts inhibiting platelet functions and thrombi formation. In order to reduce cardiovascular events caused by EE, the hybrid synthesis with prodrug characteristics of EE with NO was proposed.

Materials and methods: The synthesis was developed between August 2018 and April 2019 in the IPECI/UNISANTOS laboratory. Benzofuroxan-5-carboxylic Acid was synthesized from 4-amino-3-nitrobenzoic acid, and EE was purchased from Sigma Aldrich. The EE and the Benzofuroxan-5-carboxylic Acid were esterified through the acyl chloride reaction and acid catalysis. The finished product was purified and analysed in GC-MS.

Results and conclusion: The Benzofuroxan-5-carboxylic Acid was synthesized from 4-Amino-3-nitrobenzoic Acid (209.4 mg, 1.163 mMol). The esterification reaction resulted in x mg (and mMol) by acyl chloride reaction and x mg (and mMol) by acid catalysis. The material was analysed in thin-layer chromatography, which revealed the formation of the same product in both reactions, with equal chromatographic run characteristics, indicating that the expected product was obtained. The products were purified by silica column chromatography and the desired fraction sent to GC-MS analysis. It is concluded that hybrid synthesis is possible, and studies can be performed to confirm the benefits of NO delivery to the cardiovascular effects of EE.

Financing: CNPq.

CFSP185

Hydroxymethylnitrofurazone (NFOH) therapy in C57BL6 mice infected with Bolivia strain of *Trypanosoma cruzi* during acute stage of chagas disease

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Introduction and objective: Chagas disease is a tropical infectious disease caused by the hemoflagellate protozoan called *Trypanosoma cruzi*, and it is currently considered a severe public health problem. Therefore, it is necessary to administer effective and safer treatments for total healing. This study features an essay that addresses the anti-*T. cruzi* activity of hydroxymethylnitrofurazone (NFOH).

Materials and methods: Thirty female C57BL6 mice, following the Protocol, in which 24 animals were infected with trypomastigote forms of *T. cruzi* (Bolivia strain), and six animals were not infected. It was divided into six groups classified by the pharmacological treatment using NFOH, standard treatment (Benznidazole), and groups treated with the vehicle (Arabic Gum 4%). The treatment persisted for 20 days during the acute stage.

Results and conclusion: The parasitemia peak was 9-11 dpi for the INT group and, at 7 dpi for the IBZN group and 9 dpi for the INFOH group. Mortality was observed only in the INT group, approximately 37.5% of the animals. The parasitemia during the acute stage of Chagas disease remained until 91 dpi in the INT group, 13 dpi for the IBZN group and 15 dpi for the INFOH group animals. The relative heart weight results for the C57BL6 animal experiment were not statistically different for the different infected groups. In conclusion, the NFOH has demonstrated high effectiveness in an acute animal model. Treatment with NFOH or BZN was able to suppress the parasitemia in less than 20 days. Thus, these results have shown NFOH as a potential compound for future studies against Chagas Disease.

Financing: FAPESP (2016/10847-9); CAPES.

CFSP186

Hydroxymethylnitrofurazone (NFOH) therapy in swiss mice infected with Bolivia strain of *Trypanosoma cruzi* during acute stage of chagas disease

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Introduction and objective: Chagas disease is an endemic zoonosis, caused by *T. cruzi*, and is responsible for a huge Public Health problem. The standard treatment for it is with benznidazole (BZN), a toxic drug that is active only in the acute phase of the disease. This study addresses an antichagastic activity of NFOH, a new anti-*T. cruzi* drug in phase model of Chagas.

Materials and methods: We used 30 Swiss female mice, with 4-5 weeks old, and with a weighing range of 20-25g. Twenty-four of them were infected with *T. cruzi*, Bolivia Strain, trypomastigote forms, and there were six uninfected animals. They were separated into six groups from the uninfected animals; the infected were treated with BZN, NFOH and Arabic Gum 4%. The treatment remained for 20 consecutive days, since the 5th day after the infection.

Results and conclusion: The peak of the parasitemia was 11-13 dpi for the INT group, whereas the parasitemic peak of IBZN and INFOH was observed at 7 dpi. There was no animal death in this model, and the acute stage remained at 91 dpi in the INT group, anticipating at 11 and 13 dpi for the IBZN and INFOH groups, respectively, due to the treatment. In the acute phase model of Chagas' disease, the animals inoculated with *T. cruzi* Bolivia strain showed interesting results. Being able to suppress parasitemia after treatment with NFOH (150 mg/kg) or BZN (100 mg/kg) for twenty days, differing only in time to eliminate parasites from the bloodstream. The BZN takes 11 dpi while the NFOH, 13 dpi to the Swiss mice. Therefore, the results point to the NFOH as a promising compound for future studies against Chagas disease.

Financing: FAPESP (2016/10847-9); CAPES 001.

CFSP187

Hypertensive patients nutritional status

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Introduction and objective: Obesity, diabetes mellitus (DM), and hypertension (HA) are considered the basis for diagnosing chronic kidney disease (CKD). This work focuses on checking nutritional status and its association with anthropometric indicators in hypertensive patients.

Materials and methods: A cross-sectional character study conducted with 126 individuals with HA of the Kidney Disease Prevention Center (CPDR) at President Dutra Hospital (HUPD). The sample was divided into two groups: Group one (eutrophic) and group two (overweight). Student's t-tests used for independent samples in the SPSS® 21.0 statistical program. Approval under the number 2.035.753.

Results and conclusion: Overweight and obesity were assessed from the BMI of adults (25 - 29.9 kg / m²) and elderly (> 27 kg / m²), with a predominance of 69.83%, most of them adults. Among the anthropometric, the average waistline (WC), the waist-to-height ratio (WHT), Body Mass Index (BMI), and the Abdominal Adiposity Index (vai) presented significance (p < 0.05) to nutritional statuses. Anthropometric indicators and hypertensive overweight patients were associated.

CFSP188

Identification and characterization of potential drug interactions in a hospital in the city of Jundiaí, São Paulo

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Introduction and objective: Drug Interaction (DI) is the alteration that occurs in the expected effect of a drug when administered together or prior to other substances. It may occur unexpectedly, and it is harmful to health. This study aimed to identify and characterize the most frequent DIs in a Hospital in the city of São Paulo.

Materials and methods: It was an exploratory, descriptive, analytical, and transversal study with a quantitative approach. The source of the study was 100 prescriptions made by the medical service of a hospital of the city of Jundiaí, São Paulo, given in the period from August to October 2018 by the pharmacy of the hospital. Excel was used in the analysis of data. This project was submitted and approved by the ethics committee of Unianchieta.

Results and conclusion: Of the 100 prescriptions analysed, 60 had at least one type of interaction, 164 DI was found, 14.6% severe, 68.9% moderate, 15.9% mild, and 0.6% unspecified. The interaction mechanism that appeared most in the present study was pharmacodynamic, 54.3%, pharmacokinetic is present in 34.1% of DI, and 11.6% were not specified. The male group was most affected by DI with 33% of prescriptions; the female represented 27%. The age group in which most interactions occurred was between 50 and 59 years. Of the prescriptions that had DI, the ones that had four interactions or more were the ones that appeared the most. The class of drugs that presented the most interactions was psychotropic drugs. A high frequency of interactions has been identified by the present study, mostly of medium severity.

Financing: PIBIC/CNPq.

CFSP189

Identification of dispensing errors in a regional hospital: challenges to patient safety

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Introduction and objective: Patient safety is a priority attribute of quality of the health systems. Most of the errors that occur in the hospital are related to the prescription, administration and use of medicines. The aim of this study is to identify the dispensing medicine errors and opportunities to improve patient safety.

Materials and methods: This is a cross-sectional study carried out in the pharmacy of a regional hospital, from January to May 2019. Dispensing error was defined as divergence between the dispensed medicine and the prescription. Data were collected in a specific form at the time of error detection (delivery of products to nursing sector) and they were organized in Excel spreadsheet.

Results and conclusion: Among the 8,707 prescriptions analysed in the period, 233 dispensing errors were identified (2.7%). Most of the errors (65.23%) corresponded to medicines and medical supplies not dispensed, 10.30% were drug concentration / dosage errors, 1.28% were related to drug exchange and 0.85% corresponded to drugs registered in the computerized system, but not delivered to the nursing sector. Dispensing errors are a reality and may be related to failures in the work process. Health team training and work process improvement are essential to reduce dispensing errors and hence improve patient safety and qualify the hospital care.

CFSP190

Identification of hexavalent chromium in water supply samples in a municipality in the interior of the state of São Paulo, Brazil

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Introduction and objective: The aim of the study was to identify hexavalent chromium in water samples from a city in the interior of the state of São Paulo, Brazil, since the tanneries previously installed in the city used hexavalent chromium in the leather tanning process.

Materials and methods: The NBR 13738 standard from 11/1996 prescribes the colorimetric method of diphenylcarbazide for the determination of hexavalent chromium in water samples. The stretch of the river analysed is equivalent to 3 km of extension. The analyses were performed in duplicates.

Results and conclusion: The results obtained showed that the water presents no health risks to the population since the samples from the water supply had concentrations of hexavalent chromium below 0.05 mg/L, which is the maximum limit allowed by the resolution of the National Council of Environment (CONAMA). In the analysed samples, no concentrations of hexavalent chromium were higher than those allowed by the current environmental resolution, regardless of the period, pH and climate in which they were collected and, therefore, the water supply of the studied municipality can be considered safe for its population regarding this metal.

CFSP191

Immunomodulatory effects of *tnf- α* cytokine on human colostrum phagocytes of obese mothers for enteropathogenic *Escherichia coli*

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Introduction and objective: The increase in the prevalence of obesity during gestation is a worrying factor since the maternal immune response can be compromised and may lead to complications, including fetal ones. Therefore, the aim of the present study is to evaluate if the cytokine TNF- α is able to modulate the phagocytes of the colostrum of overweight mothers.

Materials and methods: Samples of colostrum were collected, considering the pre-gestational nutritional status of 15 mothers divided according to their BMI (eutrophic=5, overweight=5, and obese=5). The viability, phagocytosis index, and microbicidal activity of colostrum mononuclear phagocytes were evaluated by the fluorescence microscopy technique with acridine orange.

Results and conclusion: The viability of the colostrum cells presented indices around 90%. Regarding phagocytosis, TNF- α modulated positively, and the group with the highest index observed was the obesity one. TNF- α increased the microbicide index only in the obesity group. In conclusion, TNF- α presented satisfactory results in relation to cell viability and contributed to the improvement in the phagocytosis and microbicide rates of colostrum mononuclear cells of obese mothers, acting locally with the activation function of macrophages. Thus, supporting the hypothesis that this cytokine can be used as a therapeutic alternative and possible immune modulator in this population.

Financing: CAPES, CNPq, FAPEMAT.

CFSP192

Impact of an educational tool to the development of skills on gerontology and geriatrics

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Introduction and objective: The elderly represent an age group with the highest number of hospital admissions, so most professionals will have challenges caring for them. An educational tool is relevant for training students. The objective is to analyse the impact of a realistic simulation tool on students' gerontogeriatric competences.

Materials and methods: A quantitative, longitudinal, and prospective study was performed. The methodology was divided into three main phases: initial assessment of students' competences (pre-test), application of the Aging Game, and final evaluation of students' competencies (post-test). Geriatrics Attitudes Scale (GAS) and Facts on Aging Quiz (FAQ) were used for the comparison of the students' competences.

Results and conclusion: Among the 20 students, the mean age ranged from 20.0 to 22.7 years as for the 1st and 7th-grade students. After using the Aging Game, the attitudes related to the elderly changed significantly. The mean GAS before the use of the game was 3.74 (\pm 1.17) and then 4.17 (\pm 1.17). In the G1 and G4 classes, it was 3.86 (\pm 0.54) before the game and 4.18 (\pm 0.23) afterward. Only in one of the 14 items did the students demonstrate unfavorable attitudes. In relation to the four GAS subdomains, ANOVAs showed a significant difference between the subdomains before and after the use of the game. The present study concludes that the realistic simulation methodology has an impact on the gerontogeriatric competences. This strategy did not significantly change knowledge, but it changed attitudes.

CFSP193

Impact of gene polymorphisms on the nephro-hepatotoxicity to paclitaxel/carboplatin chemotherapy for treatment of gynecological cancers

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Introduction and objective: Gynecologic cancers are treated with taxane/platinum combinations, which may cause nephro-hepatotoxicity. Single Nucleotide Polymorphisms (SNPs) are suspected as possible causes for the interindividual toxicities variability. The objective of this work is to evaluate the impact of ERCC1, ABCB1, CYP2C8 and CYP3A5 SNPs on the incidence of nephro-hepatotoxicity.

Materials and methods: Genotyping was performed using RT-PCR assay TaqMan: 2 SNPs involved in carboplatin pharmacodynamics (ERCC1 c.8092C>A, c.118C>T) and 4 in paclitaxel pharmacokinetics (ABCB1 c.1236C>T, c.3435C>T; CYP2C8*3 and CYP3A5*3). Nephrotoxicity was based on Cr-Cl and hepato on ALT, AST and bilirubin levels. All classifications used CTCAE. CEPs INCA (20406413.6.0000.5274) and UNIFESP (84775518.3.0000.5505) has approved this study.

Results and conclusion: This study analysed 507 women diagnosed with ovarian (39%), cervical (35%) or endometrial cancer (26%). The incidence of nephro and hepatotoxicity to any grade was 70% and 27%, respectively. It was observed an association between ABCB1 c.1236C>T SNP and increased risk of nephrotoxicity (grades 2-4) (OR: 2.40; 95% CI 1.39–4.15). In addition, ERCC1 c.118C>T variant genotypes were associated with increased risk of hepatotoxicity (grade 2-4) (OR 3.71; 95% CI 1.08–12.77) and nausea (grades 3-4) (OR 4.18; 95% CI 1.59–10.95). The present study suggests that the ABCB1 c.1236C>T and ERCC1 c.118C>T SNPs are potential predictors of nephro and hepatotoxicity, respectively. This pharmacogenomic information may support personalized medicine, which contributes to the individualization of pharmacological treatment, making it safer.

Financing: CAPES, CNPQ, FAPESP and FAPERJ.

CFSP194

Implementation of a pharmaceutical health unit: experience, increase of consultations and services offered

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Introduction and objective: To offer a pharmaceutical office qualified to attend users, to classify care, and improve the quality of life through interventions and follow-ups. The objective was to demonstrate the growing demand for the office and the services there provided.

Materials and methods: It is a project carried out in the School Pharmacy of Lajeado, RS. Through the perceptions of trainees and active listening in the attendance counters, the users are guided to the pharmacist's office to receive orientations. Then, a second hearing is executed, the reports are checked, a plan of action is implemented, and appropriate interventions are applied to each situation.

Results and conclusion: A total of 20 services are offered, including pharmacological therapy monitoring, medicine administration guidelines, the confection of organizing boxes, calendars, dose unitization, among others. In April and May, there was a 30% increase in the number of appointments. The results presented in April show relevance in the appointments of the category of monitoring of pharmacological therapy, reaching 60% of the visits, and in May, the prevalence continued in this category resulting in 68%. The demand for the offered services has been growing, mainly by users with higher medicine demands. Through the pharmaceutical consultation, the review of pharmacotherapy is carried out, seeking users' adherence to treatment.

CFSP195

Implementation of measures to reduce the disposal of medicines and other overdue health products

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Introduction and objective: An important factor in the management of medicines and health products is the disposal according to expired validity deadlines, as well as the cost that this waste generates for the hospital. This study aimed to expose the reduction in the disposal of drugs and other essential products, through measures managed by the hospital pharmacy.

Materials and methods: An exposed observational study carried out at a municipal public hospital in Fortaleza, Ceará, comparing the costs with disposal of health products overdue in the years of 2017-2018. The number of drugs and materials excluded was expressed by weight in kilograms and by the cost of incineration in Reais. The amount of incineration per kg of waste spent was the price of the service provided to the municipality.

Results and conclusion: In 2017, 786.85 kg of drugs and medical materials were excluded, generating the cost of R\$ 8,065.21 with cremation. Thus, adoptive medicine management is necessary for the review of the average monthly consumption of inventory items and purchase schedules; in the preparation of the products of the wired of an vault; regarding the dispensation of drugs with shorter shelf life; exchange of products with more practices with donation of live products. In 2018, there was the disposal of 306.3 kg of drugs and materials, generating the cost of R\$ 3,139.57 with incineration, a 61.1% reduction in costs. This context shows that the testing of international inventory reduces the costs and the mid-testing of the quality of health service.

CFSP196

Implementation of skin healing phytotherapics in the municipality of Jundiaí

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Introduction and objective: The National Policy of Integrative and Complementary Practices stimulate the implementation of phytotherapics in the Unique Health System (SUS). The objective of this work was the implementation of skin healing phytotherapics based on guava, pitanga, and melaleuca in the city of Jundiaí.

Materials and methods: The experiment was approved by the Ethics Committee CAAE number 96668418.8.000.5512. The tinctures were made by maceration; Mr. Rommel donated the melaleuca hydrolate. A mixed tincture of pitanga, guava, and melaleuca hydrolate was applied in five chosen patients with varicose ulcers. The patients performed daily applications, and the evolution of wound healing was evaluated in the UBS, Jundiaí.

Results and conclusion: The chosen patients had had their varicose ulcers treated with allopathic medicines but with no effective results. The application of mixed guava and pitanga tinctures (5% of each) and melaleuca hydrolate led to a significant improvement in the healing of the skin wounds. Hydrolate is a by-product of melaleuca oil production and is usually discarded; however, it possesses a small quantity of oil and presents skin healing activity. Another advantage in the mixture application was the reduction of burning sensation and microbial contamination, once the plants used possess antimicrobial activity, also improving the skin healing process.

Financing: Paulista University (UNIP)/Jundiaí Municipality.

CFSP197

Improvement of metformin compressibility through granulation in high shear mixer and twin screw extruder

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Introduction and objective: Metformin is the most used antidiabetic in Brazil and, in terms of process, has low compressibility. Improving powders' compressibility increases productivity. Based on this, this research aimed to improve metformin compressibility through granulation to achieve immediate-release tablets with doses of 500 mg.

Materials and methods: Metformin hydrochloride, Plasdone™K29-32, Klucel™HPC, microcrystalline cellulose, and magnesium stearate were used, which were processed by batch granulation in a high shear mixer and continuous in a twin-screw extruder. Both processes were evaluated with parameters that guarantee a greater impact on the quality of the granules. Subsequently, granules were compressed in a tablet machine.

Results and conclusion: The obtained granules were characterized by physical analysis through the distribution of particle size, morphology, flow, density, and moisture. The tablets were successfully obtained and evaluated by physical analysis on the following parameters: average weight, thickness, hardness, and disintegration. Through the evaluation of results, it was possible to understand the behavior of metformin in two granulation processes, as well as the impact of these processes and the formulation on the behavior of the product in a compressor machine.

Financing: Ashland.

CFSP198

In vitro - *in vivo* correlation (IVIVC) for carbamazepine immediate release formulations: a biowaiver approach

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Introduction and objective: Carbamazepine is an antiepileptic drug, BCS class II, with a narrow therapeutic index and many adverse events, so small changes in blood concentration may lead to serious health problems. The aim of this research is to establish a Level A IVIVC in order to predict the *in vivo* behavior of immediate carbamazepine release (IR) formulations.

Materials and methods: A pilot study was performed with healthy subjects in fasting conditions, approved by an Ethics Committee (N. 3.073.550 and 3.085.454). Dissolution profiles were performed in a paddle at 75 rpm using a 900 mL Sodium Lauryl Sulfate 1% aqueous solution. The plasma concentration profile was well described by one compartmental model, and Wagner Nelson deconvolution was selected in order to develop a Level A IVIVC.

Results and conclusion: Establishing an IVIVC for Carbamazepine is important because it can be used as a surrogate of an *in vivo* study, mainly for central nervous system drugs. A Level A IVIVC was successfully established using a Wagner Nelson deconvolution. It was possible to validate the biopredictive feature of the dissolution medium containing 1% SLS. It was observed that the *in vitro* dissolution profile showed the same T/R ratio at 60 min, as observed for C_{max} in the pilot bioequivalence study. The main difference *in vivo* between the test and the reference formulation was seen until 5 hours after drug administration, demonstrating a close relationship between absorption and dissolution. Therefore, this medium can be applied to reduce time, cost, and the need for bioequivalence studies.

CFSP199

***In vitro* evaluation of cytotoxic potential of the dye from *Eugenia pyriformis* against a line of human mammary adenocarcinoma**

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Introduction and objective: *Eugenia pyriformis*, known as Uvaia, is a Myrtaceae native from Atlantic Forests. It is rich in terpinen-4-ol, alpha-terpineol, limonene, and caryophyllene oxide, presenting anti-oxidant and antiproliferative action over tumor cell lines. Thus, this work aims to identify the efficacy of Uvaia's dye against a human adenocarcinoma line (MCF-7).

Materials and methods: The dye from *Eugenia pyriformis* was obtained according to parameters established by Brazilian Pharmacopoeia. In order to evaluate its cytotoxic potential against breast adenocarcinoma cell line MCF-7, those cells were plated and incubated amidst different concentrations of dye extract for 24 hours, and then their cell viability was measured via MTT assay (MTT reduction to formazan crystals).

Results and conclusion: Initially, samples of human cell line MCF-7 were plated, and after 24 hours, they were exposed to different concentrations of dye (from 0.15% to 10%). By performing cytotoxicity assays through MTT reduction, it was possible to verify that the dye presents a dose-dependent effect from 0,15% to 10% dye concentration, showing an IC₅₀ for line MCF-7 between the range of 1,25 and 2,5%. The toxicity profile observed when in face of studied cell lines corroborate literature data obtained about other tumoral lines, justifying further studies aiming to clarify the most likely mechanism involved in cell death induction.

CFSP200

***In vivo* study of antinociceptive and anti-inflammatory activities of substituted synthetic chalcone 3**

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Introduction and objective: Chalcones are precursors of the biosynthesis pathway of flavonoids, and have received attention because of the diversity of pharmacological activities they present. The objective of this study was to evaluate the antinociceptive and anti-inflammatory effects *in vivo* of substituted synthetic chalcone 3 (LC3). The study was approved by the ethics committee CEUA, under protocol MAC044.

Materials and methods: Male Swiss mice received i.p. DMSO, LC3 (3;10 or 30 mg/kg) 30 min prior to the tests. 1) Formalin was injected in the paw, and the time spent licking was measured. 2) Mice were placed on the hot plate, and the time without licking the legs was counted. 3) Saline and carrageenan were administered intraplantar, and the mice were placed on the hot plate, and the difference between the paws was calculated.

Results and conclusion: 1) Formalin test: an antinociceptive effect of LC3 in the neurogenic phase was not observed. However, in the inflammatory phase, LC3 (3; 10 and 30 mg/kg) reduced the paw licking time from 362.4 ± 20.1 (DMSO) to 256.1 ± 24.9s (P<0.05); 251.3 ± 35.3 (P<0.05), and 256.0 ± 26.9s (P<0.05), respectively. 2) Hot plate test: LC3 was not able to increase the time of the animal on the hot plate. 3) Modified hot plate test: LC3 (3 mg/kg) reduced the paw time latency variation at 15 min from 5.6 ± 0.8 (DMSO) to 2.6 ± 0.5s (P<0.05); and LC3 (30 mg/kg) at 360 min reduced the time from 8.9 ± 1.3 (DMSO) to 4.0 ± 1.2s (P<0.05). It can be concluded that substituted synthetic chalcone 3 has an antinociceptive activity by means of anti-inflammatory action and not by central effect.

Financing: PIBIC/UF RJ.

CFSP201

Incidence and characterization of pharmaceutical interventions (PI) in the intensive care unit (ICU)

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Introduction and objective: Pharmaceutical Interventions aim at the solution or prevention of negative results resulting from the use of drugs. Studies indicate a high morbimortality related to the use of medication. This fact is even more worrying in ICU, requiring a broad prescription due to the criticality and complexity of patients. Description and analyses of the PI profile were performed by the clinical pharmacist in Adult ICU.

Materials and methods: A retrospective study carried out from July 2017 to April 2019. The clinical pharmacist evaluated on a daily basis the medical prescriptions via electronic medical records and recorded the PI performed in an institutional database. After a case discussion about the identified PI, the conduct established by the clinical staff was verified, and the PI were classified as accepted or not.

Results and conclusion: In conclusion, 8,473 medical prescriptions were evaluated. The main PI were dose-related (n= 260, 16.7%), followed by those related to laboratory tests (n= 213, 13.7%), duplicity (n= 203, 13.0%), and drug inclusion (n=156, 10%). Regarding the outcome of the PI by the clinical staff, 91.5% (n= 1426) were accepted or justified within 24 hours, 8% (n= 124) were accepted, but there was no change in the prescription, and 0.3% (n= 6) were not accepted. The study has demonstrated high acceptance rates of PI, proving the importance of a structured CP service and evidencing the importance of the intensive care pharmacist in direct patient care.

CFSP202

Incidence and characterization of pharmaceutical interventions (PI) in a Neopediatric Intensive Care Unit (NEOPED-ICU)

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Introduction and objective: Considering the scarcity of studies on this subject in the literature, solving and preventing negative results from the use of medications due to the criticality or complexity of these patients is highlighted as the relevance of this study whose objective is the analysis and description of the FI performed by the ICU clinical pharmacist (NEOPED).

Materials and methods: It is a retrospective study, conducted from May 2017 to June 2018 in a private hospital of medium complexity. Medical prescriptions (MP) were evaluated by the CP daily, and the PI discussed in a multidisciplinary visit and electronic medical record. The PI profile was previously delineated according to the unit profile, and the outcome was assessed within 24 hours.

Results and conclusion: The evaluation was done with 2679 MP, 168 patients, containing 9431 medications. One hundred fifty-three of these medicines (1.6%) required PI (average 10 PI/month). The main PIs were: incompatible medical observation 51 (33%), dose 41 (27%), and duplicate 15 (10%). Regarding the outcome by the clinical staff, 82% were accepted or justified within 24 hours, and 18% were accepted, but there was no change in the electronic prescription. The possibilities for PI in NEOPED-ICU are numerous, and it is convenient to select the ones of most interest and appropriate to the profile of the institution. The high rates of acceptance of PI evidenced the importance of CP in intensive care in neopediatrics, as its action helps to prevent adverse clinical outcomes arising from the misuse of drugs, and improve the patients' quality of life.

CFSP203

Incidence of *Klebsiella pneumoniae* carbapenemase bacteria on Amaral de Carvalho Hospital patients at Jau – SP

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Introduction and objective: The KPC enzyme is a bacteria immune to multiple medications, such as carbapenems. The present study's main objective was to verify the *Klebsiella pneumoniae* carbapenemase incidence at Amaral de Carvalho Hospital, located in Jau – SP, as well as checking its occurrence in different hospital wards and fluids.

Materials and methods: A retrospective study was carried out from January 2017 to December 2018, using the MV 2000 System's Laboratory Management System data from Amaral de Carvalho Hospital's Laboratory of Clinical Analysis, in Jau - SP.

Results and conclusion: The Kruskal-Wallis and Mann-Whitney tests were used for statistical analysis and median comparison. Statistical significance was observed ($p < 0.01$) among the requested data. In 23.741 pieces of solicited data for microbiological tests, a positive rate of KPC at 16.2% (3.836) was observed, with an occurrence of 67.9% in males, whereas in females, it was 32.1%. The incidence was higher in adults (52.3%), and in the monitoring, samples obtained higher positivity (47.7%). At other hospital wards, studies showed there is 75.8% of KPC-positive cases, while in the outpatient sector, the percentage is 24.2%. KPC has been heavily researched for its high resistance to antibiotics, turning indispensable the care of hospitalized and immunocompromised patients.

Financing: Santander.

CFSP204

Incidence of the *Escherichia coli* ESBL bacteria in patients of the Amaral Carvalho Hospital - Jau/SP

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Introduction and objective: The types of infections that *Escherichia coli* ESBL may cause range from issues such as urinary tract infections to bacteremia. This study aimed to investigate the incidence of *E. coli* ESBL in patients of the Amaral Carvalho Hospital in Jau, São Paulo, Brazil, and to identify such bacteria in different biological samples.

Materials and methods: A retrospective study was conducted for five years from January 2014 to December 2018 in microbiological culture-positive specimens of ESBL *E. coli* present in different biological materials from admitted patients, as well as outpatients. The results were analysed by the Laboratory Management System of MV 2000 clinical analysis laboratory.

Results and conclusion: 54.408 applications were analysed for microbiological tests, in which a positive *E. coli* ESBL presence was accounted for in 29.1% (15.804) of the samples. The highest incidence of positivity was found in the elderly (60 years >), with 48.3% (7.640/15.804). The urine showed 61% (9.640/15.804) of positivity to ESBL *E. coli*, followed by 24.8% in secretions (3.918/15.804) and 10.2% on the blood (1.606/15.804). The emergence and dissemination of bacteria producing extended-spectrum beta-lactamases (ESBL) have been previously portrayed as a major public health problem.

CFSP205

Incorrect disposal of medications: study and awareness of the population in the city of Assis (SP)

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Introduction and objective: Taking into account the importance of the correct disposal of pharmacological residues, with an emphasis on post-consumption, and the consequences of incorrect disposal of medicine to the environment, interviews have been conducted with a percentage of the population of Assis (SP) on the most common means of disposal and some specific knowledge.

Materials and methods: Interviews with 300 people were randomly conducted in the city of Assis (SP), approved by the Ethics and Research Committee number 2.978.500, and carried out in different places so that it was possible to acquire the response of subjects from different regions and with different levels of education. The interview consisted of a questionnaire with 13 objective and comprehensible questions.

Results and conclusion: Based on the questionnaire presented and with the answers obtained, 98.66% of the participants believe that the incorrect disposal causes problems to the environment, and 32.11% have already received guidance on how to carry out the correct disposal of medicine. However, the incorrect disposal is predominant among the subjects, totalizing 76.92%. Knowledge about Logistics Reserve occurred to 22.74% of participants and of the National Solid Waste Policy, to 38.13%. The percentage of 25.42% have heard about Discard Spots, but in the city, only 7.02% have seen spots. Besides, when checking those places that were cited, only one was visible to the public, as it should occur. It was predicted that the incorrect disposal would be more frequent, and it was possible to confirm that with the interviewees.

Financing: UNIP-Vice Chancellor for Graduate Studies and Research.

CFSP206

Infections incidence and predictors associated to patients colonized with carbapenem-resistant enterobacteriaceae

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Introduction and objective: Carbapenem-resistant Enterobacteria (CRE) colonization precedes invasive infections. However, the route between the two stages is clear. This study aimed to establish the development predictors of clinical infection in patients colonized by CRE of a public hospital, from October 2012 to December 2016.

Materials and methods: The study was performed in a non-concurrent hospital cohort of 384 inpatients with CRE colonization diagnosed in surveillance cultures (rectal swabs) during the established period, from which clinical and demographic data were collected. Phenotypic methods identified the isolates, and susceptibilities were tested by minimum inhibitory concentration (MIC) through the Biomerieux-Vitek2 system.

Results and conclusion: The cohort study included 384 subjects colonized by CRE, of which 269 (70.1%) were hospitalized in an intensive care unit (ICU). Of all the colonized, 51 (13.2%) turned positive in clinical cultures by CRE. It was identified the use of delayed bladder catheter (HR 5.56, 95% CI 1.31-23.63, p = 0.02) and carbapenem class antimicrobials (HR 1, 96, 95% CI 1.06-3.62, p = 0.03) as the factors associated with the CRE infection progression. Infection prevention strategies in patients colonized by CRE should include special attention to invasive devices. Antimicrobial management that inhibits the excessive use of carbapenems may also contribute to avoiding this contamination.

CFSP207

Influence evaluation of physiopathological parameters on the use of sedatives in neonatal patients

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Introduction and objective: Stimulating sedation and analgesia is an aspect currently practiced. The use of these drugs implies risks, which makes a balanced intake and proper weaning essential. Patients who had used analgesics and sedatives had their profiles checked, and it was later matched to their clinical variables. Clinical pharmacy intervention services were also evaluated.

Materials and methods: The study took place at the Neonatal Intensive Care Unit of the São Francisco University Hospital, from March to June 2018. It included neonates with chronological age up to 28 days, who underwent sedatives for at least 24 hours. Data (such as dose, days under sedation, diagnostic hypothesis, among others) were examined using Contingency Coefficient C and Spearman Correlation statistical tests.

Results and conclusion: The sedation dose and diagnostic hypothesis score presented significant values (p-value <0.05) regarding the days when sedatives were used, and the cases' severity. The other evaluated variables were not significant. This study indicated the need for longer-term sedation with higher doses in severe newborns, even though the small number of participants restricted the survey results. The medical team's resistance also limited the performance of the clinical pharmacist. The lack of prenatal care and the inadequate filling of medical records are issues that have hindered the research results. Increasing the studied sample would also help to highlight the parameters that did not offer significance in the study.

CFSP208

Influence of a resistance training program on wheelchair users

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Introduction and objective: According to the World Health Organization (WHO), cardiovascular disease (CVD) accounted for 33% of deaths in Brazil in 2011. Therefore, this study aims to assess the influence of a resistance training program for wheelchair users in order to decrease cardiovascular risk.

Materials and methods: Eleven wheelchairs analysed were 36.01 ± 9.5 years old. They underwent training for four weeks with 60% of 1RM intensity, three sessions/week, and 12 repetitions/exercise. For biochemical analysis, blood was collected before starting the workouts, and after four weeks of gauging arterial pressure. In the statistical analysis, the Student's t-test and Chi-square were used. CEP 2.639.370.

Results and conclusion: The main finding of this study was the reduction in systolic blood pressure (133.6 ± 12.1 vs. 118.8 ± 9.7), diastolic blood pressure (75.9 ± 9.9 vs. 67.0 ± 7.6), postprandial glucose (136.8 ± 19.0 vs. 99.1 ± 33.2), triglycerides (393.1 ± 106.9 vs. 236.6 ± 143.0) and uric acid (11.2 ± 2.2 vs. 8.4 ± 1.8). The results show that wheelchair users who perform a one-repetition maximum test (1RM) during four weeks lower blood pressure and biochemical parameters such as uric acid, reducing the cardiovascular risk.

CFSP209

Influence of adenovirus 36 infection on expression of adipokines in obese subjects

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Introduction and objective: Dysregulation in the expression and seric levels of adipokines is observed in obese subjects. Previous adenovirus 36 (Ad-36) infection has been associated with increased adipogenesis and the development of obesity. This study analysed the relationship between Ad-36 infection and the expression of adipokines in adipose tissue and its plasma levels.

Materials and methods: Fifty-seven obese (BMI>30kg/m²) and 17 lean controls (BMI<25kg/m²) were evaluated. Obese subjects were grouped according to their serology against Ad-36 in seropositive (n=28) or seronegative (n=29). Ad-36 serology, as well as plasma levels of adiponectin and leptin, were evaluated in blood samples by ELISA. Leptin (LEP) and adiponectin (ADIPOQ) expression were evaluated in visceral adipose tissue by qPCR.

Results and conclusion: Obese patients had higher leptin and lower adiponectin levels as compared to lean controls (p<0.05). Moreover, the obese group presented increased LEP and reduced ADIPOQ expression in contrast to lean controls (p<0.05). Ad-36 seropositive obese subjects had lower circulating levels of leptin as compared to a seronegative group, whereas no change was observed for adiponectin between groups. No difference was observed in LEP or ADIPOQ expression in visceral adipose tissue, according to Ad-36 serology (p>0.05). The reduction of plasma levels of leptin is likely due to post-transcriptional or post-traductional modulation that could produce a protein half-life reduction or reduce its secretion from the adipose tissue. However, further investigation is needed to understand this process completely.

Financing: Fondecyt 11150445, REDI 170632.

CFSP210

Influence of adenovirus 36 seropositivity on the expression of miRNAs involved in adipogenic process in adipose tissue from obese subjects

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Introduction and objective: Adenovirus 36 (Ad-36) infection is related to adiposity and high risk of obesity. There is no information about the epigenetic mechanisms involved in the adipogenic effect of Ad-36. This study evaluated the effect of previous Ad-36 infection on the expression of *PPARG* and microRNAs (miRNAs) related to adipogenesis in visceral adipose tissue (VAT) from obese patients.

Materials and methods: Obese individuals (BMI≥30.0 Kg/m²) were separated in seropositive (n=29) and seronegative (n=28) groups. Lean controls (BMI<25 Kg/m²; n=17) were also evaluated. ELISA assay against Ad-36 was carried out to define serology. Biopsies of VAT were obtained to evaluate the expression of *PPARG*, pro- (miR-17;-210) and anti- (miR-155;-130;-27a) adipogenic miRNAs by qPCR using Taqman assays. Comité Ético Científico (Universidad de La Frontera, Protocol N° 159/15).

Results and conclusion: The obese group presented higher *PPARG* expression than lean controls (p=0.016). Obese subjects also had higher expression of miR-210 (p=0.039), whereas lower expression of miR-155 (p=0.019) and miR-27a (p=0.028) was observed in this group, as compared to lean controls. Among obese subjects, higher *PPARG* expression (p=0.008) was observed in the seropositive group. Ad-36 seropositive individuals also had higher expression of the miR-17 (p=0.028) and lower levels of miR-155 (p=0.031) in VAT as compared to seronegative subjects. Previous infection with Ad-36 modulates the expression of miRNAs, which could lead to an increased adipogenic status by positively modulating *PPARG* expression in VAT from obese subjects.

Financing: Fondecyt-Chile 11150445; Conicyt-Chile REDI170632.

CFSP211

Influence of polymorphisms LEP c.-2548A>G and LEPR c.668A>G on metabolic alterations in a pediatric population of southern Chile

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Introduction and objective: Childhood obesity is highly prevalent in Chile. Genetic variants in genes encoding leptin (LEP) and leptin receptor (LEPR) were associated with obesity and metabolic alterations. This study evaluated the influence of LEP c.-2548G>A and LEPR c.668A>G on obesity risk, metabolic syndrome (MetS), and metabolic parameters in the Chilean pediatric population.

Materials and methods: Two hundred eight individuals (9-13 years) were grouped as normoweight (NW; n=60), overweight (OW; n=79), or obese (OB; n=69), according to CDC percentile criteria, and according to MetS using Cook's modified criteria. Anthropometric measures were obtained. Lipid and glycemic profiles and HOMA-IR were determined. qPCR using allelic discrimination assays determined the LEP c.-2548A>G and LEPR c.668A>G genotypes. Comité Ético Científico – Universidad de La Frontera (Protocol Number 128/15).

Results and conclusion: High prevalence of OW (38%) and OB (33.2%) was observed, but it was not associated with LEP or LEPR variants. MetS (12.2%) was only present in the OB group, and a higher frequency of LEPR c.668G allele was observed in MetS (87 vs. 70%; p=0.020). Logistic regression analysis showed an increased risk of MetS for allele G carriers compared to those with the LEPR c.668AA genotype (OR: 6.65; 95% CI: 1.05–42.3; p=0.027). These subjects also had higher levels of triglycerides (G carriers: 107±76 mg/dL, AA: 80±36 mg/dL; p=0.016), confirmed by a multiple linear regression analysis (β =24.1 mg/dL, SE=10.2 mg/dL; p=0.019). No association with biochemical variables was observed for the LEP c.-2548A>G. The SNP LEPR c.668A>G may be useful as an early biomarker of cardiometabolic risk in the pediatric Chilean population.

Financing: UNETE-UFRO (# UNT15-004); Fondecyt-Chile # 11150445; SOCHED 17-2017.

CFSP212

Influence of silymarin and chromium picolinate on diabetic rats

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Introduction and objective: Silymarin and chromium picolinate are food supplements easily acquired and used in various countries. The objective of the present study was to assess the *in vivo* effects of treatment using a combination of silymarin and chromium picolinate on the standard glibenclamide treatment.

Materials and methods: The research was approved by the Animal Research Ethics Committee – PUC Campinas (021/2017). The experimental groups were (n=6): healthy control (A); glibenclamide diabetic (B); silymarin diabetic (C); silymarin, chromium picolinate, and glibenclamide (D). After ten days of oral treatment, body weight, fasting glycemia, glycemia 1 h after gastric gavage with sucrose, and hepatic transaminases were determined.

Results and conclusion: Statistical analysis of the data indicated that there was no change in body weight or fasting glycemia, but that glycemia increased after gavage with sucrose in the group submitted to the combined therapy (group D). Thus, it was concluded that the combination of silymarin and chromium picolinate reduced the efficacy of glibenclamide in the short term, although the two substances had a protective effect on the liver as observed by the reduction of blood transaminase levels.

Financing: FAPIC/REITORIA PUC CAMPINAS.

CFSP213

Influence of the extractive process and solvent concentration on the phenolic compounds of *Phyllanthus niruri*

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Introduction and objective: *Phyllanthus niruri* L. is a plant that has a variety of bioactive compounds, such as phenolic compounds, and it is greatly used for its medicinal properties. Therefore, the aim of this study was to evaluate the influence of ethanol concentration levels and extraction methods on the phenolic compounds of *P. niruri*.

Materials and methods: Ethanolic extractions of *P. niruri* were performed at a concentration of 50 and 96%, using three extractive methods: maceration, percolation, and ultrasound. Phenolic compounds quantification were made using Folin-Ciocalteu reagent. Gallic acid was utilized for the elaboration of the standard curve. The analysis was made in triplicate, and the results were analysed in the Minitab18® and Prisma GraphPad software.

Results and conclusion: It was observed that the solvent concentration and extractive process are statistically significant ($p < 0.05$), being solvent concentration the effect that most contributed to phenolic compounds extraction. In addition, an interaction was evidenced ($p < 0.05$) between solvent (ethanol 50% and 96%) and extractive processes (maceration, percolation, and ultrasound). Furthermore, it observed that ethanol 50% had the most efficiency in phenolic compounds extraction, and that percolation and ultrasound were equally efficient in the extraction of these metabolites ($p < 0.05$). Therefore, it is possible to conclude that phenolic compounds extraction of *P. niruri* can be performed with the same efficiency by percolation and ultrasound, using ethanol 50% as a solvent.

Financing: Centro Universitário São Camilo.

CFSP214

Information material as a strategy for the safe use of medications in pregnancy

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Introduction and objective: During pregnancy, the scientifically based drug prescription provides health professionals with subsidies for the safe use of drugs in this condition. This paper aims to elaborate an informative manual, which will be an instrument for the proper use of medicines in pregnancy.

Materials and methods: The medicines contained in the manual were selected according to the list of standardized medications from a maternity hospital in Ceará and the National List of Essential Medicines, divided according to pharmacology. The sources were: Micromedex; Dynamed; Food and Drug Administration and Thomson Pregnancy Risk Category for the elaboration of the following results.

Results and conclusion: A total of 384 drugs were analysed, where: 1) 8 (2.08%) presented risk A, remote possibility of fetal damage; 2) 88 (22.92%) risk B, prescription with caution; 3) 1 (0.26%) A / B risk; 4) 192 (50%) risk C, prescription with risk; 5) 60 (15.62%) risk D, prescription with high risk; 6) 18 (4.69%) without FDA category and 7) 17 (4.43%) risk X, prescription with danger. Thus, the conclusion is that the information contained in the manual can be used as a consultation tool for risk-benefit assessment of drug therapy, contributing to the minimization of risks and maximization of benefits from the use of drugs in pregnancy.

CFSP215

Interferences in laboratory tests caused by Beta blockers in treatment of hypertension

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Introduction and objective: Hypertension is a multifactorial condition that can result in serious consequences for vital organs. Medicines of continuous use belonging to the Beta blocker class are indicated for treatment. This study aimed to evaluate the interferences in laboratory tests caused by Beta blockers in the treatment of hypertension.

Materials and methods: A systematic review that sought to highlight and discuss interferences in laboratory tests caused by medications. The research used scientific publications, available in full, in Portuguese and English, indexed in the ANVISA, LILACS and MEDLINE database between 2012 and 2017, applying the following descriptors: Laboratory Tests, Beta Blockers, Laboratory Tests and Beta blockers.

Results and conclusion: There were 412 articles, but only 28 articles met the inclusion criteria, and 26 articles were selected for the study. The following physiological changes were analysed: Atenolol (increased transaminases and antinuclear antibodies), Propranolol (thrombocytopenia and hypoglycaemia), Bisoprolol (change in lipid and hepatic profile), Carvedilol (hematological, lipid, glycemic and hepatic changes), Metoprolol (agranulocytosis and liver abnormalities), and Nebivolol (increased uric acid). As a result, it was noted the importance of a multiprofessional team to deal with hypertensive patients, in order to seek ways to minimize the action of these interferers, providing more reliable results.

CFSP216

International patent survey of homeopathic products and processes

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Introduction and objective: Homeopathy is a holistic therapy based on the principle of similarity and characterized by the use of diluted and energized drugs for the patient's treatment. Articles and patents constantly propose innovations in this area. The objective of this study was to carry out a patent survey of processes and products concerning homeopathy.

Materials and methods: The international patent database, Espacenet, was used. The search was carried out with the keyword homeop*, without time restriction and between 2007 and 2017. The patents of the limited time were organized by depositor countries, ownerships, groups (product and processes), and subgroups (formulations, equipment, packaging, production procedures, and analytical methods).

Results and conclusion: In the survey, 592 patents were found. Of these, 185 were published between 2007-2017. The main depositor countries were the United States (30%), Russia (16%), France (10%), and Germany (9%). Among the ownerships, 69.8% of patents were deposited independently, 21.7% by universities, 7.8% by companies, and 0.7% by a company/university partnership. New products represent 58% of patents, while new processes were 19%. In the subgroups of products, 86.18% refers to new formulations, 10.52% new equipment, and 3.28% new packagings. In the subgroup of processes, all of the patents refer to productive procedures. The mapping carried out in the present study helps to visualize state of the art, opportunities, leading competitors, and possible partners for the expansion of new fields of research in the area.

CFSP217

Isolation and quantitative analysis of chemical composition of *Anacardium occidentale* Linn

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Introduction and objective: In Brazil, *Anacardium occidentale* L. tea is used for therapeutic purposes, and its efficacy and safety are proven only by tradition. However, its phytochemical characterization still has gaps that interfere with the development of new products of this species. This research aims to characterize chemical markers for *A. occidentale* extracts.

Materials and methods: The extract was obtained from stem bark by percolation using ethanol 70%. It was then cleaned with C₁₈ and methanol 80% for HPLC-DAD analysis. The Agilent 1260 chromatograph was used for chromatographic analysis alongside C₁₈ ACE5 column and gradient containing acetonitrile, methanol, and water with 1% acetic acid. The gallic acid standard (Sigma-Aldrich, 95%) was analysed using the same conditions.

Results and conclusion: The percolation process produced 3l of extract. The extract's chromatogram indicated at least four major components when seen at 254nm. The element with the shortest retention time (6.656 minutes) showed a UV spectrum compatible with some single phenolic acids, with maximum absorption at 272nm. Commercial standard chromatographic comparison allowed this component's identification as gallic acid (3,4,5 - trihydroxy benzoic acid). This work's methodology was developed by HPLC-DAD, which allowed the identification of gallic acid on the *A. occidentale* stem bark ethanolic extract. This substance fits as a chemical marker for the standardization of extracts that will be pharmacologically tested. The other components are under analysis for characterization.

CFSP218

Judicialization of access to medicines in Itapira, a Brazilian city in the state of São Paulo

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Introduction and objective: The judicialization of health is one of the major challenges for managers and professionals of The Unified Health System (SUS) since it requires a high and unscheduled cost. The aim is to analyse the profile of claimants and medicines demanded in lawsuits, in the city of Itapira, São Paulo. Also, to verify the incidence of lawsuits in the last five years.

Materials and methods: A descriptive study that examined lawsuits filed in the public pharmacy of Itapira, in the period between March and April 2018. The claimants' profile and the medicines demanded were analysed. The investigation verified if these medicines were supplied in the Brazilian Health System programs. The incidence of lawsuits was verified by annual measurements — ethical approval CAAE number 86093318.7.0000.5679.

Results and conclusion: One hundred seventy-seven lawsuits were examined during the study period. The mean age of claimants was 58 years old, predominantly female. Among the 496 medicines and medical supplies demanded, 28% were included in other SUS programs. In the municipality, there was a 422% increase in lawsuits demanding access to medicines between 2014 and 2018. The conclusion is that the demand for medicines and medical supplies by the judicial system is increasing in the city of Itapira, and approximately one-third of these medicines are available in the Brazilian Health System. The results are expected to contribute to the improvement of public policies aimed at the pharmaceutical services of the municipality.

CFSP219

Knowledge evaluation of domestic drug disposal by health professionals from a hospital in western São Paulo

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Introduction and objective: Easy access to drugs increases the amount of medicine disposed directly on the environment. Health professionals should be aware of the proper ways to discard drugs and inform the population. This research focused on analyzing if health professionals from the hospital under study know how to discard domestic drugs properly.

Materials and methods: The subjects took a survey authorized by the hospital's research committee and approved by the Research Ethics Committee (CEP) under the protocol CAAE number 96622418.9.0000.5515 and signature of the Informed Consent Form (TCLE). Data were tabulated and analysed in the Excel 2016 action supplement software.

Results and conclusion: Out of the 199 health professionals asked, 29 were excluded due to incorrect survey filing, and 24 declared themselves unavailable. Of the remaining 146, 99 (67.8%) of them reported improper disposal through common waste (48.6%), toilet or sink (19.2%), and even to reuse it for relatives/friends (7.5%). There was no significant contrast between academic and technical professionals, only between pharmacists and other professionals ($p = 0.003$). Pharmacists were the ones who better advise the correct disposal of drugs (26.8%). Educating health professionals on proper ways to discard medicine is necessary.

CFSP220

Knowledge of a pharmacy university course's academics about type 2 *Diabetes mellitus*

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Introduction and objective: Diabetes is a metabolic disease characterized by hyperglycemia, which induces complications and is considered a public health problem. The number of people with diabetes is increasing and, because it is a silent disease, the diagnosis is late. The aim of this study is to evaluate the degree of knowledge of pharmacy students about diabetes.

Materials and methods: The study included 36 academics of the pharmacy course of an university center. After signing the informed consent, they were submitted to a game with objective questions about myths and truths of type 2 *Diabetes mellitus* (DM2). At the time, there were discussions and then a questionnaire was applied to evaluate the students' learning. The work was submitted to the ethics committee.

Results and conclusion: 97% of the students were familiar with DM2. As for its etiology, 97% cited heredity, lifestyle, obesity, and deficiency in insulin production. 41% answered that diabetes is more common in adults and the elderly. The symptoms mentioned were weight loss, polydipsia, and polyuria, with complications of renal diseases and circulatory disorders. Also, 80% cited as diagnostic method glycemia and glycated hemoglobin. The importance of family history and clinical signs has been reported. Regarding the treatment, 88% cited the use of medication, associated with physical activity and diet. It is concluded in this work that the students of the pharmacy course have knowledge about DM2 and their role in controlling this disease.

CFSP221

Level of understanding of hospitalized patients in a hospital of the metropolitan region of Cariri, CE about the medicines prescribed in high hospital

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Introduction and objective: Pharmacotherapy plays an important role in the prevention, maintenance, and recovery of health, helping to increase the quality and life perspective of the population. The study aimed to evaluate the level of understanding of hospitalized patients in a hospital in the region of Cariri, CE about the drugs prescribed at hospital discharge.

Materials and methods: There were 38 patients over the age of 18 years old who were discharged in April 2019 through a questionnaire applied individually and privately in a Hospital located in the Cariri Cearense region. This study was developed with the authorization of the hospital and was approved by the Research Ethics Committee of Juazeiro do Norte (FJN College) under the opinion of number 3.215.148.

Results and conclusion: The results showed that 29% of respondents did not receive medical advice at the time of hospital discharge on the use of medicines at home, 76% said that the doctor did not ask about drug allergy, and 29% said they had questions about how to use the medicines at home. Also, 47% did not know about adverse effects, 79% made frequent use of medicines on their own, 18% respond to non-problem medicines, 45% had already stopped or changed medicines on their own, and 18% of patients did not know how to use either of the two medicines that were prescribed. Therefore, targeted awareness-raising actions are needed to prescribe, emphasizing the need to improve patient information at the time of hospital discharge, seeking to clarify the correct use of prescription drugs for home use.

CFSP222

Lipidomic profiling in plasma of human colon cancer using ultra performance liquid chromatography mass spectrometry and gas chromatography

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Introduction and objective: In 2018, the world estimate pointed to colon cancer as the fourth largest cancer type with more than a million new cases and about 550 thousand deaths. Changes in lipid metabolism should be considered in the risk assessment of this type of cancer. This study aimed to evaluate the potential plasma lipid biomarkers of patients with colon cancer.

Materials and methods: Blood samples were taken from 50 patients with colon cancer, stratified according to the stage, and blood samples from 50 healthy volunteers (CAAE: 57114716.8.1001.5514). The lipid profile was evaluated by gas chromatography (GC-FID) e ultra-performance liquid chromatography coupled with an electrospray ionization quadrupole time-of-flight mass spectrometry operating in MSE mode (UPLC-QTOF-MSE) associated with the multivariate statistical technique.

Results and conclusion: The results showed that several lipid metabolites were altered in the plasma of patients with colon cancer. The least abundant ions identified in this group of patients were of phosphatidylcholine plasmalogen and triacylglycerol while a phosphatidylserine metabolite, phosphatidylserine plasmalogen showed a relatively increased abundance, pointing this molecule as a potential biomarker for this type of cancer. There was also a significant reduction of polyunsaturated fatty acids docosapentaenoic (C22: 5 n-3) in stages III/IV and docosahexaenoic (C22: 6 n-3) at all stages. In this study, it was possible to show that the use of different lipidomic platforms allows analyzing various pathways and networks associated with lipid metabolism to help to identify new potential biomarkers mediators of cancer.

Financing: FAPESP; CAPES.

CFSP223

***Lippia sidoides* in formulation of intimate liquid soap for woman**

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Introduction and objective: The alecrim pimenta plant (*Lippia origanoides*) is widely used in traditional medicine in northeastern Brazil as a skin antiseptic. Scientifically validated for public health use, it has a broad spectrum of action against fungi and bacteria. This work aimed to develop a special formulation of liquid soap from rosemary pepper essential oil (EO).

Materials and methods: Plant material was obtained from the FJA Matos Germplasm Bank (Herbarium EAC-Code 8479). The EO was extracted by steam distillation. A standardized liquid soap formulation was used, adding increasing concentrations of *L. origanoides* EO. (Formulations F1, F2, F3 and F4.) For quality control, we used organoleptic analysis, foaming power, pH verification, centrifugation and viscosity.

Results and conclusion: The most stable formulations were F2 and F3 with *L. origanoides* EO at concentrations of 0.65% and 0.50%, respectively. *L. origanoides* EO acts as a viscosity promoter compared to the standard liquid soap formulation and this increase was proportional to the concentration increase. In the olfactory evaluation, thymol smell predominated, and no synthetic fragrance was added. Therefore, the development of the formulation of intimate liquid soap added to *L. origanoides* EO showed acceptable physicochemical characteristics, indicating its potential application in the cosmetic industry. Limitations include the need for studies with dermatological tests and the non-verification of the microbiological activity of soaps.

CFSP224

Main drug interactions involving antiemetic, antifungal and antiviral prophylaxis protocols in patients undergoing autologous BMT

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Introduction and objective: BMT is an important therapeutic alternative in the treatment of numerous diseases. As part of the treatment, there is a myeloablative therapy requiring antiemetic, antifungal, and antiviral prophylaxis. The aim of this paper is to evaluate the main possible drug interactions involving such prophylaxis.

Materials and methods: One hundred patients undergoing autologous BMT had the medical prescriptions given during the period in which they were hospitalized evaluated. From these prescriptions, drugs administered to patients were tabulated, and drug interactions were checked through the Drugx-Reax (Micromedex®) program. This project was approved by the CEP UEL under the number 2.347.762.

Results and conclusion: Antiemetic prophylaxis was performed with Granisetron, Ondansetron, Metoclopramide, and Lorazepam (anticipatory nausea), antifungal with Fluconazole and antiviral with Aciclovir. In the pre-BMT period, the main possible interactions involving prophylaxis were Granisetron and Ondansetron, Fluconazole and Ondansetron, Fluconazole, and Granisetron, with 285, 194 and 103 possible occurrences, respectively. In the early post-BMT period, the main ones were Fluconazole and Ondansetron, Lorazepam and Metoclopramide and Fluconazole and Granisetron, with 852, 150 and 94, respectively. They are in well-established protocols, so the best alternative is to monitor the consequences of these interactions to act preventively. Therefore, the clinical pharmacist is fundamental for therapeutic success.

CFSP225

Malformation of the dental germ in mice exposed to omeprazole during pregnancy

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Introduction and objective: Omeprazole is indicated for the treatment of gastroesophageal reflux disease (GERD) and its symptoms on the conditions prevailing during pregnancy. Because the effects of the drug in dental development are not known, the objective was to evaluate the effect of their exposure on odontogenesis in mice.

Materials and methods: Approval: 15688.2017.30. Design: OPZ treatment group and control group C (10 animals each). Gavage treatment: Omeprazole 40mg/kg and control solution respectively, from the 5th to the 17th day of pregnancy. On the 18th, euthanasia was performed. The head of the first fetus implanted in the right uterine horn was collected from each litter, then histologically processed — statistic: Fisher's exact.

Results and conclusion: As a result, the following changes were observed: malformation in the external epithelium of the enamel organ (C: 9; OPZ: 17; P = 0.0309) and in the dental follicle (C: 0; OPZ: 5; P = 0.0188). These parameters were statistically more frequent for the OPZ group. Omeprazole showed toxicity on odontogenesis in mice exposed during pregnancy. It is important that the health professionals are aware of the consequences for dental development using Omeprazole during pregnancy to effectively guide their pregnant patients and users of the drug.

CFSP226

Malformations and abortion in mice fetuses induced by the use of escitalopram during pregnancy

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Introduction and objective: Escitalopram (ESC) has few reports in the literature about the safety of gestational use or teratogenic effects in fetuses. This study aimed to investigate whether the ESC administered during the pregnancy of mice induced maternal toxicity, and teratogenicity in offspring.

Materials and methods: With the approval of the Ethical Committee on the use of animals, number: 17937.2017.35, thirty pregnant female mice were divided into treated group (G1) and control group (G0), administered via gavage 20 mg/kg of ESC and saline respectively, from the 5th to the 17th day of gestation. Females were euthanized on the 18th day of gestation, laparotomy, and hysterectomy were performed to evaluate maternal-fetal reproductive effects.

Results and conclusion: Parameters of maternal toxicity did not present significant alterations. Intrauterine development parameters that had alterations were: number of resorptions (G0: [0.93 ± 0.24]; G1: [3.33 ± 0.51]), post-implantation loss (G0: [3.95 ± 1.34], G1: [13.75 ± 3.62]); and reduced fetal viability: [97.30 ± 1.00]; G1: [81.09 ± 6.22]). Concerning fetal formation, the treated group presented visceral malformations with significant frequency: cleft palate (G0: [1.0%], G1: [11.86%]), and reduction of kidneys (G0: [0%]; G1: [10.17%]). In relation to skeletal malformations, a higher frequency was observed in the following parameters: incomplete ossification of supraoccipital (G0: [0%], G1: [15.25%]); absence of ribs (G0: [0%], G1 (G0: [0%], G1 [15.25%])); and absence of one or more of the foot phalanges (G0: [1.0%]; , 64%). The results suggest that ESC is an embryotoxic and teratogenic drug. The prescription of CS in pregnant women always requires a careful evaluation of the potential risks involved for the mother and the fetus, in order to avoid undesirable effects.

CFSP227

Management of pharmaceutical services in primary health in the Federal District

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Introduction and objective: Traditionally, management services (SG) consume the pharmacist's work routine. Regarding this theme, this research aimed to identify the frequency of performing GS in primary health care (PHC) in the Federal District (DF).

Materials and methods: It was a quantitative, cross-sectional study with descriptive design. The population of 34 pharmacists from APS-DF was interviewed. The pilot study was conducted to improve the research instrument. The interviews were processed from December 2016 to March 2017. The research project was approved by CEP / FEPECS under the number 1.851.177.

Results and conclusion: The most regularly conducted SGs were general inventory control (always = 91.2%), health technology programming (always = 91%) and product receipt (always = 85%). Stock control of Ordinance 344/1998 (always = 32.3%), packaging, humidity and temperature monitoring (always = 44.1%) and disposal (always = 48.5%) were the activities less frequently performed by pharmacists. The low frequency of drug inventory control operation of Ordinance 344/1998 is due to the unavailability of these technologies in some units. Moreover, this diagnosis of SG is important for the understanding and proposition of qualification actions of local pharmaceutical care.

CFSP228

Mapping and characterization of strategies implemented in public institutions to approach the judicialization of health care in Brazil: scoping review

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Introduction and objective: The judicialization of health care increases the strain on service resources in the health and judiciary areas, and it disorganizes public institutions. It is believed that each institution has developed strategies for coping with the problem. This study aims to map and characterize institutional initiatives in the approach to the judicialization of health care.

Materials and methods: A scoping review was conducted following the methodology of the Joanna Briggs Institute. The searches were performed by two independent reviewers, using 18 electronic databases, supplemented with gray literature and references from secondary studies. There was an inclusion of documents that reported strategies used to approach the judicialization of health care implemented in the public sector.

Results and conclusion: The search resulted in 2,437 documents, of which 101 were included. The documents identified were heterogeneous to report the strategy, there were 78 strategies implemented: 72 (92.3%) since 2007, 37 (47.4%) in the Southeast, 61 (78.2%) at the state level, 59 (75.6%) remain in operation, and 56 (71.8%) have interinstitutional agreements with other institutions. The strategies are implemented when there are human and/or infrastructure resources, a computerized data control system, the forming of multidisciplinary teams, and the signing of interinstitutional agreements. Several strategies are perennial and part of some government programs. These findings can serve as a reference for stakeholders and researchers to evaluate which strategies are feasible to implement in other contexts.

Financing: CAPES.

CFSP229

Medical poisoning in Picos, Piauí: portrait of a decade

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Introduction and objective: In Brazil, there are approximately 6.7 deaths per one million inhabitants due to drug intoxications. The design of this page was useful for the profile of exogenous drug poisonings in the population of the macro-region of Picos, PI.

Materials and methods: A descriptive, transversal, and retrospective documentary research was carried out. Drug intoxication data were collected through the Department of informatics of the United Health System (DATASUS) and processed in the program Microsoft Excel. It was evaluated as an option for comparing gender, sex, circumstance, type of information exposure in the period from 2007 to 2017.

Results and conclusion: The most frequent age group was between 20-39 years old, with 394 cases. Females predominated with 70.76% (n= 719). The year 2016 presented the highest number of notifications (n= 199). Regarding the circumstances, it was shown that poisoning occurred mainly by suicide attempt with 46.06% (n= 468). Single acute poisoning was prevalent in 79.92% (n= 812). The analysis of these diseases contributes to the planning of interventions for control, promotion of rational use of medicines, and development of strategies to minimize this problem.

CFSP230

Membrane interaction analysis provides insights into the modulation of autophagy by pentacyclic triterpenoids in tumor cells

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Introduction and objective: The modulation of autophagy has been tested as a new antitumor approach. Triterpenoids such as ursolic (UA) and betulinic acid (BA) share many pharmacological effects, among them the ability to activate autophagy. One question that arises is the molecular links among lysosomal-mitochondrial imbalance mediated by these isomers and autophagy.

Materials and methods: To investigate the triterpenoids' effects on non-malignant and chemoresistant malignant cells, cell viability assays were performed, along with flow cytometry analysis, membrane permeabilization assays, immunoblotting, immunofluorescence, and confocal microscopy. All data were obtained from at least three independent experiments and expressed as mean values \pm standard error.

Results and conclusion: The main differences between BA and UA effects on tumor cells are related to their ability to interact with and damage membranes. By modulating parallel harm in mitochondrial and lysosomal membranes BA, but not UA, turns autophagy into a destructive process. It was shown that UA activates the pro-survival role of autophagy instead of the death-associated autophagy caused by BA. However, by inhibiting the UA cytoprotective autophagy induction with chloroquine (CQ), tumor cell death could be enhanced. Our findings indicate that CQ with UA sharply and synergistically reduces the viability of all human tumor cells tested *in vitro*. These compounds are well-tolerated in humans, and CQ has shown promise as an adjuvant therapy. These combinations may be valuable treatment strategies for cancer therapy.

Financing: PNPd/CAPES/FINEP (grant number 02533/09-0 and Finance Code 001, Brazil); and FAPESP.

CFSP231

Metabolic profile in patients with metabolic syndrome: a retrospective study

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Introduction and objective: Metabolic syndrome (MS) is characterized by an association of clinical conditions that increase cardiovascular risk. Thus, this study proposes to characterize a group of patients with this syndrome from the Physiotherapy Clinic of São Judas University in order to implement health promotion strategies in the future.

Materials and methods: Data were collected from 50 medical records of patients with MS regarding age, lipid profile, glycemic profile, blood pressure, physical activity, and educational level. Data were interpreted by descriptive statistical analysis, through frequency distribution and dispersion (mean/standard deviation).

Results and conclusion: The patients had an average of 65 ± 9 years; 42% completed elementary school. In the lifestyle aspect, 36% were smokers/former smokers, 54% sedentary, and 78% were overweight or obese. Regarding blood pressure, 50% presented SBP equal to or above the one suggested by the guidelines. Relating to the lipid profile, 28% of the patients had triglyceride values equal to or higher than the suggested by the guidelines, and only 68% presented the suggested HDL values. About Glycemia, 70% presented values above the recommended. In conclusion, the patients were not in the therapeutic goals and should receive better follow-up from health professionals in order to avoid cardiovascular damage.

CFSP232

Microbial contamination in monitors of glycemia: research of possible pathogens

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Introduction and objective: Blood glucose monitors allow contamination with Hepatitis B/C Virus. Bacteria and fungi have not been studied. This study evaluated the possible microbial contamination present on the internal/external surface of the photometric glycemia monitor Accu-Check® Active, most widely used in Brazil (home, ambulatory, and hospital use).

Materials and methods: Fifty-four monitors, 52 of self-monitoring, and two used in the Basic Health Unit (UBS). Methodology/specification: USP 39, General Chapter, <61>, <62> and FB 5th Edition. Methodology previously validated by Microbiology Laboratory CONFAR (USP). Tests: total aerobic/yeast counts, search for *P. aeruginosa*, *S. aureus*, *E. coli*, *C. albicans*, and cleaning questionnaire after use by the user.

Results and conclusion: In 12.96% (7/54) monitors, pathogenic strains of *S. aureus* were identified, and in 3.70% (2/54), there were total aerobic counts above 102 CFU/cm². Only 40.74% of monitors are cleaned at least once a week. No user/healthcare professional reported cleaning it after each measurement. The results show a real possibility of microbial contamination since the cleaning guide in the monitor Accu-Check® Active user's manual is not followed. Considering that *S. aureus* infections are more frequent in diabetic patients, these results may help health professionals to evaluate the risk during the choice of technologies for monitoring or screening for diabetes, especially when applying the current Brazilian guidelines to ensure the health and safety of patient and professional.

Financing: Financiamento parcial da Medlevensohn Comércio e Representações de Produtos Hospitalares Ltda.

CFSP233

Microbial detection technique by fluorescence as a faster alternative for the enumeration of heterotrophic bacteria in treated water for dialysis

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Introduction and objective: Monitoring the quality of dialysis water is an important tool for decision-making when unsatisfactory results are available in a short period of time. This research aimed to evaluate the performance of the alternative microbiological method for the heterotrophic bacteria counts in dialysis water through the microbial detection technique by fluorescence.

Materials and methods: The analyses were conducted by concentration levels of 2.5×10^{-1} to 1.0×10^2 CFU/plate for *P. aeruginosa*, *B. cepacia*, *E. coli*, and *S. aureus*. The tests were performed by the alternative and traditional methods, using R2A agar at $24.0 \pm 4.0^\circ\text{C}$ for 40 and 120 hours, respectively. The equivalence of the new method was demonstrated by the evaluation of 24 dialysis water samples.

Results and conclusion: The results demonstrated that the alternative method allows quantification of heterotrophic bacteria after 40 hours of incubation, with accuracy, precision, and linearity for the range of 5 to 100 CFU/plate. The detection limit of the alternative method is 1 CFU/plate. It was possible to conclude that the alternative method has equivalent results to that of the traditional method since the confidence interval of the alternative method was entirely within the equivalence range. Therefore, the microbial detection technique using fluorescence showed a viable option for the implementation of a rapid microbiological method for the heterotrophic bacteria counts in samples of treated water for hemodialysis.

Financing: FAPESP.

CFSP234

Microbial interactions of endophytic fungi from *Swinglea glutinosa* for detection of bioactive compounds

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Introduction and objective: Microbial co-cultures represent an important strategy to boost the metabolic expression for new natural product biosynthesis. Additionally, endophytic fungi exhibit a rich source of untapped bioactive compounds. In this sense, microbial interactions of endophytes from *S. glutinosa* were investigated in order to discover likely therapeutic agents.

Materials and methods: The fungus *Fusarium oxysporum* was isolated from *S. glutinosa*, applying a classical methodology for endophytes isolation. The co-culture organic extracts of *F. oxysporum* and other endophytes were obtained by growing in PDA and CYA culture media. LC-HRMS based dereplication's data analyses of the extracts were performed with NP database queries and molecular networking using the GNPS approach.

Results and conclusion: Thirteen endophytic fungi were isolated from the tropical plant *S. glutinosa*, including the fungus *Fusarium oxysporum*. This species is a well-known producer of bioactive compounds such as beauvaricins. The data analysis from the co-culture organic extracts of *F. oxysporum* with other endophytes pointed towards the likely induction of beauvaricin analogs. After the isolation of the detected compounds, they will be evaluated against K562, Jurkat, Kasumi-,1 and Raji leukemia cell lines as well as in cytotoxicity assays on B16F10-Nex2 cells; MCF-7; A2058; HeLa; T75.

Financing: CAPES, FAPESP.

CFSP235

Microbiological and parasitological analysis of water trade by street vendors in São Paulo city downtown

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Introduction and objective: Water is an essential part of metabolic processes within the organism; its commercialization must meet the standard of potable water established by Regulatory Agencies in Brazil. The objective of this study is analyzing parasitological and microbiological in mineral water sold by informal street vendors in São Paulo city downtown.

Materials and methods: 80 samples were inspected, 70 purchased from street vendors, and ten from supermarkets. The parasitological analysis was performed using the Hoofman method adapted for water, and the microbiological analysis, though MacConkey agar and Nutrient agar sowing, both with subsequent staining in slides for microscopic visualization.

Results and conclusion: Based on this study, it was possible to identify a higher level of bacterial contamination in 60% of samples, more than it's allowed by ANVISA (National Agency of Sanitary Surveillance)' determination. This research emphasized the lack of surveillance of bottled drinking water trade by informal street vendors, and that the population must avoid consuming it for its unknown origin to prevent damaging effects on their health.

CFSP236

Microbiological and sensorial evaluation of cream cheese from kefir

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Introduction and objective: Kefir is a fermented milk beverage obtained from a homemade fermentation, using the kefir grains as starter culture. The consumption of kefir is associated with a variety of beneficial health effects. The aim of this work was to assess the microbiology composition of cream cheese derived from kefir throughout storage and sensory acceptance.

Materials and methods: The kefir beverage was obtained from the fermentation of milk with kefir grains and portions of cheese were prepared from desorption. The microbiological evaluation analysed the quality of the cheese and the spice's effects on their microbiota during 14 days of storage at 4°C. In the sensory analysis, the acceptance and purchase intention of products developed were investigated, besides the consumer profile.

Results and conclusion: Total coliforms and *E. coli* were not observed. LAB reached 9.8 to 10.1 logarithmic units of CFU/g and yeast from 6.1 to 7.1 log (CFU/g), while the psychrotrophic ranged from 1.5 to 2.7 log (CFU/g). The treatments with spices in the cheese (OC and BC) did not influence the counting when compared to the control, except for psychrotrophic ones ($P < 0.05$). In the sensory analysis, the OC has had greater acceptability in all evaluated criteria, and 66% of consumers already knew kefir and its functional property. The kefir cheese was safe, with the minimum LAB and yeast counts required for a kefir product, even with added spices. They also showed good acceptability and intent to purchase. Therefore, this cheese may be an alternative to explore its functional properties.

Financing: CNPq, FAPERJ.

CFSP237

Microbiological evaluation in white herons (*Ardea alba*) feces at specific points in the city of Santarém, Para

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Introduction and objective: Wild animals, among them birds, are natural reservoirs, carriers, and disseminators of various infectious agents, potentially transmissible to humans. The objective of this work was to evaluate the microbiological profile of egret feces.

Materials and methods: A field research, with the collection of freshly excreted herons in the environment, in specific points of the city of Santarém, Pará. The samples were transported to the Hope Foundation laboratory, sown in culture media, and stored in mycological and bacteriological greenhouses at controlled temperatures to evaluate the growth and identification of microorganisms.

Results and conclusion: Thirty samples were obtained from the growth of these 27 microorganisms: 30.8% were *Serratia* spp., 26.9% *Providencia* spp., 11.6% *Citrobacter* spp., 7.7% *Klebsiella* spp., 7.7% *Streptococcus* spp., 7.7% *Enterobacter* spp., 3.8% *Staphylococcus* spp., and 3.8% *Proteus* spp. It was possible to identify that feces from herons discarded in the environment present pathogens harmful to human health, being necessary control of these birds, analyzing the best places outside of the urban area, so that these animals can make their nests without creating a risk to public health.

Financing: Hope Institute of Higher Education.

CFSP238

Microbiological method development for microbial detection by fluorescence in treated water for dialysis

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Introduction and objective: The delay in releasing unsatisfactory results related to the failure of treating the water used in hemodialysis procedures exposes patients to the risk of injury and death. This research aimed to develop an alternative microbiological method for the heterotrophic bacteria counts for dialysis water through the microbial detection technique by fluorescence.

Materials and methods: The minimum incubation time was determined for *P. aeruginosa*, *B. cepacia*, *E. coli*, and *S. aureus*. Five different incubation times (24, 36, 40, 48, and 120 hours) were tested for the microorganisms by the alternative method. The tests were performed simultaneously by the traditional method for 120 hours of incubation, using R2A agar, and the incubation temperature of $24.0 \pm 4.0^\circ\text{C}$ for both methods.

Results and conclusion: The minimum incubation time by fluorescence detection was obtained after 36 hours of incubation for *E. coli* and *S. aureus*, and after 40 hours for *P. aeruginosa* and *B. cepacia*. The ANOVA test presented p-value results higher than 0.05 for this incubation times, for a confidence interval of 95%, indicating that there was no significant difference between the counts obtained for the incubation times evaluated by the alternative and the traditional method. Therefore, the results demonstrated that the alternative method allows quantification of heterotrophic bacteria after 40 hours of incubation, resulting in a reduction of approximately 67% of the time currently used in the traditional method (120 hours).

Financing: FAPESP.

CFSP239

MicroRNAs as possible biomarker of nephrotoxicity induced by cisplatin in patients with head and neck cancer

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Introduction and objective: Cisplatin is a widely used chemotherapeutic for head and neck cancer (HNC) treatment. However, its use is limited due to its toxicities, especially nephrotoxicity. This study aimed to evaluate microRNAs (miRNAs) as possible biomarkers of cisplatin-induced nephrotoxicity in patients with HNC.

Materials and methods: Before and after five days of cisplatin administration, blood was collected from HNC patients to measure serum creatinine (SrCr) and creatinine clearance (ClCr). Circulating miRNAs were extracted from plasma, and next-generation sequencing was performed to evaluate different expression of miRNAs. deSEQ was used as normalization method and 5.0 fold change (FC), as threshold.

Results and conclusion: SrCr and ClCr significantly changed after chemotherapy in case group (SrCr: 0.72 ± 0.10 to 3.39 ± 2.13 , $p = 0.028$; ClCr: 97.62 ± 40.55 to 25.05 ± 11.46 , $p = 0.006$), while in control group it did not (SrCr: 0.94 ± 0.18 to 0.94 ± 0.21 , $p = 0.916$; ClCr: 70.20 ± 22.93 to 69.72 ± 24.01 , $p = 0.865$). miRNA -3.168 (FC = 8.08, $p = 1.98E-8$), -6.125 (FC = 5.31, $p = 4.24E-5$), and -4.718 (FC = 5.12, $p = 6.30E-5$) had different expressed between groups. This study, for the first time, provided evidence of miRNAs (-3.168, -6.125 and -4.718) that may be used as plasmatic biomarkers of cisplatin-induced nephrotoxicity in cancer patients. Further studies should be performed with functional analysis and validation sets to confirm these findings.

CFSP240

Minimal inhibitory concentration (MIC) and differential antimicrobial activity of *S. Terebinthifolius* Raddi dichloromethane extract fractions

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Introduction and objective: *Schinus terebinthifolius* (Anacardiaceae), known as mastic-red, is part of RENISUS and RENAME. There are reports of its use for healing and anti-inflammatory activity on oral affections. This study's objective was to evaluate the *in vitro* antimicrobial activity of *S. terebinthifolius* leaf extract fractions on strains predominant in the oral microbiota.

Materials and methods: Dichloromethane extract fractions from *S. terebinthifolius* leaves were submitted to MIC determination by the microdilution method (protocol M7-A6 and M27-A2) and established differential antimicrobial activity by the expression: $D = M_{\log} - \log_{10}(\text{MIC})$, for *S. nucleatum*, *P. gingivalis*, *P. intermedia*, *S. aureus*, *S. mitis*, *S. mutans*, *S. sanguis* and *C. albicans* strains (ATCC).

Results and conclusion: Inhibitory activity was found due to the concentration (MIC $\mu\text{g/mL}$) for fractions: FE against *S. mitis*, *S. sanguis* (1.95), *S. mutans* (7.81), *F. nucleatum*, *P. gingivalis* (62.50); FD against *S. mitis*, *S. sanguis* (1.95), *S. mutans* (15.63), *F. nucleatum* (62.50); and, FC against *S. mitis*, *S. sanguis* (1.95), *F. nucleatum*, *S. mutans* (31,25), *P. gingivalis* (62,50). The differential effects indicated a higher sensitivity (D) of the fractions: FD for *S. mitis*, *S. sanguis* (1.31), *S. mutans* (0.41); FE for *S. mitis*, *S. sanguis* (1.22), *S. mutans* (0.62); and, FC for *S. mitis*, *S. sanguis* (1.26), *S. mutans*, *F. nucleatum* (0.05). Active fractions may be considered promising as potential antimicrobial agents, and composition and concentration differences may explain the difference in its effectiveness.

Financing: CAPES.

CFSP241

Modulation of lysosomal-mitochondrial axis of death with chloroquine and oleanolic acid: a new approach against cancer

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Introduction and objective: Several studies suggested the potential use of chloroquine (CQ) as a chemosensitizer and chemotherapeutic agent against human cancer, even though the exact mechanism of action is still not well defined in the literature. The consensus idea about CQ cytotoxicity relies on its ability to decrease the lysosomal function, and in turn, inhibit autophagy.

Materials and methods: To investigate the CQ effects on non-malignant and malignant cells, cell viability assays were performed, along with flow cytometry analysis, immunoblotting, immunofluorescence, confocal microscopy, electronic microscopy, and fluorescence lifetime imaging microscopy (FLIM).

Results and conclusion: CQ provoked a lysosomal impairment intrinsically related to the death of human tumor cells (HeLa, HT29, HepG2, MCF7, SKMEL-25, and SKMEL-28). Remarkably, in the presence of the mitochondrially-toxic drug oleanolic acid (OA), a CQ lysosomal-mitochondrial axis of cellular stress could be modulated promoting autophagy-associated cell death. Accordingly, the cell death of tumor cells was improved by promoting cellular stress through parallel damage in lysosomes (CQ) and mitochondria (OA). Our findings indicate that a therapeutic approach based on lysosomal chemo-sensitization triggered by CQ parallel to mitochondrial OA-toxicity may represent a promising strategy to overcome *in vivo* tumor progression relied on metastasis and invasion. This paper may contribute to future works in this direction.

Financing: FAPESP (grant numbers 12/50680-5, 13/07937-8, 13/16532-1, 16/24435-4 and 16/07642-6), CNPq and PNPd.

CFSP242

More rapid relief of pain with isosorbide dinitrate oral dissolving films than with sublingual tablets in elderly patients with angina pectoris

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Introduction and objective: Isosorbide dinitrate (ISDN) is used for heart failure, esophageal spasms, and to treat and prevent chest pain in angina pectoris. To increase patient compliance and the possibility of improving clinical practice, thin films of oral dissolving were developed and compared with sublingual tablets by *in vitro* dissolution studies.

Materials and methods: Fast dissolving films containing hydroxypropylmethylcellulose (HPMC) and plasticizers were prepared by the solvent casting method. The films were evaluated for morphology, mechanical, thermal, and colorimetric properties. The release of isosorbide dinitrate in both dosage forms has been assessed using apparatus 5 (USP/NF 2019).

Results and conclusion: Isosorbide dinitrate has low solubility and was classified as class II in the Biopharmaceutical Classification System (BCS). Thus, the potential of cyclodextrins to improve the solubility of isosorbide dinitrate and its properties, as a polymer in film formation, have been investigated. The CDs increased the stiffness of the films, making them brittle, and a high concentration of cyclodextrins prevents the formation of films. The addition of small amounts of cyclodextrins in the films increased the solubility of the drug, allowing the production of clear films. The rate of dissolution of ODFs was higher than that observed for isosorbide dinitrate tablets, showing the potential of ODFs as an alternative for isosorbide dinitrate release in clinical practice.

CFSP243

Nanostructured lipid carriers (NLC) for cannabidiol nasal use

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Introduction and objective: The oral administration of cannabidiol presents low bioavailability due to its lipophilic character and first-pass metabolism in the liver. The nasal route is widely explored for the administration of systemic drugs. Hence the purpose of this research is to develop NLC for intranasal administration of cannabidiol.

Materials and methods: The NCL was prepared by hot microemulsion technique, employing stearic acid as solid lipid, oleic acid as liquid lipid, and different combinations of surfactants and co-surfactants (cetylpyridinium chloride, Tween®80, Span®20). Each formulation was analysed for zeta potential, particle size, and polydispersity index (PDI). Then, a gelling test was carried out, adding Poloxamer 407® and Pluronic F68®. Mucoadhesion test and texture profile analysis were also performed.

Results and conclusion: The results show NCL size below 300 nm and PDI around 0.3 and with zeta potential above 30 mV. In the gelling test was observed that the addition of 20% of poloxamers in the ratio of 17:3 (Poloxamer 407®: Pluronic F 68®) was with the most appropriated gelation relating to nasal cavity temperature (34°C). Referring the texture profile analysis, the samples presented adhesiveness and hardness values lower than expected due to the variation of the formulation temperature during the test. However, the sample presents cohesion because the values obtained presented values close to one unit. Regarding the mucoadhesion test, the formulations with poloxamers had satisfactory mucoadhesion values. Therefore, it was possible to obtain formulations with the desired characteristics for nasal administration. Further studies will be conducted, concerning *in vitro* release and *in vivo* evaluation of the analgesic effect of cannabidiol nasal administration from a formulation developed through a neuropathic pain model tested on mice.

Financing: Capes.

CFSP244

Narguilé in focus: development of an educational resource

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Introduction and objective: Nowadays, the consequences of smoking narghile is worrying. Also, innovative strategies are needed to address adolescents and young people. This study focused on creating an educational game to dynamically pass on information about the use of narghile and its consequences.

Materials and methods: An educational game developed based on scientific texts and to be used in classrooms, was designed for a specific age group (elementary school, grade 7 and 9). The goal was to raise awareness about the use of hookah through questions and answers that are easy to understand. The estimated playing time was 40 to 50 minutes. CAAE: 87111218.0.0000.5

Results and conclusion: The first version of the game, called “Narguilé em Foco!” consists of 11 questions with four alternatives, and an arranger is required. The room is divided into two teams, one volunteer from each team tries the chance to respond, and a student roundup is held. One of the defined is that the student has to pick up the first pipe. The questions are related to narghile, such as: what is narghile and how it works; if it has any nicotine, carbon monoxide, and other toxic substances; the effects and consequences it has on health issues due to chronic use, etc. The conclusion is that the game is an important captivating and dynamic tool for the teaching-learning process of passing on information and knowledge regarding narghile.

CFSP245

Nutritional labeling of food: national regulatory scenario and aspects of impact in the consumer decision

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Introduction and objective: The increased consumption of ultra-processed foods is related to chronic diseases, generating a consumer concern in seeking healthier foods through labeling. The work aimed to study the regulation of nutritional labeling in Brazil and its impact on society.

Materials and methods: Bibliographic survey in the databases: Scielo, Scopus and Web of Science, covering the period from 1998 to 2019. Consultation of academic theses, regulations and national guidelines, considering the period from 1960 to 2019. The following keywords were established as a restrictive criterion: nutritional labeling, food labeling.

Results and conclusion: The 1960s were marked by goiter cases in Brazil, which led to state intervention in food labeling. When checking the impact of consumer labeling, the main difficulties were a poor visual presentation, poor readability, abbreviated technical language, and lack of knowledge about nutrition by the population. Intending to meet the demands, there is a proposal for new legislation for a mandatory frontal nutrition labeling model, complementary to the nutrition table, in order to alert by means of symbols and colors, about the content of added fats, sugars and sodium. The proposals were discussed and should be published as a Public Consultation for the contribution of society.

CFSP246

Obtainment and characterization of systems based on layered double hydroxides (LDH) and praziquantel (PZQ) aiming an increase in water solubility

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Introduction and objective: Praziquantel (PZQ) is the first-line treatment of schistosomiasis, but since PZQ is a BCS Class II drug, its oral administration is difficult in pediatrics. In this context, the objective of this work was to obtain and characterize LDH and PZQ systems, aiming to improve drug solubility to optimize the therapy.

Materials and methods: LDH was synthesized using 0.05M aluminum nitrate, 0.085M calcium nitrate and 0.5M sodium hydroxide solutions. Different molar ratios of PZQ:LDH systems were obtained through solvent evaporation method and physical mixtures. The systems were characterized by the following methods: FTIR, XRD, and Thermal analysis (TG and DSC).

Results and conclusion: The CaAl-LDH synthesis was successfully carried out when compared to previous studies performed by the group. The obtained PZQ:LDH and physical mixtures (PM) systems in different molar ratios were confirmed through applied characterization techniques, evidencing the formation of systems, especially when compared to isolated PZQ, LDH, and PM. The results of the characterizations played a fundamental role in preformulation studies. The systems and PM were able to generate increased solubility when compared to isolated PZQ, being of great potential for application in medicines, also for the development of pediatric pharmaceutical forms, allowing the patient more suitable dosages.

Financing: CNPq, FACEPE.

CFSP247

Offspring of hypertensive parents shows lower cardiac autonomic modulation on the adolescents

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Introduction and objective: Systemic arterial hypertension is a chronic degenerative disease of multifactorial origin characterized by elevated and sustained blood pressure (BP) levels. The autonomic imbalance is recognized as a major cause of systemic arterial hypertension. This study aims to evaluate cardiac autonomic modulation in the offspring of hypertensive parents.

Materials and methods: The sample consisted of 162 adolescents who were 14.89 ± 1.64 years old. Students of a public school of São Luís, Maranhão, they were divided into offspring of the hypertensive parents' group (OHP) and offspring of the normotensive parents' group (ONP). An electrocardiogram, analysis of heart rate variability, blood pressure, anthropometric measures and statistical analyses were the exams/materials used in order to carry out the study. CEP 2.673.791.

Results and conclusion: When compared, the groups OHP and ONP showed significative values in square root of the average of the square of the differences between adjacent RR intervals expressed in milliseconds (RMSSD) 51.10 ± 2.00 x 42.62 ± 2.83 ; pNN50 (%) 33.06 ± 1.83 x 25.59 ± 2.89 ; Total variance (ms²) 2764 ± 163.1 x 2113 ± 203.7 ; HF (ms²) 1134 ± 82.64 x 748.9 ± 85.60 ; SD1 (ms) 36.19 ± 1.42 x 30.18 ± 2.0 . In conclusion, the offspring of hypertensive parents have a lower cardiac autonomic modulation when compared to the offspring of normotensive parents.

CFSP248

Oral candidiasis occurrence in patients submitted to antineoplastic treatment

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Introduction and objective: Candidiasis has become frequent in hospitals due to increased exposure to risk factors and neoplasms. This study's objective was to evaluate the presence of oral candidiasis and *Candida* spp. fungi in patients submitted to chemotherapy treatment at the Oncology Hospital in the city of Bauru - SP.

Materials and methods: This was a sectional study of cancer patients submitted to radio and/or chemotherapy from the Oncology Hospital of the city of Bauru - SP. The individuals had malignant neoplasms, were at least eighteen and from both genders. Data from medical records were collected to obtain more clinical information on oral manifestations.

Results and conclusion: Lesions such as candidiasis were found in patients undergoing chemotherapy $p < 0.05$. Quality of life can be improved before, during, and after antineoplastic therapies through a care protocol that includes oral environment conditioning measures before chemotherapy such as prophylaxis, cavity removal, periodontal treatment, periapical outbreaks, oral counseling, diet, and even laser therapy. Including all health professionals to the oncological team is essential for the early diagnosis of oral manifestations and follow-up in the treatment period.

CFSP249

Oregano oil exhibits anti-amastigote activity without altering the viability of murine macrophages

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Introduction and objective: Leishmaniasis is a zoonosis caused by protozoan from genus *Leishmania*, which lacks safe and efficient treatment, motivating the search for new drugs. In this way, the aim of this work was to evaluate the effect of oregano essential oil (OEO) in murine macrophages-cytotoxicity and its action against *L. amazonensis*-intramacrophage amastigotes.

Materials and methods: The cytotoxicity evaluation was performed by MTT assay on macrophages treated with different concentrations of OEO (3.125 – 200 µg/mL) for 24 hours (CEUA 8595.2018.89). To evaluate the OEO anti-amastigote effect, *L. amazonensis*-infected macrophages treated with different concentrations of OEO for 24 h were analysed by the percentage of infected macrophage and the number of amastigotes per macrophage.

Results and conclusion: The results showed that only the concentration of OEO 200 µg/mL was cytotoxic to murine peritoneal macrophages, with 86.91% reduction in the cell viability ($p < 0.05$), allowing to determine the cytotoxic concentration, 50% (CC50) of 116.5 µg/mL. Regarding the anti-amastigote effect, the OEO-concentrations 12.5, 25, 50, and 100 µg/mL reduced the percentage of infected-macrophages in 12.7, 13.7, 24.4 and 40.6%, and the number of amastigotes per macrophage in 16.7, 32.2, 48.5 and 69.3%, respectively ($p < 0.05$). Thus, our results allow us to conclude that the OEO has *in vitro* action upon infected macrophage, reducing infection without causing cytotoxic effects on host cells, consequently becoming an alternative to be considered for further *in vivo* investigations.

CFSP250

Paraquat quantification in raw and cooked carioca and fradinho beans and the impact of the herbicide on the rural worker, agribusiness and consumer

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Introduction and objective: Gramoxone 200 or Paraquat (1-1'-dimethyl-4-4'-bipyridyl) is a bi-quaternary ammonium salt herbicide, usually synthesized as a dichloride salt. Its herbicidal properties were discovered in 1955, and its use began seven years after intense research. Currently, many countries use it, mainly in bean crops.

Materials and methods: The method used to quantify the amount of Paraquat in raw and cooked, fradinho and carioca bean samples, was adapted by Pereira and Dantas (1995) and is based on the interaction between sodium dithionite and Paraquat that produces a bluish-colored compound. The absorbance is read in a spectrophotometer at a wavelength of 600 nm.

Results and conclusion: A smaller amount of Paraquat was found in the cooked beans samples compared to the raw ones, except for the fradinho beans, which had a higher amount of Paraquat in its broth. It may be related to the fact that Paraquat is water-soluble, and fradinho has a higher concentration of water inside, thus, absorbing more herbicide.

CFSP251

Parasitological analysis of fertilized vegetables with treated waste effluent

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Introduction and objective: An alternative to avoid incorrect disposal of domestic effluents is the biodigestive septic tank system that treats human wastewater (NOVAES *et al.* 2006). The objective of this work was to evaluate the degree of parasitological contamination of vegetables fertilized by treated domestic sewage.

Materials and methods: For parasitological analysis, samples were collected from vegetables fertilized with sewage from a biodigester septic tank in the rural area of Gurupi, Tocantins. They were sent to analysis at the microbiology laboratory of the Gurupi University. In the parasite detection process, Hoffman and the Faust method were used.

Results and conclusion: After an analysis of the vegetable samples, it was found that they contained some parasitic structures. The following protozoa have been shown: *Giardia lamblia* cysts, *Hymenolepis nana* eggs, *Entamoeba histolytica*, *Entamoeba coli*. Thus, it was observed that the parasitological analysis is of great importance for Public Health, since it provides data on the hygiene status of the vegetables, thus allowing the control of the conditions under which they were grown and stored until the arrival to the final consumer. These results show that it is necessary to improve the handling conditions of these products, from production to commercialization.

Financing: FINEP, CNPq, FAPT-TO.

CFSP252

Paregoric elixir causes delay in the intrauterine development of mice

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Introduction and objective: Paregoric Elixir is a herbal analgesic and diarrhea remedy. Its extract contains 0.05% of morphine and has a narcotic effect when used intravenously. It is mainly used by young people at reproductive age. This work focused on analyzing the Elixir's influence on intrauterine development of mice.

Materials and methods: Pregnant Swiss mice were used. The G0 (control group) received a saline solution. Groups G1, G2, and G3 got treated by receiving, respectively: five, 20, and 35mg/kg of Paregoric Elixir intraperitoneally from the 5th to the 17th day of gestation. On the 18th day, the mice were euthanized, and their uterine contents analysed. The data were examined by ANOVA, followed by Tukey in GraphPad Prism5.

Results and conclusion: The analysis demonstrated a significant decrease in fetal weight (g) in group G3 (0.99±0.081) when compared to group G0 (1.34±0.043), G1 (1.30±0.033), and G2 (1.27±0.045). The G3 also presented a decrease in fetal length (cm) (2.43±0.180) concerning G0 (2.81±0.053), G1 (2.76±0.039), and G2 (2.76±0.060). The results associated with placental weight (g) and index weren't significant. Based on this information, it can be inferred that Paregoric Elixir, at a 35mg/kg dosage, caused growth delay in fetuses. The possible explanation is based on the fact that morphine is highly lipophilic with low molecular weight, which favors its passage through the placental barrier, causing respiratory depression, and, thus, hindering fetal development.

Financing: CNPq.

CFSP253

Patient safety incidents related to extemporaneous preparation (EP)

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Introduction and objective: Extemporaneous Preparation (EP) often occur in hospitals. However, there is no guarantee that this procedure is safe or effective for patients and may expose them to adverse drug events. Based on this, the study aimed to identify and assess the degree of causality between reports of adverse drug reactions (ADRs) and EP.

Materials and methods: A descriptive, cross-sectional, observational study was conducted at a general Unified Health System (SUS) hospital. The samples collected were spontaneous notifications made in 2018. The variables collected and analysed were patient's history, ADRs, and EP methods. The WHO-UMC assessment was used for causality analysis. The project was approved by the Research Ethics Committee (CEP N° 3.178.796).

Results and conclusion: Out of the 7,104 reports collected, 157 notified PE associated incidents. But these were made, in fact, because of a change in administration route and dosage. Although no notification was generated mentioning incidents, after examining the events, 296 of them showed that pharmaceutical manipulation were related. The causality analysis of 81 notifications, showed that 24 cases of ADR were related to PE. These data reveal that there is underreporting and a difficulty to recognize patient-safety incidents related to PE.

Financing: ICSB-UNESP (2019/49988), PROEX (2017-2018).

CFSP254

Patients' choice of non-prescription (OTC) medicines in community pharmacies

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Introduction and objective: Over-the-counter (OTC) medicines can be easily obtained in pharmacies for self-treatment, but using them is not always safe and effective. The aim of this study was to analyse patients' choice of OTC medicines in community pharmacies.

Materials and methods: A cross-sectional study was conducted in five private community pharmacies between September and October 2018, to obtain a report of main complaints, signs, and symptoms that led the patients to the use of OTCs. Data were collected using a structured form in which sociodemographic variables, life habits, and reports of major complaints and signs and symptoms were investigated. The research was approved on the Ethics Committee CEP under protocol number 2.857.855

Results and conclusion: A total of 209 patients were interviewed, with a mean age of 40.4 years old. 62.2% of the individuals were female. The most commonly used classes of medicines were muscle relaxants (28.28%) and non-opioid analgesics (26.21%). In the study, it was observed that patients aged less than 60 years or patients under a restrictive diet used fewer OTC medicines ($p=0.0005$). Regarding the frequency of use of OTC drugs, individuals who practiced regular physical activity used non-prescription medicines less frequently ($p=0.0059$). In conclusion, most of the treatments chosen by the patients were not the first choice for the minor disorders reported. In addition, most of the choices were not made by pharmacists, highlighting the need for this professional to participate in the decision-making process of OTC.

CFSP255

pH influence on precipitation of plasma proteins using tannic acid

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Introduction and objective: Tannic acid is a hydrolyzable tannin, water-soluble, known for the ability to complex and precipitate isolated proteins under certain environmental conditions. Thus, this study evaluated the profile of tannic acid as precipitating agent of human plasma proteins at different pH conditions, aiming the development of new alternative of protein precipitation.

Materials and methods: The human plasma was thawed and centrifuged to separate the cryoprecipitate. For every 100 ml of supernatant were added 125 ml of tannic acid 0.007 M. The mixtures had their pHs adjusted for different values, were stirred for 30 minutes, and centrifuged. Supernatants underwent second precipitation. Precipitates and supernatants were analysed by SDS-free electrophoresis and protein quantitation.

Results and conclusion: The study demonstrated a higher formation of precipitates at pH 5.0 and 7.0, close to albumin (4.9) and IgG (6.9) isoelectric points. The lower solubility of protein and the negative charge of tannic acid favor the interaction and formation of complexes. Electrophoresis data corroborate the protein quantification. The presence of protein bands outside their isoelectric points suggests that the formation of complexes depends not only on the formation of hydrogen bonds with phenolic groups but also on hydrophobic interactions. This indicates that protein precipitation by tannic acid is pH sensitive and that changes occurred in the surface loads of tannins and proteins, favoring precipitation. Therefore, it is possible to admit tannic acid as a precipitating agent of plasma protein.

Financing: CNPq, FACEPE.

CFSP256

Pharmaceutical assistance at SUS (Sistema Único de Saúde): challenges of a coastal south city in Pernambucano to provide complet therapeutic assistance

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Introduction and objective: The financing of health systems has become a challenge. Access to medicines and supplies is a problem, despite the political compromise of a free offer. This study aims to describe the challenges faced by SUS pharmaceutical assistance in a city on the south coast of Pernambuco to ensure the completeness of PA.

Materials and methods: The study was conducted by searching the database Virtual Health, as well as secondary data from Municipal Information Health System.

Results and conclusion: The results show that the minimum application agreed to finance the PA is not performed entirely. In the case of the transfer made by the state entity for the year 2017 amounted only R\$ 41,912.501111. Taking into account the IBGE information of the year 2016, the correct amount should be R\$ 219,397.40. In the year of 2017, the percentage spent in PA with the basic components and medication by the county corresponded to R\$ 835,370.36, an investment of 380.75% higher than advocates Ordinance. In this study, there was an increase in own resources for the actions and public health services and increased spending to meet the needs of population, causing losses and inconvenience to this and to the health system.

CFSP257

Pharmaceutical care analysis of venous thromboembolism patients in prophylaxis

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Introduction and objective: Thrombotic diseases constitute venous thromboembolism (VTE), and it frequently affects hospitalized patients. An effective way to prevent VTE is by implementing a strategy protocol to reduce its incidence. This study's goal is to analyse how pharmaceutical care helps patients in prophylaxis for VTE.

Materials and methods: It was an observational study performed at the Santa Paula Hospital, a midsize private hospital in São Paulo. From January to June, in 2017, a clinical pharmacist evaluated hospitalized patients that needed a VTE prophylaxis adjustment. Research approved by the Ethics Committee (CAAE), number 49184115.0.0000.5670.

Results and conclusion: A partial evaluation showed that out of the 2,357 hospitalizations that happened at that period, 27% of them with high to moderate risk of VTE, 61% had inadequacy or lack of prevention. Pharmaceutical interventions were performed in 51% of cases, divided into two groups: accepted (API) and non-accepted (NAPI). By observing the API, represented here by 57% of cases, interventions showed that 77% indicate prophylaxis, 11% therapy/dose adequacy due to renal function, and 4% discontinuation due to a contraindication. In NAPI, 92% indicate prophylaxis and 5% therapy/dose adequacy due to renal function. In conclusion, this study observed the importance of a clinical pharmacist in the strategy of protocol adjustment and improvement, as well as in reducing the incidence of VTE in hospitals.

CFSP258

Pharmaceutical care and use of medicines by the elderly: experience in pharmacy-school

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Introduction and objective: The elderly, due to their pathophysiological characteristics, are more vulnerable to problems related to medications (PRM), being a group that requires extended care. In this way, the objective was to perform the pharmacotherapy revision of elderly users of the Pharmacy-School.

Materials and methods: Users are referred to the Pharmaceutical Attention Outpatient Clinic from the need for identification in the dispensation. Trainees, accompanied by professionals, perform pharmaceutical anamnesis. After the completion of the study phase, interventions and agreements are carried out in a re-examination. The Research Ethics Committee of Univates approved the work under number 2.905.211.

Results and conclusion: From March to May 2019, three older men, aged between 72 and 81 years, were attended in the Pharmaceutical Attention Outpatient Clinic. The number of drugs used ranged from 6 to 9, with an average of 8. According to the Beers Criteria, seven drugs are potentially inappropriate for these users. Potential drug interactions were identified, being six severe and eight moderate, mainly involving the drugs digoxin and warfarin. PRM related to need was also identified since pharmacological duplicity was observed. Among the interventions, it is necessary to emphasize the adjustments of schedules to avoid interactions with food. Thus, pharmaceutical care, promoting the rational use of medicines, contributes to improving the quality of life of users.

Financing: Universidade do Vale do Taquari (Univates).

CFSP259

Pharmaceutical equivalence and comparative dissolution profile for tablets containing amlodipine besylate

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Introduction and objective: Amlodipine besylate is indicated as a first choice in the treatment of hypertension, marketed as either similar, generic, or reference. The aim of this work was to perform pharmaceutical equivalence and dissolution profile studies for three similar and one generic drug products and their respective innovative tablets containing amlodipine (5 mg).

Materials and methods: The tablets were purchased at drugstores from Londrina, PR, Brazil. Samples of the same batch for the reference (R), generic (G), and similar drug products, named S1, S2, and S3, were analysed. Pharmaceutical equivalence was evaluated by tests of identification, average weight, hardness, friability, disintegration, drug content, uniformity of unit dose, dissolution, and dissolution profile studies.

Results and conclusion: All analysed samples G, S1, S2, and S3 were pharmaceutical equivalents to the R, once they fulfilled all the *in vitro* quality requirements. Although all samples comply with the specifications for quality attributes, statistically significant differences were observed between R and G, S1, S2, and S3 regarding the average weight and hardness parameters, and between R and S1 and S3 regarding the disintegration parameter. In comparative dissolution profile studies, the dissolution efficiency of drug products G and S2 were statistically different from product R, which may indirectly lead to the unsuitable bioavailability of the active principle and therapeutic inefficacy. Nevertheless, the therapeutically interchangeable must be confirmed by performing bioequivalence studies.

CFSP260

Pharmaceutical guidelines offered in primary health of the Federal District

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Introduction and objective: Pharmaceutical guidance in the list of services offered in primary health care (PHC). In this scenario, this research aimed to identify the topics addressed in the pharmaceutical guidelines to users of PHC in the Federal District (FD). The frequency of citations of each topic was also studied.

Materials and methods: It was a qualitative (interview) and quantitative (cross-sectional) study, in whose survey the population of 34 APS-DF pharmacists participated. The pilot study was conducted to improve the research instrument. The interviews were processed from December 2016 to March 2017. The research project was approved by CEP/FEPECS under the number 1.851.177.

Results and conclusion: The subjects that led the pharmaceutical guidelines were those related to access to medicines, either in PHC (often = 20.6% and always = 79.4%) or other components of pharmaceutical care funding (often = 26.5% and always = 73.5%). Although the main goal of pharmaceutical advice is to promote rational use of medicines in other clinical services, in the context of care in APS-DF, guidance on the forms of administration, storage, adherence to treatment, disposal, among others, are still approached as secondary. Thus, it is crucial to broaden the approach to pharmaceutical care of another content that supports rational pharmacotherapy.

CFSP261

Pharmaceutical performance in the preparation of clinical protocols in an antimicrobial stewardship program

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Introduction and objective: Clinical protocols (CP) aim to standardize the procedures performed in the institution, being essential in hospital practice to maximize positive outcomes. This paper seeks to describe the pharmacist's importance in CP's elaboration of a University Hospital in 2018.

Materials and methods: The elaboration of CP involves the following steps: 1) Select the main therapeutic problems; 2) Define the interdisciplinary work team; 3) Review the literature, seeking the best evidence; 3) Structure and validate the protocol; 4) Publish and disseminate on the Hospital Intranet; 5) Train professionals on the use of the protocol.

Results and conclusion: In 2018 five protocols were developed to improve the clinical activities developed: 1) Antimicrobial dose adjustment in hemodialysis; 2) Management of Potentially Dangerous Antimicrobials, primarily, 2.1) Use of Amphotericin B (liposomal, lipid complex and deoxycholate) and 2.2) Vancomycin; 3) Surgical antibiotic prophylaxis; 4) Use of Polymyxin B and 5) Standardization of the realization of Vancocinemia. The elaboration of clinical protocols corroborates the evidence-based conduct and safe practice of the patient, seeking better therapeutic results and higher interdisciplinary performance in the hospital environment.

CFSP262

Pharmaceutical services in Brazil

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Introduction and objective: Regarding patient safety, Pharmaceutical Services (PS) are an effective strategy in reduce the incidence of Adverse Drug Events, and solve Drug Related Problems (DRP), promoting safety. In this context, this study intends to describe PS conducted in Brazil and its outcomes.

Materials and methods: Outcomes of the Brazilian PS were identified, in 2018, without the restriction of the patient's clinical condition and level of health service. The data collected were tabulated by the patient (age, gender, and health condition), PS (conducted service, applied technique, service nature, and scope of intervention), and PS outcomes (clinical, humanistic, and economic).

Results and conclusion: A total of 361 PS publications were identified, but only five had outcomes, being three conducted in a hospital. Also, 1642 patients were benefited by PS, mainly by pharmacotherapeutic follow-up; being 865 with arterial hypertension, 93 with breast cancer, 268 with warfarin, 633 with diabetes mellitus; and 162 pediatric patients. PS was effective in the resolution of 48.1% of DRP, improvement in the majority (59.0%) of patient safety problems, in the 45.7% increase in adherence to drug therapy, and a reduction of approximately 3% in the costs of drug purchase.

Financing: FAPESP [2013/12681-2; 2018/07501-9], CNPq [459461/2014-1], CAPES (finance Code 001).

CFSP263

Pharmaceutical services in primary health care: an extended vision

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Introduction and objective: Pharmaceutical Services (PS) in Primary Health Care (PHC) are defined as a set of actions in the health system which aims to assure the comprehensive and continuous attention of the health needs of the population having the medication as one of the essential elements. This study analyses the PS based on the perception of pharmacists in PHC.

Materials and methods: This is an exploratory study with 160 pharmacists who work in health units of the Municipal Health Department of São Paulo, Brazil. A survey online was applied, with two aspects: the frequency of performance of the services and their degree of importance (Likert scale from 1 to 5). The study was approved by the Research Ethics Committee of the Faculty of Pharmaceutical Sciences of São Paulo.

Results and conclusion: The results show that 90% of pharmacists said they daily perform: supervision of pharmacy staff, dispensing of medicines, orientation to patients on access to and use of medicines, control of psychotropic medicines. Also, 60% carry out daily the control of medicines stock. All PS mentioned were considered very important by pharmacists in their work processes at PHC. Moreover, 60% of pharmacists perform other services such as discussion of clinical cases with the health team, pharmacotherapeutic follow-up, home visits, review of medical prescriptions, but not daily. Pharmaceutical services are diverse and comprehensive. According to the pharmacists, the pharmaceutical services are performed in a non-fragmented way. The PHC is a complex and dynamic field and allows an expanded construction of the scope of PS.

Financing: CNPq.

CFSP264

Pharmaceutical work in commercial pharmacy and its social role

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Introduction and objective: The latest regulatory frameworks have led to changes in the performance and professional evolution of pharmacists. This paper aimed to trace the activities performed by pharmacists in commercial pharmacies and to relate them to the historical changes of the profession and the social responsibility of pharmacists.

Materials and methods: The study was conducted with the application of a questionnaire which was available online, for 30 days, to pharmacists working in pharmacies in the region of Mogi das Cruzes, and Itaquequetuba, after approval by the Research Ethics Committee under Consubstantiated Opinion number 2.555.560. Pharmacists were approached and invited to participate in the workplace study.

Results and conclusion: Of the 148 participants, 67% were female, and 40% dropped out of the undergraduate study. In daily practice, administrative activities are prioritized. The completion rate of activities required by Law 13021/2014 was 25%. Regarding autonomy, a high satisfaction rate was obtained. However, more than 80% reported dissatisfaction with the workload (excessive workload) and low pay. Among the reasons for the low prevalence of clinical services provision, it is highlighted the lack of knowledge, lack of preparation, and poor working conditions. The work suggests that compliance with the obligations established by Law 13021/14 is still difficult, compromising the performance of the pharmacist's social role and consequent valuation of the professional.

CFSP265

Pharmacist consultation in primary health care: the profile of patients attended in a basic health clinic in the eastern zone of São Paulo, Brazil

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Introduction and objective: To prevent and identify problems related to medicinal drugs, the Health Unic System (SUS) started implementing pharmaceutical consultations in primary health care. The aim of this study was to describe the profile of patients attended in pharmaceutical consultations performed at a primary healthcare clinic.

Materials and methods: This study was approved by the ethics committee (under CAAE protocol numbers 91363018400005494 and 91363018430010086) and focused on 100 patients who had attended a pharmaceutical consultation, at a primary healthcare clinic in São Paulo, Brazil, from August to October 2018. A report was collected about its demographics, social characteristics, and daily medical use. In order to evaluate adherence to pharmacotherapy, the Morisky-Green test was applied.

Results and conclusion: Of 100 patients interviewed, 68 were women, with an average age of 57.8 years. Regarding education, the pool presented an average of only six years of study. It was found that 40% had a monthly income up to one minimum wage, 28% more than one, and 32% reported no income. Regarding participation in physical, recreational, and social activities, 51% of patients reported no performance. Among respondents, 58% take five or more drugs daily, and the Morisky-Green test showed good adherence in 13% of the sample, moderate in 66%, and low in 21%. Based on the obtained results, considering 76% of the patients reported to depend exclusively on the public healthcare for drugs, the pharmaceutical consultation was shown to be a fundamental tool considering the characteristics of the population, given its possibility to provide rational use of drugs.

CFSP266

Pharmacist education and activities at the Sistema Único de Saúde (SUS) at municipal level

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Introduction and objective: The pharmacist role in healthcare has been changing and, professional education and training have also been changing. This study aimed to characterize the educational profile and needs of the pharmacists working in the SUS (Sistema Único de Saúde) municipal level, and also at determining the frequency with which they perform their professional activities.

Materials and methods: This is a descriptive, cross-sectional study performed in 2017. The study proposal was approved by an institutional ethics committee. All the 44 pharmacists working in the primary and outpatient secondary healthcare units attached to the Municipal Health Department Ribeirão Preto, State of São Paulo, Brazil, were included. The study was performed through a previously validated and structured questionnaire containing a scale to measure the frequency of the various professional activities being performed.

Results and conclusion: Data show a majority (84%) of female pharmacists (age range: 25-57 years; median=43 years). They graduated between 1981 and 2014 (after 2002: 45.5%; public schools: 56.8%; "Generalist" degree: 34%). Post-graduate training was reported by 90.9% of them. Nearly all (97.8%) were routinely engaged in dispensing drugs. Accordingly, 95.4% of them perceived continuous education, focusing on clinical work, recognizing it is highly needed. However, the routine of specific pharmaceutical visits, therapeutic drug follow-up, and discussion of cases with physicians were seldom performed. Also, community activities (home care, health promotion, and maintenance) were performed only occasionally by a small number of pharmacists. In conclusion, pharmacists working in the Brazilian SUS on the municipal level are engaged in dispensing but are not much involved in proper pharmaceutical care or other activities of the healthcare spectrum. Nevertheless, occasional lacks in pharmaceutical undergraduate education could be adjusted by postgraduate training and continuous education, further investment in pharmaceutical care education and training is highly needed.

CFSP267

Pharmacoepidemiology of glucocorticoids in an university hospital: therapeutic validation of prescriptions by the clinical pharmacist

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Introduction and objective: Glucocorticoids are steroid hormones with anti-inflammatory and immunosuppressive effects as insulin resistance, sodium and water retention. This study describes the pharmacoepidemiology of glucocorticoids during therapeutic validation of prescriptions by the clinical pharmacist in a University Hospital.

Materials and methods: A descriptive study was carried out during the therapeutic validation of prescriptions by the clinical pharmacist in a University Hospital. Prescriptions were selected from hospitalized women in a ward from March to June 2019. Medscape[®] for therapeutic evaluations and Excel[®] for descriptive statistical calculations were used. The project was approved by the Ethics Committee, no. 3.146.657.

Results and conclusion: Prescriptions of 271 women were evaluated by the clinical pharmacist in the study period. At least 31 women (11%) underwent therapeutic validation containing steroids. Patients were 44 ± 14 years old (from 16 to 74 years old); used 10 ± 3 medicines/prescriptions (5 to 20; analgesic was the most frequent) and had 3 ± 1 comorbidities (1 to 7; SAH, Lupus, and Arthritis were the most prevalent) Prednisone (n=14; 45%; doses 5 to 40 mg/d) was the most prescribed corticoid. At least five patients (16%) presented major drug-drug interactions and were monitored to ensure the benefits of the drug combination. Therapeutic validation of prescriptions by the clinical pharmacist is very important to guarantee the rational use of medications, at the correct dose and time, in order to prevent damage caused by unwanted drug interaction.

Financing: Ministério da Saúde (MS) and Ministério da Educação (MEC) of Brazil.

CFSP268

Pharmacogenetic application in treatment of bipolar disorder

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Introduction and objective: Bipolar disorder (BD) is a psychiatric disorder characterized by oscillations between depression and euphoria (mania and hypomania). This disease can compromise educational development and lead to interpersonal and social problems. The objective was to develop a protocol using genetic markers (GM) applied to people with BD.

Materials and methods: The PharmGKB databases and the Clinical Pharmacogenetics Implementation Consortium (CPIC) were used for protocol development in the use of GM involved in the treatment of BD in manic episodes and the use of antipsychotics. Cytochromic metabolism (CYP), proteins, and Human Leukocyte Antigen (HLA) system GM have been reported for clinical application in BD patients.

Results and conclusion: Drugs used for manic episodes and antipsychotic action presented GM with Single Nucleotide Polymorphisms (SNPs), mainly in CYP2C9, CYP2A6, CYP1A2, CYP2D6, for drug metabolisms such as valproic acid, risperidone, and olanzapine. In the HLA A and HLA B system, the relevant drugs were carbamazepine and haloperidol, and proteins derived from the ANKK1, DRD2 and DRD3 genes that act on neurotransmitter signaling for clozapine. The use of these GM can provide better treatment effectiveness, avoiding therapeutic failure and consequent crisis in BD, complications such as metabolic syndromes and Severe Cutaneous Adverse Reactions (SCAR), for instance, Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS), Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN).

CFSP269

Pharmacognostic characterization of alecrim pimenta (*Lippia sidoides*) from the Germplasm Bank Francisco José de Abreu Matos

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Introduction and objective: Alecrim pimenta (*Lippia sidoides*) is a naturally occurring aromatic shrub in northeast Brazil. In folk medicine, it is used to treat acne and fungus. This study aimed to perform the pharmacognostic characterization of *L. sidoides* in order to contribute to the scientific validation for use in phytotherapy and aromatherapy.

Materials and methods: Leaves of the plant were collected at the F.J. A. Matos Germplasm Bank (Herbarium EAC - Code 57658). The material was used in the production of an Alcoholic Extract (AE) analysed by phytochemistry tests (Matos, 2009), and in the extraction of essential oil (EO) by direct dragging with water vapor, which was analysed by Gas Chromatography coupled with Mass Spectrometry (GC/MS) (Shimadzu QP2010s apparatus).

Results and conclusion: The phytochemical assays performed on AE demonstrated the presence of the following substance classes: flavonoids, tannins, saponins, and steroids. The GC/MS revealed the presence of thymol (63.25%), beta-caryophyllene (12.47%), p-cymene (10.09%), and other substances such as myrcene, eucalyptol, gamma-terpinene, and bicyclogermacrene in the EO. The presence of thymol in high concentrations in the EO, a substance with high antiseptic, bactericidal and antifungal power, points to a potential application of alecrim pimenta in the cosmetic and pharmaceutical industry. The phytocomplex of fixed chemical components may contribute to the antiseptic activity. Further studies are needed to ensure safety and efficacy in the use of *L. sidoides*.

CFSP270

Pharmacognostic characterization of lemongrass (*Cymbopogon flexuosus*) essential oil samples for quality control in aromatherapy

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Introduction and objective: Aromatherapy (AR) is a science that uses essential oils (EO) for health. In Brazil, it has been included in the National Policy for Integrative and Complementary Practices (PNPIC), and one of the main EO used is Lemongrass (*Cymbopogon flexuosus*). The purpose of this study is to analyse *C. flexuosus* EO commercial samples through pharmacognostic techniques.

Materials and methods: Leaves of the certified plant were collected at the F. J. A. Matos Germplasm Bank (Herbarium EAC - Code 54263) for extraction of a standard EO (ST) by direct dragging with water vapor. The following tests were performed on ST and in five commercial samples: filter paper test, Fuchsin assay, determination of pH and refractive index (RI), and Gas Chromatography coupled with Mass Spectrometry (GC/MS).

Results and conclusion: For the determination of pH and IR the following values were obtained, respectively: sample 1 (S1) 4.0, 1.492; sample 2 (S2) 7.04, 1.485; sample 3 (S3) 7.22, 1.484; sample 4 (S4) 4.7, 1.489; sample 5 (S5) 3.5, 1.484 and ST 4.3, 1.485. Filter paper test was negative for all samples, showing no adulteration by fixed oils. S1 was positive for fuchsin assay detecting adulteration with ethanol. GC/MS analysis showed that all samples had more than 80% citral, except in S1, in which citronellal (14.77%) was detected, and may be related to adulteration. The study showed that S1 was unsuitable for AR. It is necessary to establish EO standards for AR to ensure safe use by healthcare professionals and aromatherapists, according to the PNPIC.

CFSP271

Pharmacological treatment evaluation for alcohol dependents from the psychosocial care center (CAPS) in Maracá - SP

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Introduction and objective: Alcohol is one of the most consumed psychoactive substances in the world, and its abusive consumption may lead to dependence and trigger more than 200 diseases. This study has the purpose of evaluating drug therapy management on patients with ICD F10 from the Psychosocial Care Center in Maracá/ SP.

Materials and methods: Data were collected from medical records of patients diagnosed with ICD F10 (Mental and Behavioural Disorders Due to Alcohol Use) from November 2018 to February 2019. The prescribed drugs doses and adherence to the treatment were analysed. The research was approved by the Research Ethics Committee [grant number 3.010.971], CAAE: 01439918.0.0000.5512.

Results and conclusion: Out of 22 patients under treatment, 20 were men, and 59% had started alcohol consumption before their adulthood. Twenty different drugs were identified, and the frequently prescribed ones were: carbamazepine, diazepam, disulfiram and sertraline. However, only diazepam has exceeded the pharmacotherapy recommended dose. In regards to the therapeutic schemes adopted, it was possible to find different pharmacological associations in an attempt to control the symptoms triggered by abusive alcohol consumption. The adherence to the treatment showed a low rate of success as only two of the 20 patients undergoing treatment had no withdrawal episodes since the beginning.

Financing: SANTANDER.

CFSP272

Pharmacotherapeutic follow-up in older patients

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Introduction and objective: Pharmacotherapeutic follow-up is an instrument of pharmaceutical care in which the pharmacist is responsible for the patient's pharmacotherapeutic needs by detecting, preventing, and solving drug-related problems. The objective of this study was to perform a pharmacotherapeutic follow-up in the elderly.

Materials and methods: Ten patients were evaluated, information was gathered by collecting data from the nursing home patients' records, as well as using the SOAP registration method. The study aimed to identify problems related to pharmacotherapy, prepare a plan of care in conjunction with the patient, and finally, to accomplish an individual pharmacotherapeutic follow-up.

Results and conclusion: The survey addressed three men and seven women; during the study, there were PRMs. Of the ten patients, seven presented drug interactions, three severe, six moderate, and two mild ones, after analyzing the information and symptoms presented by the patient. Given the results presented, a meeting was held with the clinical staff of the asylum and the proposed solution was approved, aiming to improve the clinical outcome by changing the use of medications, especially those inappropriate for the elderly. A monthly consultation date was set to monitor the results of the implemented plan and changes in the patient's clinical condition. Three patients required interventions, presenting to the physician the pharmacological study and viable solutions to the problems. Thus, the pharmacotherapeutic follow-up.

CFSP273

Pharmacotherapeutic follow-up of patients in multi-drug therapy in the ABC area, Sao Paulo

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Introduction and objective: Pharmaceutical care (PC) extends the pharmacist's professional role in health care actions. PC intends to benefit patients through the rational use of drugs. Many patients use several medications and present drug-related problems (DRP). This work aims to accompany patients in multi-drug therapy in the ABC area, SP, in order to detect DRP.

Materials and methods: This work used the Dader Method of Pharmaceutical Care for pharmacotherapeutic follow-up of pharmacy patients (over 18 years) in multi-drug therapy (using two or more drugs at the same time). Questionnaires about sex, age, weight, height, physical activity, schooling, drug storage, and pharmacotherapy profile were applied. DRP were classified by necessity, effectiveness, and safety (DRP 1 to 6).

Results and conclusion: 12 patients (58.33% male and 41.67% female) were included in this study. 50% were aged 26-50, 25% aged 18-25, and 25% aged 51-75 years old. 50% of the patients were overweight; 33.33% were in the normality, and 16.67% were obese. 66.68% studied only to the fundamental level. 66.66% did not perform physical activity. Drug storage was done in drawers, cabinets, and refrigerators. The main source of drug information is the physician (66.66%), and 75% make self-medication. DRP were detected in 33.33% of the cases. The most frequent DRP was PRM 1 (60%). DRP 2 and 6 were also found. Pharmacotherapeutic follow-up and Dader Method are important tools for the correct use of drugs and self-medication reduction. This is an indispensable function of the pharmacists, which improve public health quality.

Financing: FUNADESP.

CFSP274

Pharmacotherapeutic monitoring in elderly hypertensive patients

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Introduction and objective: Older people are the most vulnerable population to medical interactions due to the presence of polypharmacy and physiological alterations. The pharmacotherapeutic monitoring in the elderly is a work that aims for the patient to assess the necessities and determine possible problems. The goal of this study was to realize pharmacotherapeutic monitoring.

Materials and methods: It is a transversal survey approved by the Ethics Committee under number 67388317.5.0000.5382. Ten older adults were assessed, all of them hypertensive and in use polypharmacy. Information was collected through interviews directly with the patients using the SOAP method, and the program Micromedex® 2.0 and Beers' criteria.

Results and conclusion: The results showed accordance with the criteria of the 2015 Beers, and Micromedex®, based on evidence and analyses due to the problems with medications (PRMs). This study has determined fourteen moderate interactions and five dangerous interactions. According to Beer's criteria, eight patients use inappropriate medications and have 31 PRMs, being the largest percentage of insecurity with contraindications. Based on this information, a letter reporting the problems encountered was sent.

CFSP275

Pharmacotherapeutic monitoring of elderly patients

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Introduction and objective: The pharmacotherapeutic monitoring is an important tool to reduce errors with medications that interfere with the treatment's efficacy, resulting in a better quality of life, which depends on the emotional and physical health of the elderly. This study aimed to do the pharmacotherapeutic monitoring of elderly patients.

Materials and methods: This study performed a survey with ten residents patients of an long-stay institution. CEP of UNIFAE CAEE approved it under the number 67388317.5.0000.5382. The SOAP method was applied to the collection of subjective and objective data. Finally, an assessment was performed, as well as an action plan to identify the problems with the use of the Micromedex® 2.0 program and Beers' Criteria 2015.

Results and conclusion: This study showed seventeen moderate medical interactions and eight serious interactions. The presence of signals and symptoms undesirable in these patients can be associated with an incorrect treatment of their pathologies. Furthermore, the medications on Beers' Criteria 2015 were inappropriate for elderly patients. There were analyses on the possible interventions needed to guarantee the quality of life of these elderly patients, suggesting a solution adequated to the problem along with professional help in the treatment of the pathology, resulting in successful treatment, and the improvement of the quality of life.

CFSP276

Pharmacotherapeutic monitoring of elderly residents in a long-stay institution in Espírito Santo do Pinhal

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Introduction and objective: Pharmacotherapeutic monitoring is a tool that prevents and resolves PRMs to reach results that improve the quality of life. The objective was to perform the pharmacotherapeutic monitoring in elderly patients. This study also aims to analyse the pharmacotherapy and assess the medication interactions and the risks that these interactions could offer to health.

Materials and methods: It is a transversal descriptive survey approved by the Ethics Committee under number 67388417.6.0000.5382. This study realized pharmacotherapeutic monitoring in ten patients of a retirement home. It developed a plan of care based on SOAP's method and analysis of records using the Micromedex® 2.0 program and Beers' Criteria 2015.

Results and conclusion: The survey worked with three female and seven male patients. Thirty-eight PRMS were observed being fourteen serious, twenty-one moderate, and three low, after analyses of information about the medications and symptoms of patients. Due to the results, it was necessary to perform individual conducts together with a multidisciplinary team. In seven cases, the prescription was altered after a revision. Two letters were sent to the multidisciplinary team, one for physio and other for the psychologist. In addition, there was the elaboration of ways to realize the monitoring of results of implemented plans, verifying if the patient had modifications in the medical prescription or clinical condition, introducing in this case, the pharmacotherapeutic monitoring.

CFSP277

Pharmacotherapeutic monitoring of patients in the city of Mogi Guaçu, São Paulo

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Introduction and objective: Pharmacotherapeutic monitoring is a procedure exclusive for patients. There is a responsible policy of pharmaceutical to review the medication, to assess the necessities, and to determine possible problems with medications. The objective of this work was to realize the pharmacotherapeutic monitoring in diabetic patients.

Materials and methods: It is a transversal survey approved by the CEP of FMI being registered under the number CAAE 83535218.8.0000.5382. The assessment was performed in eight patients who are helped by a care plan through the SOAP method, which allows collecting and organizing the data of patients, making it easy to identify the problems with medications and to realize the pharmacotherapeutic monitoring.

Results and conclusion: The survey worked with two male patients and six female patients, all people with diabetes, and living in Mogi Guaçu. The verification identified 16 PRMs, being twelve of insecurity, two of necessity, and two of effectiveness after analyzing information about their medications and symptoms. Due to the results, it was necessary to perform individual conducts together with a multidisciplinary team. In six people, there was the necessity of alteration of prescription through a letter review. Also, it was created new ways to realize the monitoring of results for implemented plans, thus verifying if the patient had alterations in the prescription of medication or clinical condition, starting the pharmacotherapeutic monitoring.

CFSP278

Pharmacotherapeutic profile of patients on antimicrobial use hospitalized at the José Mendes Regional Hospital in Itacoatiara, AM

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Introduction and objective: The uncontrolled use of antibiotics leads to the selective increase on the bacteria that entails in its resistance. The objective of this study is to describe the pharmacotherapeutic profile of patients who used antibiotics during hospitalization at the José Mendes Regional Hospital, Itacoatiara, AM.

Materials and methods: A primary, descriptive, retrospective study based on documentary analysis of the prescriptions in patient's records dispensed during three consecutive months hospitalized at the José Mendes Regional Hospital. The ethical aspects were approved by CEP, Brazil Platform: CAAE (01581318.2.0000.5020).

Results and conclusion: A total of 329 antimicrobial prescriptions were studied, 60.18% of which predominate in the female sex, mainly requests coming from the medical clinic, constituting cephalosporins, which corresponded to the highest quantity in all clinics. Some relevant data are the 12 pharmacokinetic drug interactions registered in pediatric, surgical and medical clinics, classified by their type, mild, moderate and severe. With prolonged use of these antibiotics, patients may have problems related to loss of efficacy, arrhythmias and nephrotoxicity, respectively. The contribution of these results is the improvement of attention to clinical protocols and measures of control and prevention of the use of antimicrobials, decreasing bacterial resistance.

Financing: FAPEAM.

CFSP279

Pharmacotherapy employed by elderly population: analysis of associated risk

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Introduction and objective: The follow-up of the drug therapy of elderly users is fundamental, due to the polymedication that favors the emergence of drug interactions, adverse reactions and difficulty in adherence. Thus, the objective of this work is to conduct a review of the pharmacotherapy used by the elderly, identifying possible risks associated with the use of medicines.

Materials and methods: This is a cross-sectional study conducted in a private pharmacy, located in the municipality of Anta Gorda, RS. Data collection was performed using a structured questionnaire, applied as an interview, to elderly users of the selected pharmacy. This study was approved by the Research Ethics Committee of Univates (approval number 2.905.211).

Results and conclusion: A total of 43 individuals were interviewed, 67.4% of which were women. Regarding the age, 51.1% of the interviewees are in the range of 70 to 79 years. The majority of the elderly (97.7%) are polymedicated, making an average of 6.1 medications/individual. A total of 174 drug interactions were detected and 32.3% of the drugs used were considered potentially inappropriate for the elderly according to Beers criteria. In this way, the pharmacist plays an important role in guiding a rational use of pharmacotherapy, as well as in monitoring the efficacy and safety of this use. The insertion of pharmaceutical services in pharmacies is strategic to enable these actions and, consequently, contribute to the life quality of this population.

Financing: Universidade do Vale do Taquari - Univates.

CFSP280

Pharmacotherapy monitoring in the elderly in a UBS located at São Lúcio, Botucatu, SP

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Introduction and objective: Pharmacotherapeutic monitoring is a professional practice that promotes detection and resolution of drug-related problems. The aim of this research is to select elderly patients affected by polypharmacy and to detect possible problems related to the drugs and solve them.

Materials and methods: The present study is a field research with a qualitative approach. Twenty-five articles were used as the bibliographic survey. After approval of the Ethics and Bioethics Committee (COEBE), process 009/2019, and approval of the Municipal Health Department No. 18/2019, three elderly patients (65 years and older), were selected for polypharmacy to undergo a pharmacotherapeutic follow-up.

Results and conclusion: After application of the Dater method in anamnesis performed in three elderly patients, 65 drug-related problems (DRPs) were found; 27 (41.4%) were real and 38 (58.6%) were potential. The RMPs were identified and classified into: need, effectiveness and safety. According to the Second Consensus of Granada (2002), 19 (29.2%) of the RMPs were solved, improving the therapeutic effect of the drugs, reducing adverse reactions and bringing patients better adherence to drug therapy. The research showed the need for the pharmaceutical professional acting directly in contact with the patients in the public health system, promoting rational use of the medicines and improving patients' quality of life.

CFSP281

Pharmacotherapy support to elderly patients

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Introduction and objective: Pharmacotherapy support is a treatment used in patient care; it aims to enhance the efficacy of pharmacotherapy, analyse possible drug interaction and its adverse reaction, in that way, preventing DRPs. The objective of the research is to provide pharmacotherapy support to older people.

Materials and methods: It is cross-sectional descriptive research, approved by UNIFAE CAAE 83535218.8.0000.5382. The study evaluates two patients through the SOAP method, which allows the analyses of the patient's socio-economic background. Besides, data about their mentioned health problems and their daily medicines routine were included. Therefore, it is possible to identify DRPs and suggest an elaborated treatment plan.

Results and conclusion: Two women were approached. After the analyses on the patients and the description of their symptoms, four DRPs were verified: two severe, one moderate and a low one. An enhancement in the therapeutic effect in some medicines was noticed; the researcher reported the problem to the practitioner. It is important to mention that letters were sent suggesting the pharmacotherapy treatment revision of these patients, due to their problems and reported adverse effects. Also, a letter was sent to the physiotherapist of the multidisciplinary team, recommending to check for their specific physical exercises need. It was established the urge of periodic exams, such as blood pressure measurements and complete blood count, to follow up on the results of the new clinical picture and continue the treatment plan.

CFSP282

Physical-chemical and antimicrobial evaluation of liquid soap containing red propolis extract

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Introduction and objective: Soaps are preparations for cleaning the skin and may contain antiseptic actives. Red propolis is useful in controlling the hand's transient microbiota. The aim of this research was to formulate and evaluate the physical-chemical and antimicrobial properties of the liquid soap containing the 3% red propolis extract.

Materials and methods: The liquid soap (SB) was manipulated, and hydroalcoholic red propolis extract from Alagoas, Brazil, was added to part of it. The pre-stability test was performed to evaluate the behavior of the formulations on 0, 7, and 15 days, against the physical-chemical parameters. The antibacterial activity followed the CLSI protocol against Gram-positive and negative microorganisms.

Results and conclusion: Among the physicochemical parameters analysed, such as organoleptic characteristics (color, odor, and appearance), pH, apparent density, and centrifugation, there was a slight change in color and pH for the SB and SE samples when stored at 40°C and exposed to ambient light. However, the pH values obtained were kept within acceptable limits (6.0 to 7.0), and the color change was justified by a probable intrinsic oxidation reaction. The red propolis extract on its own showed activity only against the microorganism *Staphylococcus aureus*, and incorporated into the SB showed activity against the microorganisms *Staphylococcus aureus*, *Escherichia coli*, and *Pseudomonas aeruginosa*, due to the conjugated action of the surfactants used and the preservatives added to the main raw material Sodium Laureth – 2 Sulfate.

CFSP283

Physical-chemical characterization of alginate microparticles for modified indometacin release

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Introduction and objective: Minimizing side effects caused by the chronic use of non-steroidal anti-inflammatory drugs may occur through the use of modified release systems. The present study focuses on the development of morphological and physicochemical characterization of alginate microparticles containing indomethacin.

Materials and methods: Microparticles were developed by the spray drying method. Method optimization was performed through testing different (i) polymer concentrations, (ii) solvents for drug incorporation, and (iii) drying parameters. Systems were characterized by determining the encapsulation efficiency, size distribution analysis, X-ray Diffractometry (XRD), thermal analysis, and vibrational spectroscopy (FTIR).

Results and conclusion: The results showed the obtention of spheric microparticles (1-4µm) presenting polydispersion and that propylene glycol-based formulations presented the highest encapsulation efficiencies (>80%). FTIR analysis confirmed the presence of Indomethacin within the particles. The absence of indomethacin characteristic crystalline peaks (by XRD analysis) and its distinctive thermal features in the developed systems strongly suggests that the drug disperses in the alginate polymer semicrystalline matrix. This biocompatible material has excellent properties, which allows it to be applied as indomethacin release systems in oral therapy.

CFSP284

Physicochemical quality control of 500 mg industrialized dipyron sodium tablets

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Introduction and objective: Dipyron was the most commercialized prescription drug in Brazil in 2018 and should be reliable to ensure the success in the treatment of symptoms for which it is indicated. The objective of this work is to evaluate the purity of 500 mg dipyron sodium tablets commercialized in Baixada Santista, SP.

Materials and methods: Samples were acquired from different manufacturers in the Baixada Santista, SP drugstores. Tests of homogeneity determined the quality of these tablets by the average weight, physicochemical identification of the active ingredient, and dosing of the medicinal product by means of adapted Iodatimetry. It was validated by the literature and by tests performed with pure raw material as standard.

Results and conclusion: Homogeneity and identification of the active ingredient were fully satisfactory and approved in all samples. About the dosing, when considering the deviations tolerated by the legislation ($s = 5\%$), after analysis in triplicate, all the samples failed, and the reference drug was the one that presented the best result, even though it exceeded the minimum concentration when employing standard deviation ($96.47\% \pm 3.04$). The other samples were GenA ($81.25\% \pm 3.27$), GenB ($82.66\% \pm 3.91$), GenC ($84.08\% \pm 5.46$), and SimA ($82.01\% \pm 0.86$). These data should bring reflections, since part of the community, even after 20 years of implantation of generic drugs in Brazil, still does not trust this group for treatments.

Financing: CNPq, Catholic University of Santos.

CFSP285

Phytochemical and antimicrobial evaluation of *Fallopia japonica* (Houtt) Ronse Decr. leaves and roots

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Introduction and objective: *Fallopia japonica* is a native Asian plant, whose roots present anti-inflammatory activity and is used in foods. However, it is scarcely studied and diffused in Brazil.

Materials and methods: Leaves and roots were harvested, prepared, and dried in a kiln. Tinctures were made by maceration using a mixture of 70% ethanol and propylene glycol. Phytochemical assays with specific methods for each secondary metabolite were performed. Antimicrobial activity was evaluated with *S. aureus* and *E. coli* by in-depth agar seeding.

Results and conclusion: For *S. aureus*, tincture of *F. japonica* leaves inhibited 89.5% and roots 94.9%, and to *E. coli* tincture of leaves inhibited 26.6% and roots 62.2% CFU, using as control the solvent (70% ethanol and propylene glycol). Both leaves and roots presented tannins, flavonoids, and saponins. In Asian plants were also identified quinones and alkaloids as secondary metabolites, the absence of these compounds in Brazilian grown plants may be explained by environment adaptation, once that alkaloids are usually nitrogen reservoir. The tincture, especially roots, showed a high antimicrobial effect, inhibiting resistant gram-negative bacteria, and could be a potential phytotherapeutic.

Financing: Paulista University (UNIP).

CFSP286

Phytochemical characterization and analysis of the mineral composition of batiputá (*Ouratea fieldingiana*) fruits: a potential nutraceutical input

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Introduction and objective: *Ouratea fieldingiana*, also known as Batiputá, is a plant used in folk medicine in northeastern Brazil, from its fruits it is possible to extract an oil used in cooking. This work aims to conduct a study to characterize the mineral composition of the batiputá fruits and phytochemical composition in the ethyl acetate and methanolic extracts of batiputá.

Materials and methods: Mineral composition analysis was performed from fresh fruit samples by peroxide-nitric digestion in a microwave digester at 200°C, where the components were quantified using the multielement inductively coupled plasma optical emission spectrometry (ICP-OES) technique. The phytochemical composition of ethyl acetate and methanolic extracts was performed using techniques established by Matos, 2009.

Results and conclusion: The fresh fruits showed, as major components (mg/100 g) in decreasing order: K - potassium (259.4886), P - phosphorus (61.2337), Mg - magnesium (53.8275), Calcium (36.7779), Na - sodium (28.7622) and B - boron (13.8404). It was possible to detect the presence of the following classes of substances in both methanolic and ethyl acetate extracts: alkaloids, coumarins, steroids, flavonoids, and saponins. The richness of minerals present in the fruit highlights a potential nutraceutical application, as these constituents, as scientific studies have already shown, can act as adjuvants, along with a balanced diet, in the prevention of heart diseases. The presence of several phytochemical constituents revealed in this study indicates a possible use of batiputá as a functional food.

Financing: FUNCAP.

CFSP287

Phytochemical characterization of *Solanum americanum* Mill.

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Introduction and objective: The *Solanum americanum* Mill., popularly known as maria pretinha in Brazil, has been used for several years by the indigenous populations for practices such as infusions and decoctions. Despite presenting effective practical results for various diseases, the plant is poorly explored. The aim of this research is to characterize the secondary metabolites present in the different organs of the plant.

Materials and methods: Macro and microscopic characterization were performed according to Groth and Dutra, respectively. Phytochemical analysis was performed using specific reagents for alkaloids (Mayer), flavonoids (Shinoda reaction), tannins (lead(II) acetate, and ferric chloride), free anthracene derivatives (Bornträger), and saponins were identified by the qualitative foam test.

Results and conclusion: An array of different analyses was performed in the organs of *Solanum americanum* Mill. The results showed that the plant presents different classes of secondary metabolites in all of its organs. The leaves contain significant amounts of flavonoids and tannins. The stalk is rich in anthracene derivatives. The presence of alkaloids was identified in both leaves, stem, and root, and saponins were found in greater amounts in the root and thallus.

CFSP288

Phytochemical prospection and antioxidant activities of *Cordia myxa* L. dried leaves.

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Introduction and objective: *Cordia myxa* L. (Boraginaceae family) grows primarily in Asia, but also in Brazil and other tropical areas. The objective of this study was to examine different extractive combinations in dry leaves extracts to create secondary compounds, emphasizing the polyphenols, and thus establishing the antioxidant activity.

Materials and methods: *Cordia myxa* L. dried leaves were used to analyse metabolites. The best extractive condition for polyphenols was verified through different experiments with four factors in two levels: pH values (3 or 10), solvent concentration (70% or 100% ethanol), drug/solvent ratio (1:10 or 1:20) and maceration time (one or seven days). The DPPH model was used to establish the antioxidant activities.

Results and conclusion: Leaf extracts showed flavonoids and tannins when put under phytochemical screening. The quantitative analysis, using statistics, indicated that the total value of phenols was 790.37mg/g (factors considered were ethanol absolute, pH 3, drug ratio 1:10 and seven days maceration), while the flavonoids value was 13.66µg/g (factors considered were ethanol absolute, pH 3, drug ratio 1:20 and seven days maceration). The antioxidant capacity value corresponded to 5.92 ± 0.79 g of extract/g of DPPH. The effects Polyphenols have on health have been extensively studied in the past decades, especially for their potential in preventing major chronic noninfectious diseases. Therefore, given that *Cordia myxa* L. leaves are rich in polyphenols, it is possible to conclude they may have therapeutical properties.

CFSP289

Phytochemical screening, antioxidant and cytotoxic activities of *Thitonia diversifolia* (Hemsl.) A. Gray leaves

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Introduction and objective: *Thitonia diversifolia* (Hemsl.) A. Gray is a shrub of the Asteraceae family, from which flowers have been used to treat many biological activities (e.g., anti-inflammatory and wound healing). The objective was to evaluate several extractive combinations of secondary compounds. And also to establish the antioxidant and cytotoxicity activities.

Materials and methods: The analysis of plant metabolites was carried out in the leaves. It was verified the best extractive condition for polyphenols by a design of experiments using four factors in two levels: pH value (3 or 10), solvent concentration (70 or 100% ethanol); drug/solvent ratio (1:10 or 1:20) and time (1 or 7 days). Cytotoxic and antioxidant activities were assessed by the *Artemia salina* Leach and DPPH model.

Results and conclusion: The results showed the presence of flavonoids, tannins, saponins, and alkaloids in the extracts. The quantitative analysis using the statistical design showed that total phenols value is 1423.85 mg/g (factors: ethanol absolute, pH 3, drug ratio 1:20 and one-day maceration) while flavonoids value is 818.98 µg/g (factors: ethanol absolute, pH 3, drug ratio 1:20 and seven-days maceration). No cytotoxic effect was found when using the model above. The antioxidant capacity was equivalent to 73.00% of DPPH for the best condition of total phenols. A phenols compounds study was emphasized, as they are involved in many biological activities. Thus, it is possible to conclude that leaves of *Thitonia diversifolia* (Hemsl.) A. Gray could be a potential source of substances for many purposes.

CFSP290

Phytochemical studies and mutagenic activity of *Zanthoxylum rhoifolium* Lam

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Introduction and objective: *Zanthoxylum rhoifolium* Lam is popularly known as “dog mammals.” It is used as an antimalarial, antihypertensive, antipyretic, and antineoplastic. However, there is a lack of studies to evaluate its mutagenicity. The aim was to perform phytochemical studies and evaluate the mutagenic activity of *Zanthoxylum rhoifolium* Lam shells.

Materials and methods: The plant powder was macerated, the ethanolic extract (EE) was obtained and submitted to acid-base extraction generating the neutral fractions (FN and alkaloidic – FA). These samples were submitted to a Thin-Layer chromatography (TLC), evaluation of mutagenic activity through the *Allium cepa* test (EE- 34 and 17 mg/mL concentrations; FN - 84, 42 mg/mL and FA-12 and 6 mg/mL), and finally statistical chi-square calculation of the obtained results.

Results and conclusion: After the extraction process to obtain the ethanolic extract (EE; yield = 15.7%) and the extraction (FN and FA), the study was performed in TLC, and bands suggestive of alkaloids were observed in all samples. Regarding mutagenicity, the mitotic indices (MI) of EE, in the two concentrations tested, were 58.3% and 50.3%, while the indices of chromosomal defects (AI) were 0.7% and 0.6%. Similarly, FN (IM = 49.6% and 44.7%, IA = 0.9 and 0.6%) and AF (IM = 43.6 and 38.2%, IA = 0.7 and 0.6%) presented high IM and AI. Compared to the negative control (MI=8.5% and AI=0%), there was a significant difference ($p < 0.005$) in MI and AI for EE, FN, and AF. Thus, it can be suggested that EE, FN, and AF present a mutagenic potential; however, complementary studies are necessary.

Financing: Pharmacology and Neglected Diseases Laboratory (LFND) PIBIC, UFPA.

CFSP291

Phytochemical study and antimicrobial activity of *Copaifera reticulata* Ducke extract

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Introduction and objective: *Copaifera* species are known worldwide due to their oleoresin, with pharmacological potential proven by several studies. However, the chemical composition and biological potential of the leaves of this species remain unknown. This study aimed to analyse the antimicrobial activity, and the phytochemical studies for *Copaifera reticulata* extract.

Materials and methods: The extract was obtained by ethanolic maceration of the powder from *C. reticulata* leaves and then analysed by a thin layer chromatography for phytochemical screening. Antimicrobial activity was performed by broth microdilution against standard strains of *Salmonella* sp, *Proteus* sp, and *Pseudomonas aeruginosa*.

Results and conclusion: The chromatographic profile of *C. reticulata* indicated the presence of terpenes/steroids, flavonic heterosides, saponins, and polyphenols. For antimicrobial activity, inhibitory concentration (IC₅₀) was defined as the concentration that reduced growth by 50%, where the extract inhibited the growth of *Salmonella* sp. and *P. aeruginosa* with an IC₅₀ of 391.88 µ/mL and 310.47 µg/mL, respectively; it was considered moderately active. Against *Protheus* sp, the extract was active, with an IC₅₀ of 27.46 µg/mL. This activity of the ethanolic extract of *C. reticulata* leaves may be related to terpenes since other terpenes isolated from *Copaifera* species were active against bacteria. Further studies should be performed to characterize better the activity presented.

Financing: Programa de Educação Tutorial.

CFSP292

Poisoning by sinitox registered households in the period 2013-2017

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Introduction and objective: Household cleaners are materials used in the cleaning of home spaces. They are divided into cleaning products, antimicrobials, disinfectants, and biological products. These products are associated with poisoning, so the present work aims to evaluate the main parameters of household cleaning products available in SINITOX between 2013 and 2017.

Materials and methods: This study provides a quantitative descriptive cross-sectional analysis, which evaluated the data provided by SINITOX, as a table, on household cleaning products from 2013 to 2017. The parameters analysed were the total number of cases, the main region reached, circumstances in which they occurred, age group, sex, and evolution of the condition.

Results and conclusion: Over the years 2013-2017, there were 33989 cases of poisoning involving the various types of household cleaning products, except for disinfectants. The cases occurred mainly in the southeastern region in the first quarter of each year, the most affected age group being 1-4 years old, followed by 20-29 and 30-39 years old. The most affected sex was female, as they are directly involved in cleaning the home and workplaces. The events occur mainly in the circumstances of individual and occupational accidents and are also present in suicide attempts, but most cases evolve to cure. The data show a problem concerning accidents involving children and household cleaning, which indicates problems regarding the use, storage of these products.

CFSP293

Polypharmacy and drug-drug interaction among elderly patients

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Introduction and objective: Pharmacokinetic and pharmacodynamic changes in the elderly associated with polypharmacy increase the occurrence of drug-drug interactions, adverse reactions, and drug-related problems (DRP). The aim of the present study was to evaluate the medications used by elderly patients from a clinic in Louveira, São Paulo, Brazil.

Materials and methods: Medical records of 37 elderly individuals were evaluated. Data on pathologies and medications in use were collected between July and September 2017. Drug interactions were identified by the website drugs.com and classified as A, B, C, D, and X, and drug safety according to the Beers classification. Ethics approval for the study was granted by the Ethics Committee of UNIANCHIETA (Protocol n. 2.110.863).

Results and conclusion: Psychiatric diseases were the most prevalent (34), followed by cardiovascular diseases (22). The most used drugs were psychotropic (benzodiazepines, 33; antipsychotics, 19; and others, 13) and cardiovascular drugs (antihypertensives, 22; diuretics, 10; and antiplatelet, 11). 127 pharmacokinetics and 39 pharmacodynamic drug interactions have been identified, risks B (6), C (31), and D (9), and 120 drug interactions were not classified. Thirteen patients used potentially inappropriate medications for the elderly (Beer's classification). The findings from this study show several drug interactions, but moderate risk interactions (B and C) were the most prevalent. However, some high-risk interactions (D) are present, and significant use of drugs potentially inappropriate for the elderly.

CFSP294

Potential drug interactions analysis in intensive therapy of Assis regional hospital - SP

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Introduction and objective: Intensive Care Unit (ICU) patients have high risks for potential drug-drug interactions (DDIs) due to polytherapy. The present study aimed to analyse the potential DDIs in patients hospitalized in the adult ICU of the Assis Regional Hospital – SP (HRA-SP) and the possible adverse reactions.

Materials and methods: The data gathering was performed through the medical prescriptions of patients at the HRA-SP ICU, in the 2019 first quarter. Potential DDIs were evaluated and classified according to interaction severity, using the Drug Interactions Checker database. The research project was submitted to the Ethics Committee and obtained the approval n. 3.065.411, CAAE: 01469218.7.0000.5512

Results and conclusion: A total of 734 medical prescriptions identified 419 minor DDI, 667 moderate DDI, and 394 major DDI, totaling 1.480 potential DDIs. Among them, the most relevant factors were the association between acetylsalicylic acid and enoxaparin (n=100), moderate interaction factors between fentanyl and midazolam (n=183), and minor between acetylsalicylic acid and omeprazole (n=154). It is possible to conclude that the number of potential DDIs within an ICU in all levels of interactions is high, emphasizing the importance of monitoring the pharmacist in the patient's clinical treatment in order to avoid negative interactions between the prescribed drugs, allowing adaptation to its use for pathologies found as safely as possible and contributing to pharmacotherapy.

Financing: UNIP.

CFSP295

Potential drugs interactions and polypharmacy among cancer patients in palliative care

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Introduction and objective: Polypharmacy is prevalent in pathologies such as cancer. Although necessary, many of these drugs may be related to potential drug interactions. The objective of the research was to report the presence of drug interactions with polypharmacy in-home patients with cancer in palliative care.

Materials and methods: A descriptive study based on the prescriptions of 70 patients admitted in 2018. With the aid of the SPSS 17.0 program, Pearson's chi-square test was used at the 5% significance level for the association between drug interactions and polypharmacy. The study was approved by the HUOC-PROCAPE Research Ethics Committee, number 2.431.424.

Results and conclusion: The total number of prescription drugs was 322, and the average per patient was 4.6 (95% CI 4.4-4.8). The prevalence of polypharmacy among users was 47.1%, with 78.8% of drug interactions. The frequency of patients without polypharmacy was 52.9%, with 18.9% interactions. The differences were significant ($p < 0,05$). Twenty types of neoplasms were found, where malignant neoplasia of the stomach, malignant neoplasia of the rectum, and malignant neoplasia of the bronchi and lungs were the most prevalent, 13%, 12%, and 12%, respectively. The research revealed a strong relationship between drug interaction and polypharmacy. The main challenge in qualifying health care is to ensure that multiple drug prescriptions are appropriate and safe.

CFSP296

Potential hepatoprotective action of the oral silymarin suspension

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Introduction and objective: Although silymarin is indicated as a hepatoprotective agent due to its antioxidant action, its effects on a surgical procedure are not well established. The objective of this research was to develop an oral suspension with silymarin, assessing aspects of the hepatic morphology after partial hepatectomy compared to previous treatment in rats with this suspension.

Materials and methods: Twenty-four Wistar albino rats received orally daily doses, for ten days, of an oral silymarin suspension or saline solution, and divided into two groups: HPT and HPC. Partial hepatectomy was performed, and treatments were continued (24 or 48 h), at the end of which euthanasia and removal of remnant hepatic tissue were carried out and histological slides were prepared (Hematoxylin-Eosin and Feulgen) for analysis of mitoses and apoptosis.

Results and conclusion: After the statistical analysis was performed, the results of the histology slides showed an action potential of the hepatoprotective oral suspension silymarin in PTH groups (treatment) when compared to the HPC group (control), promoting an increase in the number of mitoses of liver cells and concomitant reduction in the number of apoptosis in this tissue, after 24 and 48 hours, after partial hepatectomy, with continuity of treatment for this period. The research was approved by Ethics Committee CEUA PUC Campinas (protocol number 020/2017).

CFSP297

Predictors of death in patients with carbapenem-resistant enterobacteriaceae

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Introduction and objective: Carbapenem-resistant Enterobacteriaceae (CRE) has developed in the last decade and is currently one of the most challenging threats to patient safety. The infections caused by CRE have few treatment options, but attributable mortality rates. This study aimed to establish death predictors in patients with CRE colonization or infection.

Materials and methods: The study included patients from the research location who presented digestive tract CRE colonization, from October 2012 to December 2016, and their clinical and demographic data were collected. Isolates were identified by phenotypic methods, and susceptibilities were tested by minimum inhibitory concentration (MIC) through the Biomerieux-Vitek2 system.

Results and conclusion: The groups' mortality rate proportions were: Non-carriers, 32.6%; Colonized, 47.3%; Infected, 52.9%. The analysis showed that age, Charlson's score, and the colonized or infected categories, presented a higher risk of death (these last two having no difference between them). However, a better prognosis was associated with the status of a surgical patient and the use of some antimicrobials (notably Polymixin B). Further studies are essential to test decolonization strategies, such as new antimicrobial combinations or procedures like fecal microbial transplantation, to reduce the risk of infections and undesirable outcomes in severe patients.

CFSP298

Preliminary studies on anticoagulation and antiplatelet activities of *Myrcia spectabilis* DC leaf extract

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Introduction and objective: *Myrcia spectabilis* L. (Myrtaceae family), as many myrtaceae family species, among other secondary metabolites, has large amounts of phenolic compounds that are closely related to human blood hemostasis. The main objective of this study was to evaluate the activity of dried leaves extracts on the coagulation process in discarded human blood.

Materials and methods: The best extractive condition for total phenols and flavonoids were aimed at, using a design of experiments with 3 factors in 2 levels (matrix 23): drug/solvent ratio (DSR) (1:10 or 1:20), solvents (ethanol or ethyl acetate), and maceration time (MT) (1 or 7 days), resulting in 8 trials. Coagulation assays were carried out using a discarded sample of human blood, testing thromboplastin, and the blood components.

Results and conclusion: The quantitative analysis of dried leaf extracts showed that the best total phenols and flavonoid extraction were those using ethanolic solvents. In spite of the extracts obtained using [Extract 5 - DSR (1:20) and MT (7 days)], it was decided for the use of the extracts [Extract 1 - DSR (1:20) and MT (1 day)] and [Extract 3 - DSR (1:10) and MT (1 day)]; the contents are not so different according to MT. The activated partial thromboplastin time for extract 1 and 3 were > 120 seconds (the normal parameter is 20 to 40 seconds), while prothrombin time were 18.4 and 17.5 seconds, respectively, for extract 1 and 3 (the normal parameter is 10 to 14 seconds). Extract 1 showed effective safety for blood components. It is suggested that *Myrcia spectabilis* DC leaves ethanolic extract shows hemostatic activity.

CFSP299

Preparation of nanoemulsion with geraniol and essential oil of *Cymbopogon martinii* and inhibitory action against *Cutibacterium acnes* strains

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Introduction and objective: Essential oils (EO) are known for their antimicrobial properties. The major component of *Cymbopogon martinii* EO is geraniol (70-80%). EOs are an excellent option for dermocosmetic formulations due to structural similarity with skin hydro-lipid balance. The objectives were the development of nanoemulsions to treat acne vulgaris and evaluate antibacterial activity.

Materials and methods: Nanoemulsions characterization followed the ANVISA (2004) parameters for preliminary stability tests. Nanoemulsions with silver nanoparticles (AgNP) were also prepared. Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were performed to the compounds against American Type Culture Collection (ATCC) strains of *Cutibacterium acnes* 11827, 11828 and 6919.

Results and conclusion: The formulations were stable to pH, electrical conductivity, density, centrifugation and thermal stress analysis. Analysis of size, zeta potential (ZP) and polydispersity index (PDI) were between 60 and 165 d.nm; -16.6 and -34.8 mV and 0.043 until 0.253, respectively. Analysis of spectroscopy (ATR-FTIR) and microscopy (Scanning Electron Microscopy) was done. MIC and MBC values decreased for 11827 strain (from 1250 to 39,06 µg /mL) and 11828 strain (from 5000 to 312,5 µg /mL) when the compounds (EO and geraniol) was included in nanoemulsions and when AgNP was added in the formulation. Smaller droplet sizes facilitate the penetration of the active compound. Thus, it can be concluded that the nanoemulsions were well-successful in their preparation and had antimicrobial potential.

CFSP300

Preparation of topical formulation containing pomegranate extract and analysis of physico-chemical and functional stability

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Introduction and objective: Topical administration of antioxidants is considered an effective strategy to enrich the endogenous protection system. This study analysed the physical and chemical stability and function of the pomegranate extract when added to the formulation (Polawax[®] with carbopol) stored under different conditions of temperature in a given period of time.

Materials and methods: The raw materials and the formulation containing 0.5% of pomegranate extract were stored at 4°C, room temperature, and 40 ± 2°C/75 ± 5% relative humidity for 180 days. At predetermined intervals (0, 7, and 15 days, and 1, 2, 3, and 6 months), samples were collected and assayed by 2,2'-azino-bis (3- ethylbenzothiazoline-6-sulfonic acid) radical (ABTS) scavenging ability, the functional stability test.

Results and conclusion: The base formulation and the one with added pomegranate (*Punica granatum* L.) extract stored in the temperatures studied were stable in the centrifugation test. The formulation stored at 40°C showed higher variation in the visual aspect, with changes in color, consistency, and odor compared to the formulations stored at 4°C and room temperature, and also experienced a larger pH change. Regarding the evaluation of functional stability, it was demonstrated that time and temperature affected the stability of the active and formulation added to pomegranate extract, and the temperature of 4°C was proven to be the most suitable for the storage of the formulation.

CFSP301

Prevalence of depression and anxiety among pharmacy students: a systematic review

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Introduction and objective: Depression and anxiety have a high prevalence in the global population, and there is a great concern to assess this prevalence amongst health students. However, most studies assessed these disorders only among medical students. This systematic review is aimed to identify studies that assessed the prevalence of depression and anxiety among pharmacy students.

Materials and methods: A literature search was performed using PubMed, ISI-Web of Science, and LILACS databases until November 5, 2018. Cross-sectional studies that assessed the prevalence of depression and anxiety among pharmacy students using validated instruments were included. Two independent researchers performed study selection, data extraction, and quality assessment using the JBI checklist for cross-sectional studies.

Results and conclusion: A total of 1,371 records were identified, of which 5 satisfied the inclusion criteria. Most studies were conducted in middle eastern countries and included students in any year of the pharmacy degree, with a mean age of 20 years. All included studies measured the prevalence of depression, which ranged from 4.9 to 51.1%. Alternatively, only two studies measured the prevalence of anxiety, which ranged from 29.3 to 50.3%. Overall, regarding the JBI checklist, the studies did not present the representative and adequate sample size and confounding subgroups. The findings showed a high prevalence of depression and anxiety among pharmacy students. However, the quality of the studies was unsatisfactory, and identified gaps indicate that further research is needed to provide more robust results.

CFSP302

Prevalence of depressive symptoms among undergraduates from the State University of Londrina: a cross-sectional study

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Introduction and objective: Depression is considered the third leading cause of years lived with disability. Considering the stressful factors to which university students are exposed, it is relevant to take a closer look at this population. The objective of this study was to analyse the depressive symptoms among the undergraduates of a public university.

Materials and methods: The data were collected through an online questionnaire. Depressive symptoms were assessed using the Patient Health Questionnaire-9 (PHQ-9) and the cut-off score for indicative of depression was ≥ 9 points. A descriptive statistical analysis was performed for the variables. The project was approved by the Research Ethics Committee of the State University of Londrina (UEL) (CAAE: 04456818.0.0000.523)

Results and conclusion: Regarding satisfaction with their own academic performance, of the 2600 individuals analysed, 41.2% said they were satisfied. Concerning health-related variables, 35.4% of the students classified their mental health status as good. Out of the total number of participants, 11.3% reported having a previous diagnosis of depression by a doctor and, of these, 74.9% are under treatment. The prevalence of depressive symptoms among those who responded to the full PHQ-9 scale (n = 2537) was 74.7%. The symptoms that appeared most frequently were “feeling tired or having little energy” (43.8%) and “poor appetite or overeating” (31.8%). In conclusion, there is a high prevalence of depressive symptoms among the university students of UEL, especially “feeling tired or having little energy.”

Financing: CAPES.

CFSP303

Prevalence of FTO polymorphism in adolescents and its association with insulin resistance

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Introduction and objective: Obesity is a result of lifestyle, emotional, and genetic factors combined. The purpose of this study is to check the predominance of the FTO gene's polymorphism (rs9939609) and its possible connection with insulin resistance in adolescents.

Materials and methods: The method was a transversal character study with 185 teenagers from a public school. A blood sample was collected from the individuals after fasting to determine the levels of blood glucose and triglycerides to calculate the TyG index (insulin resistance). Two groups were created: G1 (AA + AT - homozygous polymorphic + heterozygous polymorphic) and G2 (TT - homozygous wild). CEP 2.673.791.

Results and conclusion: Regarding the predominance of the FTO's gene polymorphism, a total of 18.27% was found, and the presence of the allele in this population was 72.43%. The fasting glycemia was more significant on Group 02, with an average of 85.01 ± 13.35 mg/dL ($p < 0.05$), therefore the TyG index presented a higher proportion of $0.05 < (1.99 \pm 0.12)$ in that group. The FTO gene' polymorphism is associated with the presence of insulin resistance, calculated through the TyG index, having a considerable prevalence in the studied individuals.

CFSP304

Prevalence of pharmacological classes in prescriptions of patients of Long-Term Care Institutions for the Elderly (LTIEs)

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Introduction and objective: The aging of the population has contributed to the increase in the number of residents of long-term care facilities for the elderly (LTIEs). The pharmacist plays a fundamental role in the pharmacotherapeutic monitoring of these patients. This project aims to present the prevalence of pharmacological classes in the prescriptions of patients in LTIEs.

Materials and methods: A retrospective descriptive and analytical cross-sectional study of prescriptions from patients in a Long-Term Care Institution for the Elderly (ILPI), in the city of Cuiabá, in July 2019. Descriptive analyses of the variables of interest concerning the age and gender of the patients. Analyses of data through the SPSS 17 Statistical Program. The project was approved by the Research Ethics number 2.653.374.

Results and conclusion: Sixty-one patients attended the study, 50.8% women, and 49.2% men with an average age of 80.1 and 76.8 years. Furthermore, 23 *versus* 28 drug classes were prescribed to patients, respectively, for women and men. The top five pharmacological classes prescribed for men were antihypertensive (15.9%), vitamins (9.5%), analgesic/anti-inflammatory (9.1%), hypoglycemic (8.2%) and antilipemic (7.8%). Among the women the classes were antihypertensive (24.4%), antilipemic (11.0%), vitamin (9.8%), analgesic/anti-inflammatory (8.5%) and antipsychotics (7.3%). Men had an increase of 21%, showing greater comorbidity and the need for effective action of the clinical pharmacist in this population.

CFSP305

Prevalence of potentially inappropriate prescriptions for the elderly with Alzheimer's disease: a cross-sectional study

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Introduction and objective: The elderly are the group that consumes medicines the most with consequent harm to health. Alzheimer's disease is the most common type of dementia in the elderly. National data related to the prevalence of potentially inappropriate prescription (PPI) for the elderly was not found. This study determined the prevalence of PPI for the elderly with Alzheimer's disease.

Materials and methods: A cross-sectional study that collected information on the elderly (≥ 65 years) with Alzheimer's. The source information was the MEDEX system and interviews with the elderly/caregivers. The outcome valued was the prevalence of PPI, according to Beers criteria (2015); prevalence of MPI; and prevalence of MPI that should be avoided in the elderly. Results were described in absolute and relative frequency.

Results and conclusion: A total of 201 elderly individuals met the eligibility criteria and participated in the study. Of the 201 prescriptions evaluated (one prescription/elderly), 77.1% ($n = 155$) was inappropriate. This population was characterized by women (73.9%), who were ≥ 75 years old (80.4%) and did not use polypharmacy (76.0%). Of the 1,058 drugs prescribed, 353 (33.3%) were inappropriate, corresponding to 65 drugs mainly belonging to the central nervous system (quetiapine= 11.9%) and cardiovascular system (acetylsalicylic acid= 10.8%). About 45% of MPI should be avoided in the elderly, mainly the quetiapine (13.3%) and the sertraline (6.3%). The present study evidenced a high number of PPI, demonstrating the need for interventions that improve the safety of medicines used by this population.

CFSP306

Prevention of pre-eclampsia cause by proteinuria dosage in basic healthcare units' patients

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Introduction and objective: Pre-eclampsia is a condition specific to pregnancy that causes multiple organ failure, and it is associated with hypertension and proteinuria. This research aim is to examine the incidence of maternal-fetal mortality through the protein count in urine.

Materials and methods: For this study, women between the 20th and 40th gestational weeks, from 18 to 35 years old and who use the basic healthcare service of Pardiniho – SP, were interviewed. They had a meeting to talk about the subject, and their urine was collected after that to quantify the amount of proteinuria through a colorimetric test.

Results and conclusion: None of the 48 assessed pregnant women showed any protein in their urine after 24 hours. Therefore it is possible to conclude that this particular city has good prenatal care and also that it is essential to promote self-care in basic healthcare.

Financing: UNIP.

CFSP307

Production of brown onion peel extract and quercetin quantification

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Introduction and objective: Quercetin is a flavonoid with several applications, for example, antioxidant activity. Onions are known for the presence of quercetin in their composition, being the average concentration found of 284-486 mg/kg. The objective of this work is to produce an onion peel extract rich in quercetin to be used in an anti-aging formulation.

Materials and methods: The extraction was by maceration with 81.11 g of peels and 750 mL of acetone, for nine days, and then filtered. The HPLC analysis was carried out with C_{18} and mobile phase water, and methanol (57:43), for 20 minutes with a flow rate of 1 mL.min⁻¹, injection volume 20 µL, and wavelength 360 nm. The linearity specificity and precision were determined with standard quercetin, and purity with a photodiode detector.

Results and conclusion: The extract was brownish-yellow, as expected. The HPLC method was specific, linear, with $r=0.999$, and had a variation coefficient below 5. The extract of quercetin showed reading with purity index equal to 1, as well as retention time and absorption spectrum equivalent to standard quercetin. The extract had a quercetin concentration of $962.5 \pm 24.3 \mu\text{g. mL}^{-1}$, therefore, 8.9 ± 2.2 mg quercetin was extracted per g of onion peel.

CFSP308

Profile for antimicrobial use in patients in the neonatal ICU of a university hospital

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Introduction and objective: While the use of antimicrobial agents saves lives in treating infected children, there are substantial risks when antimicrobials are given to newborns. The objective of this study was to determine the profile of antimicrobial use in patients admitted to the neonatal ICU.

Materials and methods: A descriptive cross-sectional study was conducted with a survey of antimicrobials used by patients hospitalized in the neonatal intensive care unit (ICU-NEO) of the Hospital das Clínicas-UFPE. The study period was from November 2018 to February 2019. The variables analysed were the number of patients, antimicrobials used, sex and age.

Results and conclusion: We analysed 90 antimicrobial records from 80 patients during the period. It was not possible to identify the sex of the newborns because, in none of the records, the variable was filled in by the prescribers. The lowest age observed was 1 hour old and the highest 7 months of life, with an average of 32.33 days. A total of 164 antimicrobials were requested, among which the most used were gentamicin (18.7%), followed by ampicillin (13.3%) and penicillin (10.2%). In conclusion, this study observed aspects related to antibiotic therapy, making it possible to identify potential problems and implement corrective and educational measures to improve the health and safety of newborn patients.

CFSP309

Profile of antimicrobials used for urinary tract infection in renal transplanted patients

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Introduction and objective: The immunosuppression profile employed in renal transplant patients is characterized as the major predisposing factor for the development of infections, with urinary tract infection (UTI) being the most prevalent. This study aims to evaluate the profile of antimicrobials used for UTI in kidney transplanted patients.

Materials and methods: A descriptive cross-sectional study conducted at HC-UFPE, using the antimicrobial control records of patients seen at the nephrology ward from February to April 2019. The data were cataloged, inserted, analysed in the Microsoft® Excel 2010 program, and submitted to descriptive statistical analysis. The Research Ethics Committee approved the research under CAAE 01206918.3.000.8807.

Results and conclusion: Forty-two records of 18 patients aged 34 to 69 years were analysed, being most of them female 89.47% (16). UTI was the prevalent infection in 42.86% (15) of hospitalized patients. As for the most used antimicrobials for the treatment of UTI, Piperacillin+Tazobactam 50% (13) was the most prescribed, followed by Ciprofloxacin 38.46% (10) and Cephalothin, Sulfamethoxazole+trimethoprim and Meropenem with 3.86% (1). Therefore, the identification of the antimicrobial profile for UTI is relevant, as it becomes possible to know the therapeutic reality of the disease and from this, produce appropriate recommendations that improve clinical practice.

CFSP310

Profile of compound phytotherapies dispensed in a magistral pharmacy of the municipality of Jacutinga-MG

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Introduction and objective: The magistral pharmacies have stood out in the segment of vegetal products with the phytotherapies. Formulations made with associations of assets from more than one plant species are called compound phytotherapies. The objective of this study is to verify the profile of the compound phytotherapies frequently dispensed in a magistral pharmacy.

Materials and methods: Quantitative research of the descriptive, documentary, transversal type with a data collection in a magistral pharmacy of Jacutinga, MG. The data were collected through the manipulation orders of the pharmacy, involving compound phytotherapeutic formulations. The collection period comprised from January to December 2017. The data were processed using Microsoft Office Excel software.

Results and conclusion: It was observed 102 orders of manipulation, presented in the pharmaceutical form of gelatinous capsules (100%). 50% of the formulations were dispensed by prescription and 50% without prescription. Among prescribers, there were doctors (61%), nutritionists (37%) and biomedical (2%). Thirty-eight different formulations were observed, those with the highest exit rates were: Pomegranate + *Polypodium leucotomos*, *P. leucotomos* + *Pinus pinaster* (10.78%), *P. leucotomos* + *P. pinaster* + Oli Ola (7.84%), Valerian + Passiflora (6.86%) and Cactinea + Morosil (5.88%). The most frequent therapeutic classes were antioxidants (33%) and those that aid in weight loss (36%). These data are important for the reflection on the development of phytotherapy, for the prescription and rational use of phytotherapeutic.

CFSP311

Profile of cytological examinations of the cervix performed in a cytology laboratory of Maceió-AL

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Introduction and objective: The oncotoc cytology, also know as Papanicolau, is a microscopic analysis of the cellular characteristics, usually used in the detection of tumor lesions. It is considered an instrument of great value in the early diagnosis of the disease. Thus, it is of great social relevance to public health to describe the frequency of HPV, T. vaginalis, and G. vaginalis.

Materials and methods: A registration form was elaborated to obtain data, in which they presented characteristics within the limits of normality (negative results for inflammation and/or infections), inflammations caused by nonspecific agents, bacterial (*Gardnerella vaginalis*), fungal (*Candida* spp), parasitic (*Trichomonas vaginalis*) and others (cervical-vaginal sample with absence of cellular material).

Results and conclusion: In this study, 18,645 cytological reports from 2013 to 2017 were examined, in which the vast majority presented some inflammation, either of a nonspecific origin or caused by one or more infectious agents. In this research, 18,645 cytological reports from 2013 to 2017 were examined, in which the vast majority presented some inflammation, either of a nonspecific origin or caused by one or more infectious agents. In the present study, 27.4% (1254) in 2013, 10.9% (393) in 2014, 10.6% (371) in 2015, 15.2% (536) in 2016 and 13.67% (469) of the patients, in 2017, presented the oncotoc cytology examination within the limits of normality. The rates of genital infections in this work show the need for greater follow-up, orientations, and actions for greater awareness to prevent these problems.

CFSP312

Profile of human immunoglobulin consumption in an university hospital

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Introduction and objective: Human immunoglobulin is the most used blood product in the world. It can be used in the treatment of several diseases, such as Guillain-Barré Syndrome and Myasthenia Gravis. It is considered a high-cost drug, available by the Brazilian Health Ministry. This research aims to draw a profile of its consumption in the last five years in a University Hospital.

Materials and methods: Medical records of 90 patients attended at the University Hospital of Londrina from 01/2014 to 05/2019 were analysed. For additional information, electronic medical records were also accessed. The following parameters were considered: diagnosis, medical specialty, outcome, and age at the time of use. This research was approved by CEP UEL n° 2.650.235.

Results and conclusion: The most prevalent diagnosis was Guillain-Barré (30.2%), followed by Idiopathic Thrombocytopenic Purpura (16.3%) and Kawasaki Syndrome (12.8%). The main medical specialties were Neurology, Hematology and Rheumatology, respectively. About the outcomes, “completely healed” was the most found (72%), followed by “partially healed” (9%) and death (16%). The most prevalent age groups were 0 to 5 years and 26 to 45 years. 2016 was the year with the highest number of immunoglobulin prescriptions (26), followed by 2017 (23). The increasing tendency of use of such medication is notable since, until May 2019, it was already prescribed for 19 cases.

CFSP313

Profile of simple phytotherapics dispensed in a magistral pharmacy of the municipality of Jacutinga-MG

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Introduction and objective: The magistral pharmacies have stood out in the segment of vegetal products with the phytotherapics. Formulations prepared with the active from a single plant species are called simple phytotherapics. The objective is to verify the profile of the simple phytotherapics frequently dispensed in a magistral pharmacy.

Materials and methods: Quantitative research of the descriptive, documentary, transversal type with a data collection in a magistral pharmacy of Jacutinga-MG. The data were collected through the manipulation orders of the pharmacy, involving simple phytotherapeutic formulations. The collection period comprised from January to December 2017. The data were processed using Microsoft Office Excel software.

Results and conclusion: It was observed 377 orders of manipulation, presented among the pharmaceutical forms of gelatinous capsules (96.8%), sachets (2.9%), and powder (0.3%). Also, 56% of the formulations were dispensed by prescription and 44% without prescription. Among prescribers, there were doctors (94%), nutritionists (5%), and veterinarians (1%). Thirty-one types of phytotherapics were observed, the ones with the highest exit rates were: Ginkgo biloba (26.53%), soy isoflavone (15.65%), Morus nigra (5.84%), Sucupira (5.57%) and Cáscara sagrada (5.57%). Among the most frequent therapeutic classes are those belonging to the vascular system (27%) and the endocrine system (26%). These data are important for the reflection on the development of phytotherapy for the prescription and rational use of phytotherapeutic.

CFSP314

Profile of the use of medicines by users benefited by the program “There is a Popular Pharmacy here” in a drugstore of Mogi das Cruzes, SP

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Introduction and objective: Access to essential medicines is one of the objectives of the “There is a Popular Pharmacy here” program. This study had the objective of outlining the profile of drug use by users benefiting from the program in a drugstore in Mogi das Cruzes, São Paulo, evaluating the need for guidance and monitoring of drug use, for safe and rational.

Materials and methods: A self-referenced research instrument was used. Users of the “There is a Popular Pharmacy here” program were included, aged over 18 years, who personally attended for the withdrawal of their drugs in the drugstore, after authorization from the Ethics Committee of the University of Mogi das Cruzes under opinion number 2744501.

Results and conclusion: The majority of participants were female, aged over 45 years old, users of the public health system, and patients with systemic arterial hypertension. The most widely used drug was Losartan Potássica. The rate of adherence to treatment was higher among men. Factors that contributed to noncompliance included administration of doses, beliefs, adverse reactions, and forgetfulness. It is concluded that free access to the drug is not enough to guarantee the adherence process and rational use of it. Guidelines and follow-ups of use are necessary for interventions to solve problems related to the use of the medicine, such as administration difficulties and unwanted events reported by the interviewees.

CFSP315

Profile of women with lsil cytology result, and HSIL, and detection of HPV in users met in clinical cytology laboratory

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Introduction and objective: The diagnosis and treatment of intraepithelial lesions and cervical carcinoma are carried out by the association of three methods. They are cytology, colposcopy, and histology. The work aims to evaluate the cytology, colposcopy and histopathological analysis in cervical cancer screening and diagnosis, in the city of Maceió, Alagoas.

Materials and methods: The analysis was performed through a retrospective, cross-sectional descriptive study of a quantitative approach in 355 cytological examination results. All samples were obtained by their identification code consecutively, identifying changes in diagnostic methods. The samples were from users in the age group between 16 and 71 years, from June to December 2018.

Results and conclusion: Regarding the presence of Papilloma virus, out of 355 cytopathological exams performed, there were 43 (12.11%) positive cases. According to the age group, women aged 35-49 years had the most significant positive number (42%). Regarding the frequency of HPV according to the injuries, 312 (87.88%) of 355 cytological examination results were normal and inflammatory, 28 (8%) were positive for LSIL, 11 (3%) positive for HSIL and 4 (1%) to invasive carcinoma. Regarding the frequency of injuries by histopathological examination, the absence of malignancy was detected in 108 (83%) users, L-SIL in 9 (7%), and H-SIL in 13 (10%). Cytology is the best method of screening for the prevention of cervical cancer.

CFSP316

Projection of antibiotic consumption for 2019 in a philanthropic hospital in the city of Recife, PE, Brazil

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Introduction and objective: Antibiotics are constantly consumed in hospitals, and their reasonable use is one of the goals of the 2016-2018 World Health Organization Report. The aim of the study is to obtain a projection of the cost of antibiotics for 2019 at a philanthropic hospital in Recife based on previous months and years.

Materials and methods: The study was conducted at the Maria Lucinda Children's Hospital, founded on July 9th, 1929. It is registered as a general and philanthropic hospital. Data were obtained through MV Soul System. The costs of pharmacy and antibiotics were obtained from 2015 to 2018 and in the first four months of 2019, according to the number of beds. Then an annual projection for 2019 was conducted.

Results and conclusion: Antibiotic distribution in the hospital is systematized, and requests are made according to the institutional protocol, tracked by the CCIH, and released according to dosage and days of treatment. There was a gradual increase in antibiotic consumption from 2015 to 2018, due to the new hospital beds and inclusion of new standardized drugs. Considering this situation, it is estimated an antibiotic cost of R\$ 485,994.30 for 2019, being 53.94% for the General ICU and for the Neonatal ICU. Based on the data, it is possible to plan the institution's expenses and contribute to guarantee the treatment conclusion.

CFSP317

Projection of expenditure on medicines overdue in elderly patients' home stock

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Introduction and objective: Polypharmacy is common and increasing in clinical practice, especially in the elderly, and it is related to several factors. This study aimed to investigate the presence of overdue drugs in the home environment of the elderly and calculate the financial impact of this cost.

Materials and methods: This study was approved by the Faceres Ethics Committee (CAAE: 65800617.3.0000.8083). Fifty older adults were visited and interviewed regarding the type, acquisition, shelf life, and disposal of drugs. There was an active search for expired medicines in their residences. A cost survey was conducted through the direct costing method and current price projection for the area and municipality of the cost.

Results and conclusion: The results show 74% female, 58% retirees, 34% acquired at UBS, 52% observed validity, 36% did not know the lifespan, 24% acquired more medication, 18% forgot to ingest. More than 50 types were identified; the unit cost ranged from R\$ 0.03 to R\$ 48.52, with total spending of R\$ 827.15, ranging from R\$ 0.62 to R\$ 83.40. The average spend per senior was of R\$ 16,54. The projection for the coverage area was R\$ 142,277.08, and the municipality was R\$ 2,177,755.60. Expired drugs have been observed since 2009, 43% of the elderly have doubts on how to administer the drugs, 48% discard in the trash, 28% in the toilet, 4% lead to the UBS. There is a significant waste of medicines acquired in the Health Unique System (SUS) by the elderly and non-adherence to treatment. Public health actions are required.

CFSP318

Promoting patient safety: a partnership between a pharmacy college and a regional hospital

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Introduction and objective: Patient safety is one of the six attributes of quality in health care. This study aimed to design a training program for assistants of a hospital pharmacy, focusing on the impact of dispensing errors for patient safety.

Materials and methods: As part of the Hospital Pharmacy subject, taught at a Federal University and offered in the second semester of 2018, an action plan was elaborated using the tool 5W2H. The students were divided into four groups to plan and implement the pharmacy attendants training: organization, training content, group activities and evaluation.

Results and conclusion: The training was held in December 2018 and involved 16 pharmacy attendants. Important concepts in patient safety were presented, and group activities were conducted to discuss the role of health professionals in patient safety. In the end, each participant received a message for reflection and filled a questionnaire – 75% considered the training excellent, and 25% found it good. Among the positive points, the importance of teamwork and the need for empathy were highlighted. In-service training activities are essential to improve health care in the hospital environment. The training evaluation indicated that the pharmacy assistants felt sensitized about their important role in ensuring safe treatment for patients.

CFSP319

Promotion of rational use of insulinotherapy among patients of Basic Health Care

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Introduction and objective: In *Diabetes mellitus* (DM), a disease of worldwide prevalence, insulin therapy becomes a constraint, favoring errors in administration, and increased waste generation. The objective of the study was to develop actions to promote the rational use of insulin therapy among primary care users.

Materials and methods: The study was characterized by research and action, and included as target population diabetic patients using insulin therapy who obtain medicines and supplies at the Pharmacy School in the city of Lajeado, RS. The construction of educational strategies contemplated the needs of the users identified by the team of collaborators.

Results and conclusion: Four strategies were developed to promote the education of diabetic patients using insulin therapy. An educational guide entitled "Diabetes Primer: insulin treatment," comprising 24 pages (figures and diagrams were used to facilitate visualization and understanding). Reusable rigid devices for the proper disposal of sharps and contaminants. Workshop on empowering patients to manage chronic health problems. Training with healthcare professionals, considering their importance in promoting the rational use of insulin therapy, contemplated mainly in the dispensation.

CFSP320

PSA test results in patients attended at a medical ambulatory in Mogi Guaçu, SP

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Introduction and objective: PSA (Prostate-Specific Antigen), a glycoprotein produced by prostatic and periurethral epithelial cells, is secreted in the blood, being a tumor marker in prostate cancer. This study aimed to verify the frequency of patients who underwent PSA tests at the Medical Ambulatory in Mogi-Guaçu.

Materials and methods: The study was approved on Plataforma Brasil by CAAE number 95956418.0.0000.5979. This is a retrospective descriptive cross-sectional research. The medical records of patients were analysed, patients who underwent PSA tests from 2015 to 2017. The variables were age group, PSA levels, and diagnosed pathologies.

Results and conclusion: The total of 1753 tests were analysed, 303 (17.3%) had alterations, the most frequent age group was between 61 and 70 years old, representing 47.1% (143) of the patients. According to the identified pathologies, 130 (42.9%) of the patients had benign prostate hyperplasia (BPH), and 173 (57.1%) had prostate cancer (PAC). The hyperplasia is high in the male population and is a public health problem. The prostate cancer, if diagnosed early, is more likely to be cured. Therefore, men over 45 years old must undergo preventive exams in order to diagnose any prostate alteration, as this contributes to the best treatment and cure of the patient.

CFSP321

Qualitative and quantitative assessment of aflatoxins presence in milk samples marketed in the metropolitan region of Campinas-SP

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Introduction and objective: Changes in milk by direct contaminants is a public health issue. The confinement of dairy cattle, which implies feeding based on rations, is one of the important factors in the incidence of aflatoxin. The objective of this project is to evaluate milk samples for the detection of these contaminants.

Materials and methods: Acquisition of milk samples (UHT and pasteurized) commercialized in three Counties in the metropolitan region of Campinas to perform the qualitative tests, using the technique of thin-layer chromatography (CCD) and quantitative tests with specific kits for aflatoxins. Subsequently, discussion of the results according to the limits (PML) established by the legislation.

Results and conclusion: It is expected that the obtained data will allow to previously define evaluations and informative actions regarding the risks arising from the ingestion of foods with a high degree of contamination, in concentrations of parts per million (ppm). This consumption may produce short-term acute hepatotoxic effects and low levels of these mycotoxins in the order of parts per billion (ppb). When ingested for long periods, it may lead to the appearance of hepatic carcinoma, thus evidencing the severe health risk resulting from food contaminated by this contaminant.

CFSP322

Qualitative and quantitative evaluation of antibiotics in milk samples sold in the metropolitan region of Campinas, SP

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Introduction and objective: Milk is considered one of the most complete sources of nutrients to health. However, the presence of antibiotics used for cow mastitis can alter its chemical composition. This project aims to identify and quantify milk contamination and to warn possible health risks.

Materials and methods: Acquisition of milk samples (UHT and pasteurized) marketed in 3 counties of the metropolitan region of Campinas to carry out the tests: microscopic analysis of foreign material: Technique n° 960.49 AOAC (2000) with adaptation of the method; qualitative and quantitative determination: SNAP duo; discussion of the results according to the limits (PML) by the legislation.

Results and conclusion: The acquisition and processing of statistical data are expected to enable previously defined informational assessments and actions on the risks of contaminated food consumption, with immunological hypersensitivity to one or more antibiotics being the most significant risk. The second effect, related to the presence of antibiotics in foods, addresses the possible development of more resistant pathogenic microorganisms due to chronic exposure (small amounts for long periods), highlighting a severe health risk that comes from contaminated food ingestion.

CFSP323

Quality analysis of cáscara sagrada capsules (*Rhamnus purshiana*) from the pharmaceutical magistral sector in Santos-SP

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Introduction and objective: *Rhamnus purshiana* is an exponent phytotherapeutic in the treatment of intestinal constipation, and due to this use, the objective is to evaluate the quality of the drugs produced in the manipulation and industrialized sector with this pharmacological asset.

Materials and methods: With an industrial standard and the parameters of the Brazilian Pharmacopeia (2010), this study analysed the samples of four drug-handling pharmacies with a formulation in which *Rhamnus purshiana* was the only active component. The items evaluated were: the organoleptic characteristics, average weight of the capsules, qualitative analysis of cascarosides, pH, and determination by spectrophotometer at 530 nm.

Results and conclusion: In the organoleptic characteristics, there was a difference between the pattern and samples, which may suggest dilution with excipients that facilitate the encapsulation, but without failing the literature. The homogeneity of the average weight ensured approval for all samples. The presence of cascaroside was identified in all samples. The pH of the sacred-head decoction must be between 4.0 - 6.0; In which sample 4 was the only one failing. This sample was also the only one to be disapproved in the determination by the spectrophotometer, with an absorbance 53% lower than the tolerated value. It is concluded that one should be attentive in the acquisition of Phytotherapeutic formulation, considering the ease of adulteration, although, for the samples evaluated, only one failed.

Financing: Scientific Research Institute of the Catholic University of Santos (IPECI).

CFSP324

Quality control for pravastatin in pharmaceuticals using amperometric method

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Introduction and objective: Pravastatin sodium (PRAV) is used for reducing cholesterol levels in the bloodstream. Low and over PRAV dosages administration may be ineffective and/or dangerous; the development of a simple, rapid, and greener method for assurance that dosages of PRAV are the same indicates on the labels is of paramount importance.

Materials and methods: The voltammetric analyses were carried out in a potentiostat/galvanostat AUTOLAB PGSTAT 101 coupled to an electrochemical cell containing the (boron-doped diamond electrode) BDDE as working electrode. Anodic (0.25 A cm⁻² during 60 s) and cathodic pretreatments (-0.25 A cm⁻² during 240 s) were evaluated in the BDDE, obtaining a higher current intensity in cathodic pretreatment.

Results and conclusion: PRAV presented a well-defined oxidation peak at 1.2 V on the cathodically pretreated surface of the BDDE. Phosphate buffer (pH 4.0) was selected as a suitable support electrolyte for this determination. Under the chosen experimental conditions and selected potential of 1.3 V (amperometry), an analytical curve was obtained ranging from 1.0 – 30 μmol L⁻¹, with a limit of detection of 0.102 μmol L⁻¹. The proposed method was successfully applied for the determination of PRAV in commercial pharmaceutical formulations, and the results were compared with those obtained using a chromatographic method at a 95% confidence level. Due to its suitable linearity, accuracy, simplicity, and environmentally friendly characteristic, the proposed method is a good alternative for the determination of PRAV in pharmaceuticals.

Financing: CNPq (grant no. 303902/2015-9 and 408591/2018-8), CAPES, Araucaria Foundation of Paraná.

CFSP325

Quality control of traditional chinese medicine's vegetable species: Cinnamomi cortex and Radix et Rhizoma Ginseng

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Introduction and objective: Due to a higher Western demand for alternative therapies, the use of millenary Traditional Chinese Medicine (TCM) has increased, being necessary the control to ensure the quality of the used plants. The aim of this work is the quality control of the vegetable drugs Cinnamomi cortex and *Radix et Rhizoma Ginseng*.

Materials and methods: The dry samples were provided by Fitofórmula Laboratory in March 2018. This study relies on a morphoanatomical analysis (macroscopic and microscopic identification), identification by thin-layer chromatography (TLC), purity assays (water and total ash) for both plants, and a volatile oil essay for Cinnamomi cortex.

Results and conclusion: The Cinnamomi cortex showed a retention factor of 0.46 compatible with the Rf of the cinnamic aldehyde standard. For the purity assays, the tested sample presented $9.32\% \pm 0.07$ and $6.29\% \pm 0.20$ for water and total ash, respectively. For volatile oil was obtained 1.2% (mL/g). As for *Radix et Rhizoma Ginseng*, two spots found presented Rf 0.12 and 0.25 compatible with the ginsenoside standard Rb2 and Rd, respectively. For the purity assays, the results obtained were $10.15\% \pm 0.40$ and $3.22\% \pm 0.14$ for water and total ash, respectively. The results obtained are within limits specified by the Chinese Pharmacopoeia Commission (2010), except for the total ash of Cinnamomi cortex, which presented values slightly higher than those specified.

Financing: Fitofórmula Laboratory, CAPES.

CFSP326

Quality control of traditional chinese medicine's vegetable species: Dioscoreae Rhizoma and Rehmanniae Radix Preparata

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Introduction and objective: Due to a higher Western demand for alternative therapies, the use of millenary Traditional Chinese Medicine (TCM) has increased, being necessary the control to ensure the quality of the used plants. The aim of this work is the quality control of *Dioscoreae Rhizoma* and *Rehmanniae Radix Preparata* vegetable drugs.

Materials and methods: The dry samples were provided by Fitofórmula Laboratory in March 2018. The study presents a morphoanatomical analysis (macroscopic and microscopic identification), identification by thin-layer chromatography (TLC), purity assays (water, total ash, and extractives) for both plants, and total ash insoluble in acid for *Rehmanniae Radix Preparata* were carried out.

Results and conclusion: In the identification by TLC of *Dioscoreae Rhizoma*, the retention factor (Rf) was 0.08 and 0.93 compatible with Rf of the *Dioscoreae Rhizoma* standard. For the purity assays, the tested sample presented $13.90\% \pm 0.07$, $1.74\% \pm 0.006$, and $86.68\% \pm 0.50$ for water, total ash, and extractives, respectively. In the TLC identification of *Rehmanniae Radix Preparata*, the Rf was 0.5, corresponding to the verbascoside standard (Rf = 0.5). For the purity assays, the results obtained were $9.16\% \pm 0.34$, $4.37\% \pm 0.08$, $0.89\% \pm 0.02$, and $33\% \pm 6.22$ for water, total ash, total ash insoluble in acid, and extractives, respectively. The results obtained are within the specifications by the Chinese Pharmacopoeia Commission (2010), except the extractives whose value is below those specified.

Financing: Fitofórmula Laboratory and CNPq.

CFSP327

Quality control of potassic losartan antihypertensive in different pharmaceutical formulations

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Introduction and objective: Systemic arterial hypertension (SAH) is characterized by sustained elevation of blood pressure levels. Antihypertensive drugs, among them the potassium losartan (LP), are drugs that reduce blood pressure (BP). The aim of the project is to verify quality control on reference, generic, and similar LP tablets.

Materials and methods: Sixty potassium losartan tablets of different brands and lots comprising generic, similar, and reference drugs were used. Tests such as mean weight, friability, titration assay, and spectroscopic determinations such as Raman were used to determine the quality control of these drugs.

Results and conclusion: The samples showed high homogeneity as to the data obtained in the analysis of the average tablet weight, and all batches complied. The tablets also passed the weight loss friability test for individual samples below 1%. Raman was used as a spectroscopic technique in three different brands, confirming the presence of the active principle.

CFSP328

Quality control of traditional chinese medicine's vegetable species: *Rhizoma coptidis* and *Rhei Radix et Rhizoma*

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Introduction and objective: Due to a higher Western demand for alternative therapies, the use of millenary Traditional Chinese Medicine (TCM) has increased, being necessary the control to ensure the quality of the used plants. This present work aims to carry out quality control of *Rhizoma coptidis* and *Rhei Radix et Rhizoma* vegetal drugs.

Materials and methods: The dry samples were provided by Fitofórmula Laboratory in March 2018. A morphoanatomical analysis was carefully made (macroscopic and microscopic identification), identification by thin-layer chromatography (TLC), and purity assays (water, total ash, and extractives) for both plants.

Results and conclusion: In the identification by TLC of the *Rhizoma coptidis*, it was observed a retention factor (Rf) of 0.47 compatible with the Rf of the berberine standard. For the purity assays, the tested sample presented $9.79\% \pm 0.32$, $1.45\% \pm 0.07$, and $23.14\% \pm 0.003$ for water, total ash, and extractives, respectively. For identification of *Rhei Radix et Rhizoma*, a spot was observed in the sample with Rf of the 0.45, related to the emodine standard (Rf = 0.46). For the purity assays, the results obtained were $8.90\% \pm 0.17$; $7.77\% \pm 0.29$, and $48.77\% \pm 0.007$ for water, total ash, and extractives, respectively. The results obtained are within the limits specified by the Chinese Pharmacopoeia Commission (2010).

Financing: Fitofórmula Laboratory, CAPES.

CFSP329

Quality evaluation of the most known makeup foundations sold in the Brazilian market

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Introduction and objective: Heavy metals were added to make up in the early days, which caused skin irritation and accelerated cellular aging. Currently, they have preventive properties in their composition. This study aimed to qualitatively evaluate the main liquid foundations found in the Brazilian market as to their potential to cause skin damage.

Materials and methods: A qualitative analysis of the active substances found in the leading makeup brands sold in Brazil was performed. The analysis was performed in 12 foundations of 11 different brands, both from national and international origins, emphasizing safety, irritation, comedogenicity and solar protection factors. The data collection was performed through the CosDna website.

Results and conclusion: The analysis showed the presence of 22 comedogenic components with significant potential to cause acne outbreaks, whose degree varies from one to five. Concerning the sun protection factor (SPF), only two products had SPF 42. The presence of 45 safe components ranging from three to seven was discovered, and 15 components presented irritation levels ranging from zero to four. According to the data survey, the databases showed a significant risk of skin damage to foundation users depending on the frequency of usage and how long it stays in contact with their skin. Therefore, it is necessary to carry out audits in the process of foundation formulation to include only ingredients that do no damage to the skin.

CFSP330

Quality of life assessment of patients with autoimmune diseases using biological therapy

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Introduction and objective: The treatment of autoimmune diseases has undergone changes in recent years, thanks to the introduction of biological therapy, which represented an advance in the treatment, promoting improved therapeutic results. The goal of this study was to evaluate the quality of life of patients with autoimmune diseases in biological therapy.

Materials and methods: An observational, descriptive study with 32 patients attending the Clínica Imunobio in Alfenas, MG on infusion therapy with biological agents. To assess the quality of life, in 2018, the SF-36 Quality of Life Questionnaire was used, also, visual analog pain scale (VAS-D) to evaluate pain intensity and questionnaire for sociodemographic characterization and clinical of the subjects.

Results and conclusion: The results show a prevalence of elderly (72%), married (66%), female (75%), caucasian (84%), and family income of 1 to 3 Minimum Wages (63%). Most of them had rheumatoid arthritis (41%), and were users of Infliximab (75%), being treated for 24 to 40 months (31%). In the evaluation of the quality of life, it was observed that patients presented greater impairment in the Physical Aspect domain (score 52.3) and better evaluation in the Social Aspects domain (67.2). Most showed moderate pain levels (56%). It is concluded that the use of the SF-36 generic instrument produced significant results, indicating moderately compromised quality of life, suggesting that biological therapy is an effective treatment. Further investigations should be performed using specific instruments to confirm the results.

CFSP331

Quality of life in women with systemic erythematosus lupus

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Introduction and objective: The systemic lupus erythematosus (SLE) is an autoimmune disease that mainly affects women. Joint manifestation with pain is the factor that most interferes with quality of life compared to other manifestations. This study aimed to analyse the quality of life profile of women with the disease, and make a comparison with healthy women.

Materials and methods: After approval with CAAE 65196017.1.0000.5679, the survey data were collected by applying the SF-36 questionnaire, which addresses quality of life in general, using objective blocks separated questions, applied via Google Platform. The results were demonstrated using Microsoft Office Excel software.

Results and conclusion: Of the healthy participants, 100% stated that they had no pathology; the carriers presented only systemic lupus erythematosus. The scores obtained showed that healthy women have a higher quality of life level than women with the disease, presenting a superior result in all aspects mentioned in the questionnaire. Thus, leading to the conclusion that SLE directly interferes with women's quality of life. Pain is the main symptom mentioned by bearers of the disease.

CFSP332

Quality of sleep among undergraduates from the State University of Londrina: a cross-sectional study

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Introduction and objective: Defined as a state of decreased consciousness and metabolic functions, sleep plays an important role in restoring the organism's health. Sleep deficiency compromises the proper functioning of several systems in the organism. The objective of this study is to analyse the sleep quality and lifestyle of students of a public university.

Materials and methods: The data were collected through an online questionnaire. Sleep quality was assessed using the Pittsburgh Sleep Quality Index, and the cut-off score used for poor sleep quality was global score ≥ 5 points. Descriptive statistical analysis was performed for the variables. The project was approved by the Research Ethics Committee of State University of Londrina (UEL) (CAAE: 04456818.0.0000.5231).

Results and conclusion: Among the 2600 university students analysed, 68% reported participating in at least one extracurricular activity. Concerning the frequency of coffee consumption in the last 30 days, 50.1% reported consuming coffee at least once a day. The prevalence of poor quality of sleep, among those who answered the scale in its totality (n = 2409) was 76.5%. Additionally, 10.8% reported having used, during the last month, drugs to help them sleep at least once a week. It was observed a high prevalence of individuals with poor sleep quality. Moreover, it has been identified situations that can interfere with the quality of the sleep, like a high consumption of coffee and the participation in extracurricular activities.

Financing: CAPES.

CFSP333

Quantification of active principle content in commercial samples of atenolol cut in half

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Introduction and objective: Atenolol is an antihypertensive β_1 receptor blocker used in the treatment of hypertension, arrhythmia, myocardial infarction, and in the angina pectoris treatment. The present work aims to perform some quality control tests recommended by the Brazilian Pharmacopeia in 100 mg atenolol tablets cut in half.

Materials and methods: The intact 100 mg tablets were divided in half with the aid of a house knife, following the recommendations of Pharmacopeia, to identify the active principle content in the halves of atenolol tablets.

Results and conclusion: It was observed that the highest and the lowest of the halves had respectively, levels of atenolol of 92.59% and 14.81%, that is, values much higher or lower than those recommended by the current legislation. Despite being a common practice, it is not advisable to cut tablets in the middle, since in addition to compromising the treatment, it can also interfere in the quality of the product, since after being taken from its original packaging, it is not be stored correctly.

CFSP334

Rational adhesion and use of oral contraceptive methods in adolescence

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Introduction and objective: The reasons for the high pregnancy index and STDs during adolescence are attributed to the non-use of contraceptive methods. The aim of this study was describing and analyzing high school teenagers' attitudes towards contraception and to possibly offer primary data to the elaboration of public policies on sexual health for this population.

Materials and methods: This is a cross-sectional study whose population was composed of high school students aged 15 to 18 years old from the city of Iacanga, SP, Brazil. A questionnaire composed of eight simple questions designed by the researchers themselves was applied to evaluate the adolescents' doubts regarding the contraceptive methods. After the application of the questionnaire, the main doubts presented were analysed, and a lecture was given to the students.

Results and conclusion: The results show that 92% of the sample reported having begun the sexual activity. The most commonly used contraceptive method was the pill associated with condoms, with 55% of the respondents. It was observed that 32% of adolescents seek information from friends and do not seek help from a health professional. All of the students who answered they did not have a fixed partner used a contraceptive method, differently from the students who answered they did have a partner, where 41.17% did not make use of contraceptives. For them, it is believed that because they have a fixed partner, they do not need to use contraceptives. Although the adolescents present some knowledge and appropriate attitudes regarding contraception, there is still a need for actions aiming prevention and sexual orientation, considering the reports of little to no dialogue with the parents, and non-adoption of prevention methods in all sexual relations.

CFSP335

Reading habits of pharmacists from the São Paulo State

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Introduction and objective: Due to the dynamic nature of the field of health care, the concept of continued learning is extremely important, which includes the use and access to professional literature. Thus, the objective of this study is to verify the reading habits of pharmacists from São Paulo State.

Materials and methods: This is an observational, cross-sectional study. It consisted of an online survey and covered pharmacists living in São Paulo State. The questionnaire was distributed in virtual access controlling pharmaceutical communities and institutions of the sector, such as Unions, Councils, and Associations (Approval in Ethics Committee 3418322).

Results and conclusion: The main area of professional activity was the pharmaceutical industry (44%), and the most consulted information sources were internet (62%), official regulations (20%) and technical books (8%). Reading was mainly motivated for updating and because of the professional demand. Also, 80% agree that reading helps to develop technical repertoire and vocabulary, besides critical sense and professional performance. The main reasons that hamper the dedication to reading were the intensity of the routine (85%) and time spent with the computer and internet (29%). This study reveals that the professionals have potential habit and interest in technical reading, which can be improved through strategies to overcome the obstacles imposed by professional demands.

CFSP336

Reading habits of undergraduate and postgraduate pharmacy students of Sao Paulo State

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Introduction and objective: Reading is essential for keeping up with changes that affect the profession, as well as getting in touch with professional opinions and even job opportunities. This study's goal was to verify the reading habits among undergraduate and postgraduate Pharmacy students in Sao Paulo State.

Materials and methods: This was an observational, cross-sectional study that consisted of an online survey conducted through Survey Monkey Pro and was directed to undergraduate and postgraduate Pharmacy students in Sao Paulo State. The survey was distributed in educational institutions that offered such courses (Approval in Ethics Committee 3422262).

Results and conclusion: Private institutions accounted for 78%, and 80% of the interviewed students were graduating. The most used information sources were the internet (71%) and technical books (18%). About 71% of the interviewed students only partially agreed that online information is sufficient for their needs. Learning was the main reason for reading, as well as professional development, and more than 80% agreed that it helps to improve writing techniques and build up technical vocabulary. For 45% of respondents, time spent online is a significant obstacle to acquiring reading habits. For 54%, it is the amount of time needed for studying. Students showed interest in reading and appeared to have the potential for acquiring such a habit, and proper management of the time spent on the internet would be an efficient way to improve it.

CFSP337

Recurrent respiratory papillomatosis (RRP): sociodemographic and clinical analysis in patients of São Luís, Maranhão

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Introduction and objective: RRP, caused by HPV, can occur in children and adults, often presenting an aggressive clinical course which is fatal because of its high recurrence and tendency to spread through the respiratory tract. Based on this, clinical characteristics and HPV infection were evaluated in patients with RRP at a reference hospital in São Luís, Maranhão.

Materials and methods: Sociodemographic and clinical data were collected from a sociodemographic questionnaire related to the patients' medical records and histopathological reports. For the analysis of HPV infection, the PCR technique was used. Positive samples were submitted to the automated sequencing technique for viral genotyping. This project was approved with the opinion of CEP no. 1.377.876.

Results and conclusion: The majority of the patients were female (54.55%), brown (90.91%), and born of natural childbirth (81.82%). The juvenile RRP group represented 63.63%. Also, 90.91% presented dysphonia, 63.64% dyspnea and 27.27% dysphagia. 63.64% presented the recurrence of the disease. The presence of HPV was detected in 100% of cases, with type 6 being more prevalent than type 18. It was concluded that the population of RRP patients was composed mainly of children of brown color, female, born in the capitals, and of natural childbirth, corroborating with the idea of vertical transmission. The prevalence of HPV-6 (low oncogenic risk) was observed in 90.91% of the samples. HPV-18, considered high oncogenic risk and associated with the development of cancer, was present in only one patient (9.09%).

Financing: FAPEMA (UNIVERSAL-00460/15).

CFSP338

Relation of negative double t cells to percentages of TCD4+ lymphocytes in people living with HIV under antiretroviral therapy

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Introduction and objective: Double Negative T Cells (CD45+CD3+CD4-CD8-) (DNTC) go beyond stages of maturation and possibly play an essential role in the immune system, such as HIV infection. The objective was to determine whether there are differences in DNTC in the percentages of TCD4+ lymphocytes in people living with HIV (PLH) on antiretroviral treatment (ART).

Materials and methods: A cross-sectional study on peripheral blood analysis of 34892 samples by flow cytometry in PLH under ART from 2009 to 2018 (10 years) in the city of Santos, São Paulo, Brazil. Comparisons of DNTC at intervals (DN1: > 0 and ≤ 2.5 %), (DN2: > 2.5 and ≤ 5.0 %), (DN3: > 5.0 and ≤ 7.5 %) and (DN4: > 7.5 %) with TCD4 lymphocyte percentages by ANOVA analysis (correction by Bonferroni). Number CEP: 2.439.482.

Results and conclusion: The mean percentages of DNTC in the study population for ranges in males (n = 19919) were (DN1: 25.85, DN2: 23.28, DN3: 20.98 and DN4: 16.99) and females (n = 14974) (DN1: 28.60, DN2: 26.14, DN3: 21.91 and DN4: 18.83). All DNTC intervals showed significant differences for TCD4+ lymphocyte percentages within the lymphocyte population (p <0.001). Mean T cell percentages followed an inverse relationship to the increase in DNTC. Although the function of DNTC in immune disorders is not yet clear, the significant difference in these cells compared with the percentages of TCD4+ cells was determined. Thus, the increase in DNTC may be related to the decrease in TCD4+ cell percentages.

CFSP339

Reverse drug logistics: a brief systematic review

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Introduction and objective: In Brazil, there is no specific legislation for the destination of products generated by the pharmaceutical industry, and the high consumption of medicines generates environmental and economic problems for society. The purpose of this review is to identify the importance of implementing reverse drug logistics.

Materials and methods: It is a systematic review based on the analysis of study articles from 2010 to 2019. The following keywords were used to write this review: reverse logistics, waste management, medication disposal. The search for articles was performed between July and August 2019, in the databases: PUBMED, LILACS, Scielo, and ScienceDirect.

Results and conclusion: According to the articles studied, the ease of purchasing medicines by the population generates stock of disused and expired drugs, which is usually disposed of in common waste, toilet, or sink, and these products can reach the soil and natural sources of water, offering risks to the health. The reverse logistics of medicines must be a result of the responsibility of the companies that produce the medications and not only of the population that consumes them. It is of great importance in the final destination of these residues, contributing to the preservation of the environment and the health of the population, generating economy and sustainability. However, there are many obstacles to be faced for its implementation, as it requires trained personnel, adequate structure, and correct destination processes.

CFSP340

Reverse logistics of expired and unused household medicines collected in the UFRJ campus in Macaé, RJ

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Introduction and objective: Medicines are essential to health promotion; however, when disposed incorrectly, they may represent a risk for the environment. The objectives of this study were the receipt of expired and unused household drugs through a collection system placed at the UFRJ campus Macaé (Rio de Janeiro), as well as the analysis of residues and their final destination.

Materials and methods: From September 2018 to April 2019, twice a week, a collection system was made available in the University to receive the medicine residues. Periodically, the waste was transferred to an appropriated local to weight, count, and categorize by therapeutic classes and shelf life. After, they were temporarily stored in a locked place and collected by a partner company for treatment and final destination.

Results and conclusion: A total of 1008 units of medicine residues were collected (71% solids, 10% semisolids, 19% liquids), representing 20 kg of waste, in which about 72% represented expired shelf life products. Around 1% of the waste was classified as controlled medicines, 6% were antibiotics, 90% were other kinds of drugs, and 3% were unclassified due to unreadable packaging. It's important to highlight that during the period of this study, informative actions were promoted to orient the population about expired shelf life products and the meaning of its correct discard. In conclusion, this study contributes to public and environmental health, giving the proper destination of medicine residues, preventing them from reaching in nature. Because of this, the action will be continued in the university.

Financing: PROFAEX.

CFSP341

Rheological behavior evaluation of orodispersible films obtained from polyvinyl alcohol (PVA) and hydroxypropylmethylcellulose (HPMC)

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Introduction and objective: Orodispersible films are a new form of dosage that has been gaining attention from researchers because of its various benefits. This work's objective was to develop and compare the *in vitro* release profiles of orodispersible films processed with hydroxypropylmethylcellulose or polyvinyl alcohol using doxazosin mesylate as a model drug.

Materials and methods: The orodispersible films were prepared by the solvent casting method using factorial planning (Statistica software) with two factors (film-forming polymer and plasticizer) and three levels, resulting in eight formulations. The samples were categorized in terms of morphology, their thermal and mechanical properties, and the dissolution profile.

Results and conclusion: Hydrodispersible polymers are the main component of orodispersible films. Films obtained with PVA presented more homogeneous morphology than those obtained with HPMC. The film's thickness varied according to the amount of polymer, with PVA producing thicker and tackier films than HPMC. Films obtained with PVA had higher rupture strength and adhesiveness than those produced with HPMC. Compatibility between the drug, film-forming polymers, and plasticizer was confirmed by thermal analysis. Orodispersible films prepared with PVA showed lower drug release rate than HPMC, and both had lower release rates than those observed for DOX tablets, indicating retention of the drug by the polymer.

CFSP342

Risk classification of prescribed drugs during the pregnancy period in the obstetric center of a university hospital

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Introduction and objective: Aiming to offer greater safety in gestational pharmacotherapy, besides supporting health professionals, especially the pharmacist in the evaluation of prescriptions, this paper aims to identify the drugs prescribed to pregnant women, classify them according to their risk and develop a fast consultation tool.

Materials and methods: It is a cross-sectional descriptive study conducted at the HC-UFPE, using as an instrument the analysis of medical prescriptions from September 2018, sent by the Obstetric Center to the Pharmacy Sector. The drugs listed in these prescriptions were identified and then classified according to the risk of pregnancy, according to RDC number 60/2010, established by ANVISA.

Results and conclusion: With the analysis of 507 prescriptions during the research period, 77 different types of medications were prescribed. Being that 8% of the total are at risk category A, 21% B, 47% C, 23% D, and 1% X. The fast consultation tool developed was of fundamental importance, helping pharmacists to identify, fast, the prescribed drugs with potential risk during pregnancy, as well as providing more information on these drugs and their safe use during pregnancy, thus enabling a critical analysis of the risk-benefit assessment to provide adequate life-preserving treatment maternal as well as fetal.

CFSP343

Role of annexin A1 on pioglitazone mediated anti-inflammatory effects on experimental ulcerative colitis

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Introduction and objective: Ulcerative colitis is a chronic disease of the gut which burdens health systems worldwide. The effects of PPAR γ ligands on the treatment of this disease are controversial. Annexin A1 plays a role in the progression of ulcerative colitis. This work aims to elucidate whether annexin A1 controls PPAR γ -mediated effects on ulcerative colitis in experimental models.

Materials and methods: Dextran sodium sulfate ulcerative colitis was induced in 8-week male wild type and annexin A1 knockout C57Bl/6 mice; the animals were treated with pioglitazone (PPAR γ ligand) (10mg/kg) daily for ten days (CEUA FCF/USP 577). Annexin A1 knockdown RAW264.7 cells (macrophages) were treated with lipopolysaccharide (1 μ g/mL, 1h) and pioglitazone (10 μ M, 24h). Clinical and inflammatory parameters were assessed.

Results and conclusion: Pioglitazone attenuates the progression of ulcerative colitis in mice, but the beneficial effect is overcome by a severe inflammatory response after day six. Clinical parameters (weight loss, diarrhea, blood in stool) and histological parameters (edema, intestinal crypt integrity) are improved in treated mice up to day six, but not between days six to ten. This beneficial effect of pioglitazone treatment is absent in annexin A1 knockout mice. In RAW264.7 cells, pioglitazone reduces the secretion of inflammatory cytokines (IL-6 and IL-10), the generation of oxygen radicals, and the expression of cell migration and inflammatory cell surface markers (CD40, CD54, CD62-L). These effects are absent in annexin A1 knockdown cells. Annexin A1 thus modulates anti-inflammatory effects of pioglitazone *in vivo* and *in vitro*.

Financing: CNPq, FAPESP.

CFSP344

Rose hip oil in aesthetic dysfunctions

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Introduction and objective: Phytocosmetics and bio-cosmetics are cosmetics with active and components extracted from plants. Among the assets used in these products, there is the rose hip oil. The aim of this study was to conduct a literature review on the origin, a form of extraction, composition, and scientific evidence for the use of rose hip oil.

Materials and methods: The study was held in bibliographical databases (Google academic; PubMed; BVS; LILACS and SciELO), using the keywords: rose hip; canine rose; rubiginosa rose; antioxidants; skin aging. It included dissertations, thesis, and scientific articles published between 2000 and 2018. One of the articles used did not match the inclusion criteria (from 1993).

Results and conclusion: Rose hip oil is obtained from the seed of the species *Rosa aff rubiginosa* L., *Rosa canina* L. and also *Rosa moschat* Herrm. The composition of Rose Hip oil depends on several factors such as: species used, origin of the plant and extraction technique (including the type of solvent used), but is, generally speaking, bioactive compound antioxidants (including the acid trans-retinoic and quercetin) and polyunsaturated fatty acids (oleic, linolenic, linoleic and α -linolenic acid). Different authors present data that support the use of Rose Hip oil to smooth the wrinkles and signs of skin aging and to treat stains. No evidence was found about topical use to prevent and treat stretch marks.

CFSP345

SAA induces cytokine release in pancreatic BRIN-BD11 cells

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Introduction and objective: Inflammation plays a crucial role in diabetes genesis. Although increased serum level of SAA is found in obesity, the effects of this protein are far from being understood. It was supposed that chronic exposure of pancreatic β -cells to SAA might lead to alterations in cytokines secretion resulting in β -cell dysfunction. The purpose of this study was to investigate the effect of SAA on pancreatic β -cell cytokines release.

Materials and methods: Clonal pancreatic BRIN-BD11 was grown in RPMI-1640 at 37°C in 5% CO₂, with the replacement of the culture media every 24 hours. Cells were treated with increasing concentrations (5, 25, 50, 100 μ g/mL) of SAA for 24 hours. After that, the supernatant was removed and used for cytokines measurement. To define the toxic dose of SAA in β -cells, DNA fragmentation and cell membrane integrity were assessed by FACS.

Results and conclusion: The mechanisms underlying islet amyloid deposit formation and its contribution to type 2 diabetes pathogenesis are not entirely understood. A chronic increase in SAA levels induces amyloidosis in peripheral tissues, leading to progressive organ failure associated with amyloid accumulation. Amyloidosis is associated commonly with inflammation, ROS and the development of excess fibrous connective tissue in an organ or tissue. SAA, in the concentration studied, was not toxic to pancreatic beta cells. A dose-dependent increase in IL-1 β , CINC-3, and VEGF-a by β -cells incubated in the presence of SAA were observed. Our results indicate that SAA plays a role in β -cell dysfunction by increasing pancreatic β -cell inflammation.

Financing: FAPESP (# 2011/19589-9 e #2018/17986-0), CNPq and CAPES.

CFSP346

Satisfaction analysis of the course and demands regarding the new national curriculum guidelines of students in a pharmacy course in Ceará

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Introduction and objective: On 19 October 2017, the document titled “Novas Diretrizes Curriculares” of the Pharmacy course was published. In order to contribute to the development of a new curriculum, the purpose of this work is to develop quantitative and qualitative research with students to measure satisfaction and analyse their demands.

Materials and methods: A descriptive, cross-sectional and exploratory study was conducted with the pharmacy students at the Federal University of Ceará. The population consists of 522 students with a sample of 131. A questionnaire was made, with closed and open questions made by the researchers, in which the open ones can have more than one answer by questionnaire.

Results and conclusion: The results obtained regarding the knowledge of changes by the new National Curriculum Guidelines were: 87.4% do not know of any change, regarding satisfaction with the graduation and teaching didactics 58% of people consider their satisfaction with the Pharmacy course as good, and 58% consider the didactics of teachers as regular. Also, 95.96% answered that the course load needs to be changed, and 53.22% consider this to be their greatest difficulty in the course. Therefore, the conclusion is that it is essential to have more dissemination and consultation mechanisms, besides reducing the course load. Moreover, it is essential to change the teaching didactics, because although the students are satisfied with the graduation, they consider the didactics problematic.

CFSP347

Secondary metabolites isolated from *Varronia dardani* (Taroda) J.S. Mill

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Introduction and objective: *Varronia dardani* belongs to the Cordiaceae family. Some species are used in folk medicine because they present antimicrobial, antifungal, larvicidal, anti-inflammatory, and analgesic activity. This work aimed to contribute to the chemical knowledge of the genus *Varronia* through the extraction, isolation, and identification of its chemical constituents.

Materials and methods: The leaves of *V. dardani* were collected in Serra Branca, PB. The crude ethanolic extract was obtained and subjected to liquid/liquid partition. The ethyl acetate phase was subjected to column chromatography, then analytical thin-layer chromatography analysed and pooled according to Rf. The fraction Vd11-12 was submitted to HPLC on a semi-preparative scale and analysed by ¹H, ¹³C, and HMBC RMN.

Results and conclusion: Analysis of ¹H NMR (400 MHz, CD₃OD), ¹³C APT (100 MHz, CD₃OD), and HMBC spectra resulted in the identification of two substances encoded as Vd-1 and Vd-2. The observed signals were characteristic of two flavanones – isosakuranetine (5,7-dihydroxy-4'-methoxyflavanone) and naringenin (4',5,7-trihydroxyflavanone), respectively. Vd-1 was already reported in *V. dardani* and Vd-2 was isolated for the first time in the species under study, but it had already been reported in the genus *Varronia*.

CFSP348

Self-medication among Anhembi-Morumbi University health students

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Introduction and objective: Considering the negative impact that self-medication can have on our health, the present study focused on determining the number of Anhembi-Morumbi health students who take non-prescriptions drugs and observe how knowledge can influence in this area.

Materials and methods: A cross-sectional study in which 542 Pharmacy, Nursing, Biomedicine, and Physical Education students of Anhembi-Morumbi University anonymously answered a questionnaire developed by this study's authors. This research was approved by the National Commission on Research Ethics with the Certificate of Presentation for Ethical Appreciation number 08949419.7.0000.5492.

Results and conclusion: Among those interviewed, 81.2% (485) reported using non-prescriptions drugs, especially in the Nursing course, where 93.5% of the students use non-prescription medications. The most used ones are NSAIDs, by 87.6% of the students, followed by psychoanaleptics (40.4%) and muscle relaxants (35.0%). It can be concluded that there is no correlation between different semesters and the incidence of use of such drugs given that the decreasing number of users is insignificant. Considering these results, the importance of an intervention is essential to promote the rational use of medicines among health students.

CFSP349

Serum levels of interleukin-10 (IL-10) in patients with acute ischemic stroke: association with IL-10 polymorphism -592 C/A (RS1800872)

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Introduction and objective: Interleukin 10 plays an important modulatory role in inflammations, and may be associated with neurological deficit in patients with acute ischemic stroke. This study aimed to evaluate the frequency of -592C/A polymorphism in the IL-10 promoter in patients with AIS, and its association with circulating levels of IL-10 and neurological deficit.

Materials and methods: The neurological deficit at admission was assessed with NIHSS; the mRS assessed the prognosis after three months. One hundred five patients with AIT were included, the IL-10 levels were quantified by chemiluminescent immunoassay, and the IL-10 -592 C/A polymorphism was determined by the polymerase chain reaction followed by the restriction fragment length polymorphism.

Results and conclusion: The IL-10 levels did not differ according to the IL-10 -92C/A polymorphism when evaluated in the additive and dominant models ($p > 0.05$). When evaluated the association of IL-10 levels with the neurological deficit by NIHSS and prognosis according to genotypes, only patients with the A allele (CA+AA genotype) showed an association between elevated levels of IL-10 and worse prognosis (mRS) after three months ($p = 0.011$). After correcting for covariates, only IL-10 levels were predictors for a worse prognosis (positive) ($p = 0.003$, OR 1.73, 95% CI, 1.03-2.93). The results suggest that the present polymorphism is not associated with neurological disability. However, in patients with the A allele, elevated levels of IL-10 were predictors of poor prognosis after three months of AIS.

CFSP350

Sibutramine exposure during spermatogenesis promotes changes in mice sperm cells

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Introduction and objective: Sibutramine, a drug used to treat obesity, acts in the reuptake of noradrenaline and serotonin, increasing their levels in the synaptic cleft, which increases the feeling of satiety. This study aimed to investigate the effect of its exposure on spermatogenesis and testosterone levels.

Materials and methods: Approval by CEUA 19079.2016.56. Design plan: treatment group (G1) and control group (G0). Gavage treatment: sibutramine 15 mg/kg and saline solution, respectively, for 45 days. On the 46th, the males were euthanized, and their blood, testicles, and epididymis collected. The organs were weighed and histologically processed and the level of testosterone dose. Statistics: Student's t-tests, Mann-Whitney.

Results and conclusion: The comparative study of testicle weight indicated a significant difference between the groups (G0: 0.2257 ± 0.79 , G1: 0.2525 ± 0.85). Histological testicles analysis showed no modification in Leydig and Sertoli cells. The morphological characteristics of the sperm showed head and tail alterations (G0: 3.15%, G1: 11.16%). There was no change in testosterone levels (G0: 646.4 ± 469 , 5 ng/dL, G1: 315.4 ± 402.0 ng/dL). It is concluded that sibutramine promoted in spermatozoa formation. The results obtained serve as an alert for men on fertile age to be more attentive when using this drug.

CFSP351

Sociodemographic analysis and profile of medicine use among the elderly attended in university clinic

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Introduction and objective: It is estimated that by 2020 13.6% of the population will be elderly. These patients are usually affected by chronic diseases, becoming a priority in health care. The objective of this research is to characterize the sociodemographic and medication profile of elderly outpatients attended in a clinic of a private university in São Paulo.

Materials and methods: After Ethics Committee approval (Approval Letter n. 1.587.320), medical records of patients >60 years old admitted to the university clinic between 2012- 2016 were evaluated. The drugs were classified according to the Anatomical Therapeutic Chemical (ATC). Beers Criteria of the American Geriatrics Society (2015) served as the basis for classifying medications as inappropriate for the elderly.

Results and conclusion: 200 medical records were evaluated, (individuals being 71 years or older, 70% of women, and 40.5% which did not complete elementary education or were illiterate). Polypharmacy was present in 36% of medical records and the total of patients studied were concomitantly affected with two or three morbidities. The most commonly used classes of drugs were proton pump inhibitors (PPIs) and benzodiazepines (BZD). These classes are considered inappropriate for elderly, according to Criteria of Beers, due to the risk of, respectively, fractures and falls, among others. These results suggest the importance of analyzing the profile of the population served and consequently offer more qualified services, as well as the relevant performance of the pharmacist in the rational use of medicines in the care of the elderly.

Financing: Multiprofessional residency grant of the Ministry of Health in partnership with Uninove.

CFSP352

Solid phase microextraction and liquid chromatography in main aromatic polycyclic hydrocarbons analysis in crack users oral fluid

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Introduction and objective: Polycyclic aromatic hydrocarbons (PAHs) are mutagenic and carcinogenic chemicals possibly present in the oral cavity of pipe smokers. Therefore, analyzing them may contribute to the appropriate clinical intervention of individuals such as crack users while also analyzing different PAHs in their oral fluids.

Materials and methods: The study was performed by liquid chromatography and direct immersion of the solid-phase microextraction (DI-SPME) for sample pretreatment. The main experimental parameters that affected the efficiency of the DI-SPME were found after a complete two-level factorial design with sixteen series and a central point. CAAE No. 0246.0.107.000-11.

Results and conclusion: Better chromatographic separation was achieved before completing the 16 minutes analysis using acetonitrile-water (90:10, v / v) at 1.5 mL.min⁻¹ in the mobile phase with detection at 295 nm. Under optimized conditions, 1ml of oral fluid (pH 6.8-7.2) was stirred at 1,000 rpm for 60 minutes at 80°C. After that, the SPME extraction phase was immersed in 200µL of acetonitrile for 10 minutes at 25°C by desorption of analytes. The linear range was 50-300 ng.mL⁻¹, the quantitation limit was 50 ng.mL⁻¹, and full recovery ranged from 24 to 31% for all analytes. Relative standard deviations within and between runs and relative error were less than 15% for all analytes. The samples underwent stability tests. This method is suitable for screening some of the major PAHs in crack users' oral fluids.

Financing: CNPq, FACEPE.

CFSP353

Solidagenone reduces reactive oxygen species and improves skin integrity in the explant model

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Introduction and objective: Several extracts from *Solidago chilensis* were used topically and showed analgesic and anti-inflammatory effects. Despite these aspects, the main compound of the plant (solidagenone) was not evaluated on the skin. The study aimed to evaluate the solidagenone effects on the morphology and oxidative stress response using a pigskin explant model.

Materials and methods: Samples of skin were obtained from the ears of pigs in a commercial slaughterhouse. Explants (6 mm²) were placed on six wells tissue plates and submitted to control, DMSO 0.5%, and solidagenone (0.06, 0.03 and 0.01 mg/mL). After 96 hours of incubation, explants were fixed or frozen to morphological and oxidative response assays, respectively. A morphological score was established.

Results and conclusion: The main histological findings in explants exposed to all treatments were apoptosis, degeneration, and dermis-epidermal cleft. A significant 1.2-fold increase in the morphological score was observed in explants exposed to 0.06 mg/mL of solidagenone compared to the DMSO group. Also, the explants treated with the highest dose of solidagenone showed a significant increase in the antioxidant capacity compared to DMSO, and a reduced superoxide anion (O²⁻) production compared to the control and the lowest dose of solidagenone. These results are controversial to a previous study reporting no effect of solidagenone on O²⁻ production. In conclusion, the results suggest that solidagenone has a protective effect on the skin, improving tissue morphology, and the antioxidant capacity.

Financing: RLNM and MDGC and JBC (CAPES), EVM (IC-CNPq), CMK (UEL), NSA (CNPq – 408384/2016-6) and FA/PR.

CFSP354

Stability evaluation of captopril capsules formulated in pharmacies of the state of Pernambuco

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Introduction and objective: The consumption of compounded medication covers a large part of the population and the quality control of these products is a factor that is always in question. Captopril is an important antihypertensive. The objective of this study was to analyse if captopril capsules maintained their stability after the compounding process.

Materials and methods: Capsule samples were obtained from three different compounding pharmacies located in the city of Recife, conditioned under constant temperature and protected from light. The determination of captopril content in these capsules was performed by two main methods, titration and spectrophotometry, the latter having its linearity determined by means of the establishment of standard curves.

Results and conclusion: The method was considered linear since the r² values for the calibration curves were greater than 0.99. Titration methods described in the Brazilian Pharmacopoeia were performed as a comparison with the spectrophotometry method. Both methods showed that formulations obtained in compounding pharmacies do not have stability, according to the expiration date of their respective packages. Another difference observed was regarding the weight of the contents of the capsules, which were different in the three samples. This shows that there is heterogeneity in compounding production, even for a common region and for the same drug with the same dosage.

Financing: LTM.

CFSP355

Statistical data from social action in the central region of São Paulo city notify heart, gastric and infectious diseases in homeless population

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Introduction and objective: The work comprises of social action in front of the Pateo do Colégio (São Paulo, SP, Brazil). The action has been conducted within the scope of the “Doctors of the world” NGO. The main objective was to evaluate the classes of medicines dispensed for the homeless population with diseases in the region.

Materials and methods: A total of 168 patients were treated, being separated by gender (including children as a segment). The dispensed drugs were reported in a table, assigning the letter “H” for males and “M” for females. In addition, the bibliographic review for writing and improvement of the results was carried out searching in the following databases: BDTD, PubMed, Scielo, Elsevier.

Results and conclusion: Male patients were prevalent ($\pm 79\%$) with gastrointestinal disturbances and muscle pain ($\pm 26,0\%$), followed by bacterial infections and hypertensive ($\pm 17\%$) and pain conditions ($\pm 20\%$). Other pathologies such as glycemical disorders, fungal, and parasitic infections are recurrent as well ($\pm 17\%$). Specific drugs (such as eyedrops, anticholinergics, etc.) were dispensed too (20%). These data allow us to trace the recurrent epidemiologies and corroborate with the life habits the street population has through the adversities in the city. Poor diet, stressful conditions, excessive use of alcoholic beverages, untreated injuries, and lack of hygienic habits show the results of social inequality in São Paulo city, which places the poorest population under inhuman conditions.

CFSP356

Structural modification of amino acids using sustainable synthesis

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Introduction and objective: The use of syntheses that are in agreement with the so-called “green chemistry” is increasingly required today in the industrial and academic environment. This work focused on the benzylation of amino acids L-phenylalanine (P1) and L-tyrosine (P2), using a less environmentally aggressive aqueous synthesis pathway, the Schotten-Baumann method.

Materials and methods: Therefore, 0.012 moles of each amino acid was dissolved in 100 mL NaOH (10%) and, under stirring, 0.06 moles of benzoyl chloride was added. The reaction was kept at room temperature for 3 hours, and the crystals were filtered, washed with distilled water, and then dried. P1 and P2 were characterized by a thin layer chromatography (TLC), melting point, ultraviolet-visible (UV-VIS), and infrared (I.R.).

Results and conclusion: The synthesized substances P1 and P2 presented a single spot in TLC – eluent $\text{CH}_2\text{Cl}_2/\text{MeOH}$ 10% (RF = 0.52 and 0.95, respectively), which is expected for the product polarities. Experimental melting points obtained: P1 = 123°C; P2 = 136°C, values completely different from those displayed by the starting amino acids. A single UV-VIS absorption band, below 300 nm was found for both products. In the P1 and P2, I.R. spectra appear in the main stretches (C=O, C-N, O-H, C=C aromatic, and C-O). The method used was simple and followed some principles for sustainable syntheses, such as speed, use of the aqueous medium, synthesis conducted at ambient temperature and pressure, absence of toxic solvents in the process, and energy saving.

Financing: UFMT, FAPEMAT.

CFSP357

Structuring a clinical management program for antimicrobial in teaching hospitals: interdisciplinary facing the threat of multidrug resistance

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Introduction and objective: The evolution of microbial multidrug resistance requires the implementation of more efficient monitoring tools. Given this, the Antimicrobial Therapy Management Program (ATMP) aims to achieve the best possible outcomes in addition to avoiding waste. The objective of this work is to show the implementation of ATMP in a teaching hospital.

Materials and methods: An observational and descriptive study conducted from June to December 2018 in hospitals of the Ceará Health Department. The restructuring process was due to the realization of the situational diagnosis of the institutions, taking the composition of the team ATMP, to frame more viable strategies to the scenario studied, and the ATMP indicators to be used.

Results and conclusion: Management and operational teams were set up in each of the network hospitals. To perform in this scenario, clinical pharmacists were trained in a specific preceptorship with technical-conceptual alignment meetings to define the best implantation strategies and survey of situational status to optimize the use of antimicrobials. At the end of the process, the State Antimicrobial Therapy Management Program was elaborated, covering it with Guidelines and Strategies for Optimization of Antimicrobial Therapy, including Permanent Education in Clinical Management of ATM and pharmacotherapeutic accompaniment sheets. The PGTA was fully implemented, evaluated, and computerized in the referral hospital units of the Ceará Health Department.

CFSP358

Study of *Camellia sinensis* glycolic extract (green tea) antioxidant potential in vitamin c formulations

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Introduction and objective: Green tea, a plant product derived from *Camellia sinensis* L., has among its properties, the fight against normal, and induced by UV radiation cell aging; also, it prevents and treats cancer due to the presence of phenolic components. Therefore, this work aims to evaluate the antioxidant potential of its glycolic extract in formulations with Vit C.

Materials and methods: The formulations evaluated included emulsions containing concentrations of Vitamin C (5 and 15%), Ferulic Acid (0.5%), and Green Tea Glycolic Extract (4%), and the presence of antioxidants in emulsions. Among the analytical methods that confer the accelerated stability studies, the following tests were performed: centrifugation test, evaluation of organoleptic characteristics, pH determination, and rheological behavior.

Results and conclusion: All formulations stored in an electric oven and a controlled RH environment after 45 days showed intensely modified color and odor, as well as appearance. Thus, elevated temperatures accelerate physicochemical and chemical reactions, causing changes in component activity, viscosity, appearance, color, and odor of the product. The results obtained in the experiment demonstrate that such changes compromised not only the pharmacological stability of the formulation but also the pharmacotechnical stability and its shelf life, even with the presence of antioxidant substances, which led to the sudden reduction of product quality, therapeutic power, and lifespan. Therefore, it is concluded that glycolic extract is inappropriate for this type of formulation.

CFSP359

Study of forced degradation of aripiprazole by capillary zone electrophoresis

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Introduction and objective: Aripiprazole is a second-generation antipsychotic drug approved for the treatment of schizophrenia, bipolar disorder, and depression. This work aims to evaluate aripiprazole and its degradation products by a fast, simple, and cost-effective capillary zone electrophoresis method.

Materials and methods: Samples were submitted to forced degradation conditions under acid/basic hydrolysis, oxidation, photolysis, and thermolysis. Analyses were carried out in a fused silica capillary (total length of 30.2 cm x 75 µm i.d.) using 25 mmol.L⁻¹ ammonium formate pH 3.5 and 5% of methanol as the electrolyte, hydrodynamic injection at 0.4 psi for 4 s, applied voltage of 15 kV and UV detection at 214 nm.

Results and conclusion: Results showed that the main degradation pathways of aripiprazole correspond to oxidative and thermolytic conditions. The developed method by capillary zone electrophoresis has a run time of 5 minutes, and it is specific with a proper resolution to aripiprazole and its degradation products. The proposed method has acceptable validation results and can be used for the routine analysis of aripiprazole in pharmaceuticals.

Financing: CAPES.

CFSP360

Study of mortality due to external causes among young women: Fortaleza, 2009-2018

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Introduction and objective: Adults from 20 to 39 years led the death statistics from 2010-2016. There is a difference in the total of deaths from external causes in the various regions of Brazil. The objective was to analyse the mortality caused by external objects that affected women in the city of Fortaleza, CE in the period 2009-2018, highlighting homicides.

Materials and methods: A retrospective descriptive study of a time series aiming to evaluate the tendency of mortality rates from external causes in women aged 15-39 years, in Fortaleza, Ceará, in the period from 2009-2018. The information was from secondary data collected from the Department of Health System Informatics (DATASUS) obtained from the Mortality Information System (SIM).

Results and conclusion: In 2018, there was a prevalence of homicides among women aged 15-39 years old, from 6.72 to 23.83 per 100,000 women. Between the years 2009-2018, there was an increase of over 350%. Therefore, it is necessary to discuss the factors that influence the growth of this epidemiological profile of mortality in the city, factors such as the use of illicit drugs, the reduction of the culture of peace in families, and the non-awareness of health professionals for the recognition and notification of these diseases. Thus, it is here highlighted the seriousness of the problem that women in the city of Fortaleza are subjected to, and the need for a reformulation of municipal public health and safety policies, in order to offer better emergency care to victims, providing better assistance to women.

CFSP361

Study of the pharmacist' importance in the control of midazolam and diazepam use in the surgery center of Hospital Santa Casa de Londrina

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Introduction and objective: Benzodiazepines are drugs widely used in surgery centers because they have sedative characteristics. Some benzodiazepines have a greater sedative capacity than others. This study aims to compare the use of Midazolam and Diazepam in the surgery center and to classify the surgical clinic and how much of it was used daily.

Materials and methods: Descriptive observational study during 30 days, April 01, 2019 to April 30, 2019, at the Santa Casa de Londrina Hospital's Surgery Center, analyzing the psychotropic prescription used and comparing the surgical use of Midazolam and Diazepam, in order to demonstrate through the control of the prescription the importance of a pharmacist in the surgical center.

Results and conclusion: As for the results, 283 prescriptions were analysed, including 275 uses of Midazolam (97%). According to the hospital's profile, the clinic that used the most medications was Gastroplasty, with 51 prescriptions, and then Orthopedics, with 49. It is concluded that the use of benzodiazepines in the surgery center has been increasing. Studies indicate that the effects of Midazolam are more lasting in obese patients. It is the anesthetic that has the lowest half-life elimination. However, these are drugs that can cause tolerance, dependence and even retrograde amnesia, so it should be prescribed more carefully. Therefore, the pharmacist has a fundamental role in effectively and safely controlling the patient's use, providing quality patient care and monitoring adverse effects.

CFSP362

Study of the physicochemical properties of the drugs commonly used model substrates and inhibitors of CYP3A4

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Introduction and objective: The CYP3A4 enzyme is a cytochrome P450 isoform, responsible for metabolizing a wide range of endogenous and exogenous compounds. It is responsible for the metabolism of marketed drugs and essential for the knowledge of drug-drug interactions. This study presents the prediction of the physicochemical descriptors of CYP3A4 model substrates and inhibitors.

Materials and methods: This study used 80 drugs, described in the literature as commonly used model substrates and inhibitors of cytochrome P450 3A4 (*in vitro* CYP3A4 probe). The chemical structures were obtained from Drugbank and drawn in the ChemSketch program. To calculate the physicochemical descriptors Osiris DataWarrior and Spartan'10 program were used, aiming to understand the drug-CYP3A4 interactions.

Results and conclusion: The results obtained for CYP3A4 substrates showed that the chemical structures have molecular weights between 234.343 and 1202.635 amu, the distribution of prediction cLogP values range from 1 the 6, with 2 the 23 H-acceptors and 0 the 5 H-donors. A value of Total Polar Surface Area of 178.64 the 961.6 Å², with 1.08 the 6.36 debye dipole moment, 1.39 the 2.28 to ovality, as also 0.08 the 4.37 eV to LUMO energy and -10.2 the -6.58 eV HOMO energy. The results obtained for CYP3A4 inhibitors showed that the chemical structures presented molecular weights and cLogP similar values with the substrates. The physicochemical descriptors support the acknowledgment of the interactions between the enzyme and drugs studied. Additionally, the results help to perform the molecular docking.

Financing: FAPERJ.

CFSP363

Survival evaluation of patients with advanced melanoma treated with Ipilimumab

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Introduction and objective: Melanoma represents a cancer type with a high incidence and high mortality worldwide. The objective of the study was to evaluate the survival of patients with advanced melanoma who received treatment with the immunotherapeutic Ipilimumab.

Materials and methods: Case series study. Data were collected from medical records of patients treated at Hospital de Amor Barretos under Research Ethics Committee approval number 2.787.317.

Results and conclusion: Data from 38 patients were analysed. The female had a more prolonged survival (47 months). Staging III and IV cases were shorter (37 and 32 months, respectively) than Staging I or II (approximately 96 months). Among the four sites of most frequent metastases, lymph nodes represented the lower survival. The survival of patients receiving only Ipilimumab was approximately 32 months, increasing to approximately 80 months when it is combined sequentially with other therapies, which reflects the innovation of new immunotherapeutic treatments and a great benefit even when there is no success in the first line of treatment. The number of metastases is directly related to the increased risk of death. The treatment with the immunotherapeutic Ipilimumab influences the survival of patients with melanoma, especially when combined with other therapies.

CFSP364

Syngonanthus nitens* (Bong.) Ruhland derivative loaded into a nanoemulsion system as a strategy to control infections caused by *Candida parapsilosis

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Introduction and objective: The high resistance profile of *C. parapsilosis* to standard therapies available creates the need to investigate new antifungal sources. In this research, the anti-*C. parapsilosis* potential of a fraction (F2) from *Syngonanthus nitens* (Bong.) Ruhland methanolic extract unloaded and loaded into a lipid nanoemulsion system was evaluated.

Materials and methods: The F2 fraction was incorporated into a lipid nanoemulsion (NL) composed of cholesterol, polyoxyethylene 20-cetyl ether soy phosphatidylcholine, phosphate buffer, and chitosan polymer dispersion. *C. parapsilosis* ATCC 22019 and CPV4 were employed to determine the minimal inhibitory and fungicidal concentration (MIC and MFC) of F2 and NLF2 by microdilution technique on planktonic cells and biofilms.

Results and conclusion: The F2 fraction was active against *C. parapsilosis* planktonic cells, and the activity was potentiated when incorporated into NL. Both samples were active on biofilms, however, the results of NLF2 were more promising, showing better results with lower concentrations of F2 in relation to the amphotericin B. The nanoemulsion improved the activity of F2, and the reason for that can be associated with the interaction between nanoemulsion and the yeasts, since the structures of this system can recognize the fungal cell membrane in order to improve the vegetal active.

Financing: FAPESP (grant numbers 2014/24626-9 and 2017/18435-4).

CFSP365

Synthesis and evaluation of anti-*T. cruzi* properties of thiazolil-isatines inedies

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Introduction and objective: Neglected diseases are a cluster of infectious diseases affecting developing countries. Among the neglected diseases, Chagas disease, caused by the protozoan *Trypanosoma cruzi*, stands out. The objective of this work is to synthesize a series of novel thiazolyl isatins and to evaluate the anti-*T. cruzi* properties.

Materials and methods: Ten thiazolyl-isatines were synthesized in two steps. In the first one, the intermediate thiosemicarbazone was obtained. In the second step, the thiosemicarbazone was cyclized with different α -halo ketones, giving the ten thiazolyl isatins. All the compounds were characterized. The whole series was tested for cytotoxicity by MTT and the epimastigote and trypomastigote forms of *T. cruzi*.

Results and conclusion: Of all compounds tested, PA-1J compound (8.07 μ M) was the most cytotoxic and PA-1B (74.83 μ M), and PA-1C (71.41 μ M) compounds were the least cytotoxic. Regarding anti-*T. cruzi* activity. (IC₅₀ = 6.95 μ M), with an IC₅₀ value similar to the reference drug, benznidazole (IC₅₀ = 6.26 μ M). The results of this work indicate that the PA-1K compound is an important candidate for the antichagasic drug.

Financing: CNPq, FACEPE.

CFSP366

Synthesis and evaluation of anti-*T. cruzi* properties of new isatin-thiosemicarbazones

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Introduction and objective: Chagas disease is a parasitic infection caused by *Trypanosoma cruzi*, which affects about 6-7 million people worldwide. Since *T. cruzi* is susceptible to thiosemicarbazones, the objective of this work is to synthesize a series of isatin-thiosemicarbazones and to evaluate the anti-*T. cruzi* properties.

Materials and methods: Nine compounds were synthesized using a simple and well-described methodology in the literature. All the compounds were characterized by different spectroscopy techniques (¹H-NMR, ¹³C NMR, IR, and Masses). The whole series was tested for cytotoxicity by MTT and the epimastigote and trypomastigote forms of *T. cruzi*.

Results and conclusion: Of all compounds tested, only PA4 and PA5 were cytotoxic at doses below 50 μ M; the others had cytotoxicity well above this value. Regarding anti-*T. cruzi* activity, with the exception of the compounds PA1, PA7, and PA9, the other ones presented IC₅₀ values lower than 10 μ M for the trypomastigote form (present form in the bloodstream of the human host). Also, the compounds PA3 (IC₅₀=4.09 μ M) and PA5 (IC₅₀=3.40 μ M) had better IC₅₀ values, showing to be more active for the trypomastigote form when compared to benznidazole (IC₅₀ = 6.26 μ M). The results indicate that isatin-thiosemicarbazones derivatives are important candidates for antichagasic drugs.

Financing: CNPq, FACEPE.

CFSP367

Synthesis and molecular modeling studies of hydrazinotiazoles derivatives potentially active in leishmaniasis

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Introduction and objective: Natural compounds have been tested for their potential use in Leishmaniasis. Of particular note are those derived from essential oils. This research aims to obtain hydrazinotiazole derivatives and molecular docking studies. These compounds were obtained from allylic alcohols, aiming at the potentization of their leishmanicidal activity.

Materials and methods: The synthesis occurred by the oxidation of allylic alcohols with manganese oxide. The aldehydes obtained were used for the condensation of thiosemicarbazide, and then the formation of the Schiff base. The obtained thioamine was condensed with alpha-bromo-nitroacetophenone by the Hantzsch mechanism. The reverse docking was accomplished with the use of web-based software.

Results and conclusion: The oxidation reactions presented yields of 60-74%, and the formation reactions of the Schiff base presented yields of 80-90%. In the last step, forming the thiazole ring, the yield ranged between 7 and 30%. Reverse docking studies have shown as likely molecular targets in common among all compounds monoaminoxidase A and monoaminoxidase B enzymes from humans. With the use of a protein alignment tool, targets similar to human targets in parasites were sought out. No similar enzymes were found in parasites. The targets for the selected compounds may be unique to the parasite, including the cell membrane. Other web-based softwares such as Pharmmaper are being used to search for new possible targets.

Financing: CNPq.

CFSP368

Synthesis and physicochemical characterization of docetaxel-loaded magnetoliposomes

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Introduction and objective: Magnetoliposomes (MLs) of docetaxel (DTX) can improve pharmacokinetics and reduce side effects based on drug delivery. Four formulations of MLs using magnetite (Fe₃O₄) functionalized with 3-aminopropyltriethoxysilane (APTES) were tested. MLs were analysed by particle size, polydispersity (PDI), zeta potential, and DTX loading.

Materials and methods: Fe₃O₄ was obtained by the coprecipitation method, and functionalized with APTES by ultrasound. DTX nanosystems with and without MLs were prepared by the classical thin lipid film method, using soy phosphatidylcholine (SPC), 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (DOPE), cholesterol (CHOL) and d- α -Tocopheryl polyethylene glycol 1000 succinate (TPGS) and hydrated with Fe₃O₄/APTES/PBS.

Results and conclusion: Fe₃O₄ was successfully synthesized, as well as its APTES functionalization in our four formulations, with and without MLs. The particle sizes observed were 113.96 \pm 2.17 nm for SPC:CHOL:TPGS: Fe₃O₄; 155.43 \pm 2.20 nm for DOPE:CHOL:TPGS: Fe₃O₄; 88.51 \pm 0.78 nm for SPC:CHOL:TPGS; and 108.46 \pm 0.11 nm for DOPE:CHOL:TPGS. For PDI results, we obtained the following data: SPC:CHOL:TPGS: Fe₃O₄ = 0.306 \pm 0.04; DOPE:CHOL:TPGS: Fe₃O₄ = 0.256 \pm 0.01; SPC:CHOL:TPGS = 0.244 \pm 0.02; and DOPE:CHOL:TPGS = 0.251 \pm 0.00. DTX loading was 80.97% \pm 12.20; 60.61% \pm 17.10; 95% \pm 9.94 and 44.15% \pm 3.52 respectively for SPC:CHOL:TPGS: Fe₃O₄, DOPE:CHOL:TPGS: Fe₃O₄, SPC:CHOL:TPGS and DOPE:CHOL:TPGS. These studies will be considered for the next steps of *in vitro* evaluation of magnetoliposomes.

CFSP369

Synthesis of magnetite nanoparticles by the adapted stöber method to be used in guided medicine

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Introduction and objective: In biomedical applications, the use of magnetite (Fe₃O₄) has been emphasized. Thus, making it very attractive due to its low toxicity and high biocompatibility. The objective of this work was to synthesize Fe₃O₄ nanoparticles and promote the association with Doxorubicin, the drug of choice for the treatment of bones.

Materials and methods: Magnetic nanoparticles of Fe₃O₄ were synthesized by an adapted Stöber oxi-reduction method. In the first step, the FeCl₃ solution and Na₂SO₃ solution were mixed to form Fe²⁺ and Fe³⁺ complexes. This mixture was alkalized with an NH₄OH solution to stabilize the crystallization of Fe₃O₄. The crystal was washed with plenty of water, filtered through a 0.45 µm Nylon[®] membrane, and washed with acetone.

Results and conclusion: Fe₃O₄ particles were characterized by X-ray Diffraction (XRD), Infrared Spectroscopy (FTIR) analysis, thermogravimetric analysis, particle size, and morphology analysis by Scanning Electron Microscopy (SEM). The XRD results reveal that the synthesis of the magnetite was performed successfully. The FTIR spectra made it possible to predict the chemical bonds present in each of the synthesized samples, while the thermogravimetric analyses allowed to follow the decomposition of the samples by thermal heating. SEM analysis revealed that the morphology consists of spherical nanoparticle clusters ranging in size from 30 to 100 nm. Particles of Fe₃O₄ were successfully synthesized by the chemical route studied, which allowed the obtaining of magnetic nanoparticles with yields above 90%.

Financing: CAPES

CFSP370

Systematic review of radiopharmaceuticals efficacy in clinical and preclinical trials in the diagnosis and treatment of cancer patients

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Introduction and objective: Pharmaceutical performance in nuclear medicine has been acquiring great advances with the development of radiopharmaceuticals. Therefore, studies are needed to evaluate biodistribution or possible harmfulness. The objective is to analyse the literature of preclinical and clinical tests for diagnostic and therapeutic purposes in cancer patients.

Materials and methods: A systematic literature review was carried out, using as inclusion criteria scientific articles within five years (2015/2019). The databases used were Lilacs, Pubmed and MedlinePlus, using keywords such as “radiopharmacy,” “radiopharmaceutical,” “preclinical,” “clinical.” Articles outside this period and subjects irrelevant to the research were excluded.

Results and conclusion: In the literature analysed, preclinical and clinical tests reported the use of technetium-labeled mesoporous silica nanoparticles (99mTc) and *in vivo* computed tomography (PET / CT), which could detect melanoma imaging. A total of 100 published articles were used for this review. Of these, 50 reported the use of these techniques for cancer diagnosis and treatment, in 28 of which was found that in breast cancer 98% of cytotoxicity tests demonstrated greater safety in use. The most commonly used route of administration for the technique is the systemic route, as it ensures treatment efficacy. Thus, the pharmacist plays an important role in the production of radiopharmaceuticals, acting in the pharmacotherapeutic follow-up and helping in the adherence of these patients to treatment.

CFSP371

Systematic review on incorrect medicinal disposal

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Introduction and objective: New drugs have made it possible to improve the quality of life of the population, but it has caused health and environmental risks due to incorrect disposal, leftovers, and disuse of medicines. The purpose of this review was to identify the possible causes of inappropriate drug disposal.

Materials and methods: This is a systematic review that was based on analyzing articles of studies published between the years 2010 to 2019. To conduct this review, guiding descriptors were used: discard drugs, inappropriate waste, and waste, as well as inclusion and exclusion criteria. The search for papers was carried out in June 2019, in the PUBMED, LILACS, and SciELO databases.

Results and conclusion: Ten papers were analysed, nine of which reported in their studies the lack of information on the correct disposal of the population, and eight that reported that inappropriate disposal is also linked to a lack of appropriate sites. About 90% of the analysed studies say that people dispose of their waste in places such as sinks or pots in order to provide a destination for leftovers or drugs. Of the analysed studies, 60% affirm that there is a need for campaigns and programs for the proper knowledge of the discard. It is important to have health education programs and the implementation of public policies aimed at the disposal and correct use of medicines in order to minimize the damages caused by them since they compromise people's quality of life.

CFSP372

Tacrolimus-based therapy modifies the expression of microRNAs in urinary exosome of kidney transplant recipients

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Introduction and objective: miRNAs are small non-coding RNAs that regulate gene expression. Circulating and urinary miRNAs have been suggested to predict renal graft function and rejection in kidney transplantation. The study investigated the influence of short-term tacrolimus-based therapy on miRNAs expression of urinary exosomes in kidney transplant recipients.

Materials and methods: After transplantation Kidney recipients (n=23) treated with tacrolimus (TAC), mycophenolate sodium, and prednisone were followed-up for three months. Clinical, laboratory, therapy, and drug monitoring data were recorded. The expression of miRNAs in urinary exosomes was measured by a qPCR array (96 targets). The study protocol was approved by the local Ethics Committees (UNIFESP#054/2008, FCF/USP#517).

Results and conclusion: Kidney recipients and donors were mainly male (69.6 and 52.2%) and Caucasian (47.8 and 65.2%), with an average age of 46.4 and 41.9 years. Graft kidney function was normalized within 3-month TAC therapy. Ten miRNAs were upregulated, of which miR-99b expression was positively correlated with TAC concentration/dose (C/D) ratio ($r=0.364$; $p=0.027$), whereas the miR-146b ($r=-0.350$; $p=0.031$), miR-155 ($r=-0.396$; $p=0.019$) and miR-200a ($r=-0.364$; $p=0.014$) were inversely correlated with TAC dose. Six miRNAs were downregulated, of which miR-223 was positively correlated TAC dose ($r=-0.516$; $p=0.002$). In conclusion, exposure to TAC-based therapy is associated with marked dysregulation of miRNA profile in urinary exosomes, representing potential biomarkers for therapeutic monitoring in kidney transplantation.

Financing: FAPESP, CNPq, and CAPES.

CFSP373

Ternary phase diagram of whiskers containing tucumã oil (*Astrocaryum vulgare*)

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Introduction and objective: The whiskers are composed of an oil phase and have great moisturizing potential. There are few studies reported in the literature aiming to understand the interaction between its components and determine the factors that interfere with phase orientation and the microscopic structure of these formulations.

Materials and methods: Preparation of the aqueous phase with natrosol and the oil phase with tucumã oil and aerosil. Through an adaptation of the titration technique, oleogel additions were made to the hydrogel, and four photos of different fields were visualized under an optical microscope. The computer programs ImageJ and Minitab17 were used to analyse the images.

Results and conclusion: The structure of the mixture was found by observation of the mixture under the light microscope. It was also found that until the addition number five, an oil-in-water type bevel was obtained, and the following phases were separated. The observed bigel had its phase dispersed Natrosol® stained by Methylene Blue, and Oleogel was dispersed in spherical particles. The average particle size showed no statistical difference between the additions, while each addition showed a significant increase in the number of particles formed. From the preliminary results obtained, it can be observed that the factor that influences the phase separation of the Tucumã oil is the number of particles formed.

CFSP374

The contraceptive efficacy of male condom: a systematic review

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Introduction and objective: Pregnancy or failure rate of contraceptive methods must be assessed considering the ability to conceive, intercourse frequency and timing, compliance degree, and preferred contraceptive method, considering perfect and typical use. This review aimed to evaluate the efficacy index of the male condom (MC) as a contraceptive method.

Materials and methods: This research used a systematic review, associating the terms male condom, efficacy, effectiveness, contraceptive, contraception, and condom, from 1994 to 2019 in the PubMed, LILACS, Scielo and ScienceDirect database. Only randomized trials with the descriptors in the title that addressed the effectiveness of male condoms were selected

Results and conclusion: Out of the 11 papers found, only one available study conducted during the fertile phase showed a 0% pregnancy rate for MC. Nine studies evaluated the failure rate of new MCs compared to male latex condoms (MLC). Generally, the MLC had better results. However, they were not statistically significant. The failure rate for breakage varied from 0.2% to 1.3% to the MLC, and from 0% to 5.61% to other types. For slippages, the failure rate ranged between 0% and 2% to the MLC and between 0% and 4.9% to different types. One study indicated a pregnancy rate of 1.25% to the MC and 2% to an association with an emergency contraceptive pill. Further studies on the effectiveness of male condoms are necessary, primarily to be conducted during the fertile phase of women and considering pregnancy rate.

CFSP375

The effect of solvent and extractive processes on the flavonoids extraction of *Phyllanthus niruri*

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Introduction and objective: *Phyllanthus niruri* L. is a plant used in folk medicine to treat urinary diseases. Lately, an interest in the phytoterapeutics market has emerged. Thus, it is necessary to obtain standardized extracts. Therefore, the objective of this study was to evaluate the influence of ethanol concentration and extraction methods on the flavonoids extraction of *P. niruri*.

Materials and methods: Ethanolic extracts of *P. niruri* were prepared at the concentrations of 50 and 96%, employing three extractive methods: maceration, percolation, and ultrasound. Flavonoids quantification were made using $AlCl_3$ at 10% as a reagent. Quercetin was utilized for the elaboration of the standard curve. The analysis was made in triplicate, and the results were analysed in the Minitab18[®] and Prisma GraphPad software.

Results and conclusion: It was observed that the solvent concentration and the extractive process are statistically significant ($p < 0.05$), being the solvent concentration the effect that most contributed to flavonoid extraction. In addition, an interaction ($p < 0.05$) could be observed between the solvent (ethanol 50% and 96%) and the extractive process (maceration, percolation, and ultrasound). Consequently, it was verified that ethanol 96% positively influenced flavonoids extraction and that maceration and percolation were equally efficient in the extraction of these metabolites ($p < 0.05$). Therefore, it is possible to conclude that the flavonoids extraction of *P. niruri* can be prepared with the same efficiency by maceration and percolation, utilizing as a solvent ethanol 96%.

Financing: Centro Universitário São Camilo.

CFSP376

The effect of surfactant on the release profile of methylene blue and metformin from nanoemulsions based on monoolein

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Introduction and objective: Topical delivery of Methylene Blue (MB) and Metformin (MET) by nanoemulsions (NE) is a therapeutic strategy for the treatment of skin cancer. However, the components of the formulation may interfere on the drugs' release, so this research proposed to evaluate the influence of surfactants on *in vitro* release of MB and MET from the NE based on monoolein (MO).

Materials and methods: NE based on MO (5%) were obtained using ultrasound. Kolliphor P407 (K), or sodium cholate (CH), was employed as a surfactant (1.25%). MB and MET were added to the systems at a concentration of 0.1%. An aqueous solution of MB and MET at 0.1% was used as control (C). The release profile was carried out in diffusion cells, using acetate cellulose membrane and phosphate buffer (pH7.2) as a receptor solution.

Results and conclusion: The release of the MET from the control formulation in 12 hours was 88%, and the NE of MO based on K or CH released 76% ($P < 0.01$, compared to C) and 75% ($P < 0.01$, compared to C), respectively. There is no statistical difference in the amount of MET released between the NE based on K and CH. The MB release from C in 12 hours was 39%, and the NE of MO based on K or CH released 34% ($P < 0.05$, compared to C) and 12% ($P < 0.001$, compared to C), respectively. There is a statistical difference in the amount of MB released between the NE based on K and CH ($P < 0.001$). In conclusion, the type of surfactant may influence on MB release, but it does not influence on MET release. In addition, independent of the surfactant, the NE provides a sustained release of both MB and MET, as compared to the control.

Financing: Fapesp.

CFSP377

The genotoxicity of carbamazepine is reversed by the standardized extract of *Ginkgo biloba*

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Introduction and objective: Irrational drug use is one of the major causes of intoxication. The standardized extract of *Ginkgo biloba* (EGb) is a phytotherapeutic drug that has several therapeutic effects. The *Allium cepa* test shows genotoxic effects. This work proposes to analyse the genotoxicity of Carbamazepine and the protective potential of EGb in the reversal of toxicity.

Materials and methods: An *Allium cepa* bioassay was performed for the positive (CuSO_4) and negative (H_2O) control groups; Carbamazepine 200 mg and EGb 1 g/L. There was a presence of chromosomal alterations such as breaks, delays, bridges, or micronuclei evidence of genotoxicity. The number of samples was five slides: 100 cells/anaphase-telophase; 500 cells/group. The GraphPad Prism 6.0 software was used for the statistical analysis, with a 5% significance.

Results and conclusion: The data showed an increase in micronuclei in the group treated with Carbamazepine 200 mg and several chromosomal alterations such as bridges, breaks, and delays ($204 \pm 5,21$; $334 \pm 4,88$), compared to the control group ($23 \pm 2,74$; $70 \pm 2,74$), respectively, $P < 0,0001$. Treatment with 1 g/L of standardized extract of *Ginkgo biloba* (EGb) resulted in a significant reversal of genotoxic effects caused by the antiepileptic drug ($15 \pm 3,77$); $P < 0.0001$. This study demonstrated, for the first time, the genotoxicity of Carbamazepine 200 mg in *A. cepa* cells. It evidenced the protective potential of EGb, which significantly reversed the genotoxic effects of chromosome changes in the mitotic phase and micronuclei caused by the anticonvulsant drug, suggesting the further use of phytotherapies in association with pharmacotherapies.

Financing: Comitê de pesquisa: PIBIC/UNG.

CFSP378

The hemostatic activity of *Eugenia uniflora* L. dried leaves extract

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Introduction and objective: *Eugenia uniflora* L. (Myrtaceae family), already described in Brazilian Pharmacopoeia, presented among other secondary metabolites, large amounts of phenolic compounds, proven as substances of great action in human blood hemostasis. The main purpose of this study was to evaluate the activity of ethanolic dried leaves extracts on the coagulation process.

Materials and methods: It was performed at the best extractive condition for total phenols and flavonoids in dried leaves using a design of experiments with two factors in two levels (matrix 22): drug/solvent ratio (1:10 or 1:20) and maceration time (1 or 7 days), resulting in four trials. The human blood by discard samples was used (CEP: 87780418.5.0000.0082). Coagulation assays were carried out with thromboplastin using Thrombolyzer equipment, and the blood components determined by complete blood count (Sysmex xn 1000).

Results and conclusion: The quantitative analysis of dried leaves ethanolic extract, showed that the best treatment for total phenols values was 6,17mg/g (Treatment 1: drug ratio 1:20 and one-day maceration) while flavonoids values was 153,21 μg (Treatment 2: drug ratio 1:20 and seven-days maceration). Although the best extractive process for polyphenols was the above-cited, the hemostatic activity was more efficient in the treatment 3 (drug ratio 1:10 and one day of maceration). The activated partial thromboplastin time (the parameter that evaluates the intrinsic pathway in the coagulation process) in treatment 3 was 150.2 seconds (the normal parameter is 20 to 40 seconds), while prothrombintime (extrinsic pathway in the coagulation process) was 14.3 seconds (normal parameter is 10 to 14 seconds). The treatment 3 also showed effective safety for blood components (there was only mild anemia). Thus, it is possible to conclude that, although this is a preliminary study, *Eugenia uniflora* L. dried leaves ethanolic extract showed a hemostatic activity. It could be a potential drug plant for the elaboration of a future anticoagulant drug.

CFSP379

The importance of pharmaceutical care for self-medication patients in a drugstore in Jundiaí

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Introduction and objective: Pharmaceutical care is a set of practices important to delivery information regarding self-medication and other purposes. The present work deals with a survey conducted with users of Farma drugstore in Jundiaí, SP, with the purpose of analysing data about self-medication of a small population and the reflection of the importance of having a pharmacist.

Materials and methods: The methodology used was the application of a questionnaire with 18 closed questions to 51 volunteers that attended a pharmacy in Jundiaí, São Paulo. This project was submitted to the ethics committee of Unianchieta following the CNS number 466/12 Resolution; and was approved.

Results and conclusion: The questionnaire showed that most users were male (36%), age group between 18 to 45 years with a predominant level of elementary education, and low family income. Many of them have private health insurance and also use of the Sistema Único de Saúde (SUS). It was identified that doctor's visit only perform often, in many cases, when patients have a disease, if not, they happen annually, what makes them prone to the acquisition of non-prescribed medications. Among the respondents, using continuous medication, it was found that most of the medications used are from antihypertensive, antilipemic, and hypoglycemic classes. The most non-prescribed medications were for colds, flu, and other inflammations. Part of users is unaware of the damage that this practice can cause, especially when related to alcohol and medication association. As for the influences on the purchase of medicines, this is done by the family, pharmacist, and the user himself by previous knowledge. Therefore, over 80% of the patients affirm that it is important to have a pharmaceutical professional in attendance. Results show that self-medication is an ordinary practice, but pharmaceutical care could prevent further problems.

CFSP380

The importance of the clinical pharmacist to identify possible drug interactions on medical prescriptions in a small-sized hospital

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Introduction and objective: The performance of the clinical pharmacist has grown significantly in recent years, integrating into a multi-professional team reviewing prescriptions and intervening when necessary. This study aims to analyse the medical prescriptions of patients hospitalized in a small-sized hospital in the extreme West of Santa Catarina.

Materials and methods: This study is quantitative, longitudinal, retrospective, and analytical, being analysed the medical prescriptions of the Hospital and Care Foundation of Cunha Porã (SC), from the medical clinic, obstetrical, post-surgical, pediatric and ambulatory sectors. The prescriptions were analysed individually, studying the possible interactions. Ethical protocol: 3.086.901.

Results and conclusion: There were inconsistencies on the prescriptions of all the investigated sectors of the hospital. The ambulatory sector exposed the highest number of drug interaction problems (37.0% of the prescriptions). The obstetric sector was the one that presented fewer prescriptions with possibilities of interactions (9.7%). The medical clinic sector had 28.5% of its prescriptions with possibilities of interactions. In the postoperative sector, 14.8% of possible interactions were found, and 12.7% of the pediatric prescriptions presented risks of a drug interaction. These results confirm the importance of the presence of the clinical pharmacist in smaller hospital units, since the presented risks may compromise the recovery of the patient, even with possible worsening of health.

CFSP381

The influence of medication discrepancies on the length of hospital stay

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Introduction and objective: Medication Discrepancies (MD) may occur at transitions of care, where patients often receive new medications or adjustments in their existing ones. The present study aimed to examine the association between (MD) at hospital admission and the length of stay (LOS).

Materials and methods: This retrospective cohort study was performed in a public hospital. Patients with the Best Possible Medication History (BPMH) during 2016-2017 were included. The (MD) were identified comparing the drugs in medical orders at admission and those listed on the patient's BPMH. The participants were divided into exposed and non-exposed to at least 1 type of MD, and the (LOS) was the outcome. CEP: 3.202.187

Results and conclusion: A total of 405 individuals were analysed, of which 139 (34.3%) were exposed to (MD): 42 (26.9%) in Medical Clinical (MC) and 97 (39%) in Surgical Clinical (SC). The average LOS of the exposed group was 10.6 days (SD=13.2); on the other hand, to the non-exposed group, it was 15.2 days (SD=20.4), $p=0.006$. In the (MC), the LOS for those exposed was 20.5 days (SD=20), while in the (SC), it was 9.3 days (SD=15.8), $p=0.000$. The most frequent type of MD was Drug-related 93 (65.5%), followed by Dosage 23 (16.2%), and Dose-related 17 (12%). The LOS, according to the type of MD: Drug, Dosage, Dose, was 9.5 (SD=10), 15.6 (SD=23.9), and 8.1 days (SD=7.4), respectively. In this study, the existence of MD at hospital admission did not increase the LOS.

CFSP382

The new regulatory framework of dietary supplements: a challenge to the next years

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Introduction and objective: The new regulatory framework promoted numerous changes for industries and the regulatory sector of dietary supplements. This fact motivated the present work to analyse the current products available in the Brazilian market, identifying possible mistakes and the required changes to legalize the products according to the new guidelines.

Materials and methods: A qualitative, observational, and descriptive study was realized in dietary supplements acquired in the Brazilian eCommerce with Google[®] research tools. The ingredients declared in the labels, and the effects attributed to them were analysed. The commercial claims used as a tool were also considered to evaluate the changes required according to the new guidelines.

Results and conclusion: From 44 samples acquired, 34.2% could not be classified as Dietary Supplements, as recommended by the new regulation due to the presence of non-permitted substances, as specific medicine, phytomedicines, and substances with special control. Moreover, 97.7% presented commercial claims non-permitted in foods. The new regulation of dietary supplements has emerged as a way to reduce the regulatory obstacle for manufacturers and regulatory agencies as well, besides improving the acquisition of better qualities and, in this way, ensuring safety for consumers. Due to the elevated number of products and marketing points, the required changes to available products represent a challenge to manufacturers and regulatory agencies as well in order to protect the health consumers.

Financing: CAPES, CNPq, FAPESP.

CFSP383

The oregano essential oil associated with biogenic silver nanoparticle which reduces the severity of BALB/c mice-leishmaniotic lesions

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Introduction and objective: Oregano essential oil (OEO) and biogenic silver nanoparticle (AgNP-bio) have demonstrated several biological actions, among them the antiparasitic action. In this context, due to the current unsatisfactory chemotherapy of leishmaniasis, this study evaluates the *in vivo* effect of OEO and AgNP-bio in the development of leishmaniotic lesions.

Materials and methods: BALB/c mice were infected with *Leishmania amazonensis* (1×10^5), (CEUA 8595.2018.89), and after the lesion appearance, the five week-treatments were started. The animals were divided into four groups: Infected control (without treatment); vehicle (gel-based); EOO 0.2% gel, and EOO 0.2% associated with 5% AgNP-bio gel. The edema of all groups was measured weekly with a digital caliper.

Results and conclusion: When analyzing the results, there was a progressive increase in the lesion size of the infected group and vehicle over the evaluated weeks. However, there was a significant reduction in the size of leishmaniotic lesions treated as OEO associated or not to AgNP-bio. The treatment with EOO 0.2% gel reduced the lesion size from the fourth week of treatment. In the fifth week, the EOO 0.2% gel treatment and the association of EOO 0.2% with 5% AgNP-bio reduced the lesion size by 57.1% and 37.2%, respectively, when compared to the infected control. Therefore, the EOO 0.2% treatment and its association with 5% AgNP-bio reduced the severity of leishmaniotic lesions, possibly due to a reduction in the inflammatory process and tissue parasitism, which should be investigated in future studies.

CFSP384

The perception of Brazilian experts in medical plants on teaching of ICPS related to natural products in health courses

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Introduction and objective: Brazil, despite its rich medicinal flora, has a superior health education still focused on the pharmaceutical industry and the flexnerian model. This study aimed to provide insight into the perception of national experts on the Integrative and Complementary Practices (ICP) approach, with emphasis on natural products in undergraduate health courses.

Materials and methods: The research is exploratory-descriptive, made as a case study of quantitative, qualitative nature. Data collection was performed through semi-structured questionnaires and approved by the Standing Committee on Ethics in Research Involving Human Beings of UFC through the Brazil Online Platform with protocol number: 56349515.7.0000.5054. Ninety-five Brazilian specialists in medicinal plants composed the population.

Results and conclusion: The rate of return was 63 respondents. It was made up of 61% pharmacists, 18% nurses, 15% doctors and 6% others. It was evidenced that the teaching of ICPS related to natural products was considered insufficient to face the expanding market of natural products (Barreto, 2015; Ceccim; Carvalho, 2008; Conterno; Lopes, 2013). It requires new strategies, such as public financing policies for real insertion in the SUS, permanent in-service training (Haddad et al. 2010), compulsory subjects at graduation, postgraduate studies, e-learning, research and emphasis on the clinic (Brazil, 2010). About 49% attributed professional prejudice and disinterest to disinformation during undergraduate health.

CFSP385

The pharmacist role in appropriate antibiotic profilaxys at a surgical center of a big private hospital

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Introduction and objective: Approximately 234 million surgical procedures are performed worldwide annually. In Brazil, among possible postoperative complications, surgical source infection was observed in 11% of all procedures analysed. The objective is to evaluate the pharmacist's role in the delivery of surgical prophylaxis antibiotic process.

Materials and methods: A before-after study was performed with patients submitted to surgery between March 01, 2018, and March 31, 2019. A surgical prophylaxis antibiotic kit (cefazolin 1 g + sodium chloride 0.9% 100 mL) was developed to optimize adherence to prophylaxis. The data were performed through a direct database containing delivery and time information.

Results and conclusion: Between March/2018 and March/2019, 5288 bags of chloride 0.9% 100 mL were delivered. Data before implementation of surgical prophylaxis antibiotic kit were: March 2018 (5%), April 2018 (4%), May 2018 (4%), June 2018 (6%), July 2018 (7%) and August 2018 (6%). Data after implementation were: September 2018 (8%), October 2018 (14%), November 2018 (12%), December 2018 (10%), January 2019 (12%), February 2019 (12%) and March 2019 (13%). The adherence rate to surgical prophylaxis (choice of drug, appropriate onset, and appropriate duration time) was: second quarter 2018 (23%), third quarter 2018 (37%), fourth quarter 2018 (53%), and first quarter 2019 (50%). In conclusion, after antibiotic kit development, the adherence to appropriate prophylaxis increased.

CFSP386

The pharmacist role in the process of appropriate initial time antibiotic therapy in septic patients in an emergency department of a private hospital

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Introduction and objective: The sepsis mortality rate in Brazilian hospitals is high, and the time of appropriate initial treatment could be related to the best outcomes. The objective is to evaluate the pharmacist's role in the process of improving appropriate initial time antibiotic therapy.

Materials and methods: A retrospective cohort study was conducted with septic patients in an emergency department between November 01, 2017, and May 31, 2019. An antibiotic sepsis kit and standard prescriptions by the source of infection were developed, they could be used up to one hour after sepsis suspicion. The data were performed through a direct database containing antibiotic's information.

Results and conclusion: The study included 662 septic patients. The data from patients who received appropriate initial antibiotic therapy per month/year are: December/2017 (21.05%), January/2018 (38.89%), February/2018 (65.38%), March/2018 (71.43%), April/2018 (75%), May/2018 (81.08%), June/2018 (65.62%), July/2018 (72.22%), August/2018 (87.50%), September/2018 (93.33%), October/2018 (85.00%), November/2018 (84.85%), December/2018 (84.31%), January/2019 (95.12%), February/2019 (94.29%), March/2019 (93.88%), April/2019 (97.87%), May/2019 (93.33%). In conclusion, after the implementation of sepsis kit and standard prescriptions by the source of infection, the number of patients that received appropriate antibiotic therapy increased, besides the guarantee of a quick antibiotic delivery.

CFSP387

The project “strategies for the promotion of the rational use of medicines” in social networks

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Introduction and objective: This extension project has developed actions to disseminate scientific information about the correct use of medicines and the prevention of self-medication in groups of people of different ages. This study focuses on showing the results obtained using a social network as a tool for the dissemination of this information.

Materials and methods: A profile on the social network Instagram was created, where posts are made with basic complete scientific information about medicines, their use, and the risks of their misuse. The information is based on scientific papers, information from the regulatory agency of the Brazilian federal government, which monitors health products, and it was also based on guidance from the Ministry of Health.

Results and conclusion: The project promotes different actions for the correct use of medicines in schools, ambulatory, scientific events, lectures, conversation circles, courses, presentations with educational material, and in open places with the general public. Recently the project used Instagram to disseminate information about medicines, aiming to reach a wider audience. The posts are made with animations about drug interactions, administration, storage, self-medication risks, and other information. The profile of the followers is composed of women (77%) of 18-24 years old (52%). The posts on drug interactions with milk presented 489 views, and self-medication risks 442 views. Communication in social networks based on images and short messages is an important tool for the dissemination of scientific information.

Financing: PROFAEX (UFRJ).

CFSP388

The rational use and disposal of domiciliary drugs and the environmental and public health risks

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Introduction and objective: The rational use and disposal of medicines is a topic that has been discussed by researchers worldwide, in order to minimize the consumption and indiscriminate use of these compounds. This work aimed to promote the study of richness due to the inappropriate disposal of medicines, informative, and educational activities.

Materials and methods: The proposal of this study was sent to the Ethics Committee of the Institution, linked to the study, and approved under opinion number 5490. The data collection were performed through interviews and questionnaire, evaluating the aspects regarding the rational use and disposal of the drugs. It was developed in the city of Jaguariuna, São Paulo.

Results and conclusion: The research evaluated the level of knowledge of a group regarding rational use, discarding of overdue leftovers medications, and the knowledge about the potential effects of these actions on the environment and public health. The results show that the lack of guidelines on the storage and disposal of medicines and their rational use is the central aspect to be observed. A critical aspect detected with the data obtained was the awareness of the interviewed regarding the environmental and public health problems that may be triggered due to the aspects addressed regarding the rational use and disposal of medicines. However, the lack of adequate information and posts makes it difficult to disseminate information.

CFSP389

The use of phytotherapy and nutrition to control anxiety

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Introduction and objective: Anxiety is a disorder associated with the human body's reaction to everyday situations that can cause serious physiological changes, such as the development of severe eating disorders, which directly affect nutritional status. The purpose of this study was to analyse the changes caused by anxiety and to achieve a treatment with an anxiolytic diet and the use of the herbal medicine Zembrin® (*Sceletium tortuosum*).

Materials and methods: The distinct nutritional status was assessed by anamnesis. At this stage, patients went under an anthropometric evaluation and answered a questionnaire to determine their anxiety levels. The appointments took place at UNIP's Nutrition Clinic, in Jundiaí-SP. Two groups were created: the Control group, with a tryptophan-rich food diet, and the Treatment group, which had their diet associated with the use of 3g of *Erythrina mulungu* bark, prepared as tea by decoction in 150 ml of water. The volunteers were approved after signing the TCLE and were monitored for 40 days.

Results and conclusion: The study showed that eating habits relate directly to anxiety disorders. Also, the use of the complementary treatment method, along with the herbal medicine Zembrin®, helped to reduce the symptoms and binge eating of patients, bringing significant improvements to their sleep, mood, and nutritional status.

Financing: Universidade Paulista (UNIP).

CFSP390

The water, energy and food security nexus: water farms, sustainable initiatives improving the quality of food produced in Rio das Ostras, RJ

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Introduction and objective: Rio das Ostras still shows clear signs of agricultural activity. Collaborative and multidisciplinary studies that strengthen the existing production chains allow the attendance to the demands of the family farmers. The objective of our work is to introduce appropriated technologies using the Nexus strategy of integrated and sustainable actions.

Materials and methods: Visits were made to honey, milk, and cheese producers. The improvement needs associated with Good Food Handling Practices were observed; sanitation actions aimed at improving access to water and focusing on the correct disposal of waste from production were carried out. Finally, analyses of the physical-chemical and microbiological quality of the water from the rivers and the properties were conducted.

Results and conclusion: Standard Operating Procedures documents were developed based on current legislation and on items discussed with producers. Properties that presented problems with discard of effluent received materials for the installation of connectors, pipes and water boxes for reception and treatment of effluents. The analyses of the rivers' water showed a worrying picture of contamination by bacteria of the coliform group, but groundwater still presents characteristics that allow its use as an input in the production of food. It is crucial to raise awareness regarding the adoption of Good Food Handling Practices. In the study of water contamination and the lack of adequate sanitation in the locality, it was noticed the importance of urgent action aiming at the improvement of hygienic-sanitary aspects.

Financing: CNPq, MCTIC, UFRJ, CAPES.

CFSP391

Therapeutic nail lacquer

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Introduction and objective: Onychomycosis is a nail infection caused by dermatophytes. As it is worldwide prevalent, the search for effective, safe and easy-to-adhere therapy is aimed. Based on this, the objective is to develop a nail lacquer composed of natural active principles as an alternative treatment method to this pathology.

Materials and methods: By using factorial design, seven nail lacquer formulations were developed, the active principles concentrations were between 2.5% (v/v) and 70% (v/v). Afterward, they were undergone to pharmacotechnical, stability and safety characterizations as well as *in vitro* assays to check antifungal activity. The most effective one will be the final formulation of the product.

Results and conclusion: All of the formulations were stable, and their organoleptic aspects were dependent on the respective constituents, with density around 10.0g cm⁻³ and pH between 4.03 and 4.48 (nail pH- compatible, between 4.1 and 5.0). Origanum essential oil (OEO) was the most effective active principle in the disc diffusion test. When the same assay was applied to the formulations, OEO 7% (v/v) was the one that performed best. Silver nanoparticles presented antifungal activity in concentrations around 10-4% in the broth microdilution test.

Financing: Fundação Araucária.

CFSP392

Thermal analysis: a tool for physical-chemical quality control of drugs

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Introduction and objective: Thermal Analysis (TA) is an important tool related to the pharmaceutical area due to the possibility of using thermoanalytical techniques to promote the physical-chemical quality control of drugs and medicines. The purpose of this work is to show TA as an alternative to promote the characterization of drugs in reference and generic drugs.

Materials and methods: Novalgina 500 mg and dipyron monohydrate 500 mg (from two pharmaceutical laboratories), both in tablet form, were measured. The mass variation as a function of the temperature was verified using the Thermogravimetry/Derivative Thermogravimetry (TG/DTG) technique. The thermogravimetric Analyser TA Instruments, model TGA 55, was used in an inert atmosphere (N₂), 25°C until 600°C under a heating rate (10°C.min⁻¹).

Results and conclusion: The reference drug (Novalgina) presented three stages of decomposition, while the other four stages. All three samples present the first mass loss due to dehydration (Novalgina almost 4% while the other samples around 5.5%, being the compound monohydrate). For the reference drug, the other mass losses occurred in consecutive stages up to 250°C with the formation of the respective carbonate and subsequent formation of the oxide (up to 450°C). The mass losses of generic drugs occurred in consecutive stages up to 200°C, 350°C, and around 480°C, indicating other components. Thermogravimetry allowed studies of mass loss and thermal stability of some analgesics.

CFSP393

Tiosemicaric bazones and isatine and chlorine isatine-derived thiazoles anti-*T. cruzi* potential

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Introduction and objective: Chagas' disease affects millions of people in Latin America. It is transmitted through triatomines or blood transfusion. Its treatment is often ineffective and brings severe side effects. This work intended to synthesize and evaluate new compounds to be used in the Chagas disease's treatment.

Materials and methods: The compounds were synthesized using a simple methodology. Cytotoxicity was assessed by MTT assays and determined against macrophage cells. The anti-chagasic activity was evaluated against the trypomastigote form of *T. cruzi* species.

Results and conclusion: Among the compounds synthesized and tested for anti-chagasic activity, LAB-2C was the one that stood out the best result, with an IC 50 of 4.54 μ M and IS 10.98 for *Trypanosoma Cruzi* when compared with the benzonidazole values which is the reference drug and the same has an IC50 of 40.96 μ M and IS 11.21. The LAB-1D and LAB-2D compounds also had their activities highlighted for *T. cruzi* through the presented results. The conclusion is that there was a compound synthesis with good anti-*T. cruzi* activities, mainly the LAB-2C.

Financing: CNPq and FACEPE.

CFSP394

Tool preparation for clinical record and pharmacotherapeutic monitoring during the clinical antimicrobial management program in reference hospitals

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Introduction and objective: Pharmacotherapeutic follow-up (PF) of antimicrobial use requires proper record tools for intensive and systematic monitoring of relevant parameters, enabling an effective decision, and implying better outcomes and user care. This study aimed to develop a clinical instrument to document the PF of patients using ATM therapy reservation.

Materials and methods: A descriptive study conducted from August to December 2018. One of the stages of the implementation process of the Antimicrobial Therapy Management Program (ATMP) in teaching hospitals. With an interdisciplinary work team, systematic meetings, literature reviews, the choice of parameters to be evaluated by the ATMP were performed.

Results and conclusion: After four meetings and in-service application, the AFT Form was structured into four-parameter blocks: a) Patient epidemiological data; b) Antimicrobial Pharmacotherapy and Management Strategies (including prior antimicrobial use, therapy analysis for strategy application and outcome monitoring); c) microbiology; d) Clinical and laboratory parameters. During October and November, the form was applied to 24 patients, and appropriate adjustments were discussed and appropriate for better operation. The elaboration of the AFT form is instrumental for the promotion and feasibility of the clinical registry of patients using ATMP reserve ATM, which is fundamental for a dynamic evaluation, with quick responses. It allows measuring through indicators the impact of Clinical Pharmacist and ATMP.

CFSP395

Topography of infections in patients hospitalized in the neonatal ICU of a university hospital

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Introduction and objective: Neonatal infections are a major challenge and difficult to clinically handle because patients are exposed to various microorganisms in the hospital environment. The objective of this study was to determine the topographic profile of infections of patients admitted to the neonatal ICU of a university hospital.

Materials and methods: A descriptive cross-sectional study was conducted in which there was a topographic survey of the infections in patients hospitalized in the unit neonatal intensive care (ICU-NEO) of the Hospital das Clínicas-UFPE. The study period was from November 2018 to February 2019. The variables analysed were the number of patients, number of antimicrobials requests, sex, age and topography of the infection.

Results and conclusion: Ninety antimicrobial records from 80 patients were analysed during the period of study. It was not possible to know the sex of the newborns because, in none of the files, the variable was filled by the prescribers. The lowest age observed was 1 hour old and the highest 7 months of life, with an average of 32.33 days of age. A higher percentage of sepsis with undefined focus (44.4%) was found, followed by other locations (13.3%), urinary tract infections (6.7%) and gastrointestinal infections (5.7%). It was concluded that this type of study is important for understanding risk factors related to the profile of neonatal infections as well as for planning preventive and corrective measures related to nosocomial infections.

CFSP396

Toxicity evaluation of polyaromatic esters derived from benzoic acid

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Introduction and objective: Investigation of the toxicity of a substance may indicate its safe use for medical purposes. This work aims to evaluate the toxic potential of two polyaromatic esters synthesized and characterized in our group: phenolphthalein benzoate (I) and alpha-naphtholphthalein benzoate (II), against *Artemia salina* larvae.

Materials and methods: In each test tube containing the esters (I) and (II) (dissolved in 50 μL of DMSO at the concentrations of 15, 50, 100, 500, 600 and 700 $\mu\text{g}\cdot\text{mL}^{-1}$) ten larvae of *Artemia salina* and 5.0 mL of 0.037 $\text{g}\cdot\text{mL}^{-1}$ marine salt solution were placed. After 24 h, the number of dead larvae was counted, and the lethal concentration (LC50) was obtained using the Probit program. The tests were performed in triplicate.

Results and conclusion: The results indicated a low mortality rate of *Artemia salina* larvae when submitted to the different concentrations of the two esters derived from benzoic acid: 10.0 % mortality against ester (I) and 23.0 % against ester (II). The lethal concentration (LC50) obtained for the two substances were: (I) = 98.8 $\mu\text{g}\cdot\text{mL}^{-1}$, (II) = 275.8 $\mu\text{g}\cdot\text{mL}^{-1}$. Thus, the toxicity data from the two esters accredit them for safe medicinal use; analyses of the esters in some biological activities are underway. There is no data in the literature regarding alpha-naphtholphthalein benzoate (II), leading to the suspicion of structural novelty.

Financing: UFMT, FAPEMAT.

CFSP397

Toxicological effects of chronic exposure to omeprazole on morphometric parameters of mice salivary glands

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Introduction and objective: Omeprazole, which is indicated for gastroesophageal reflux disease, suppresses stomach acid secretion. The objective was to verify morphometric changes in the mice salivary glands by chronic exposure to Omeprazole.

Materials and methods: Swiss male mice divided in G1 and G0, administered via gavage Omeprazol 40mg/kg and control solution respectively, for 45 days. On day 46, euthanasia was performed, followed by the collection of the salivary glands. The diameter (D), perimeter acinar (PA), the thickness of the ducts, (TD) and the acinar area (AA) were measured. Statistic: Student's t-test and Mann-Whitney test. This study was approved by the Ethics Committee:8722.2016.33.

Results and conclusion: In conclusion, G1 was greater: parotid AA (G0: 865.5 [695.0-1021.0]; G1: 1124.0 [929.1-1389.0]; P= 0.0002), submandibular (G0: 910,50 [745.90-1152.00]; G1: 1091.00 [969.30-1324.00]; P= 0.0150) and sublingual (G0: 1065.0 [911.7-1391.0]; G1: 1479.00 [1099.0-1910.0]; P=0.0017), parotid PA (G0: 119,2 [106,6–135,9]; G1: 139,0 [124,2–152,1]; P= 0,0006), submandibular (G0: 119.90 [110.00-136.60]; G1: 135.50 [123.60-154.20]; P= 0.0251) and sublingual (G0: 136,9 ± 23,4; G1: 156,7 ± 27,0; P= 0,0036). G1 submandibular TD was greater (G0: 11,18 ± 1,96; G1: 12,30 ± 1,85; P= 0,0252). Chronic exposure to Omeprazole morphometrically altered mice salivary glands. Such changes may impair salivary content and multifunctionality.

CFSP398

Toxicological study of the roots and aerial parts of the *Borreria verticillata* (vassoura-de-botão) dry crude extracts using *Artemia salina* leach

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Introduction and objective: *B. verticillata* is a plant that has distinct therapeutic properties as an anti-inflammatory. The presence of emetine in the plant makes the toxicity similar to the majority of the cyanogenic herbs. The study aims to determine the “vassoura-de-botão” toxicity using the Dried Crude Extracts (DCE) of its aerial parts and roots.

Materials and methods: The *A. Salina*'s eggs were incubated for 48 h, then the hatching of the Methanuplios was separated into seven groups containing 12 larvae in each. The first group as control with the following different concentrations (50 µg/mL; 100 µg/mL; 250 µg/mL; 500 µg/mL; 750 µg/mL; and 1000 µg/mL) from the plant's DCE. The Artemias were set for 24h under artificial illumination.

Results and conclusion: The number of dead *Artemia salina* in both extracts were proportional to the tested concentration increase, being higher in the last concentrations. During the reading, the swamp of the Artemias showed to be slow in relation to the control. The CL₅₀ result of the aerial parts and roots was 629.128 µg/mL and 629.492 µg/mL, respectively. Both turned out to be moderately toxic. It is necessary to perform other pre-clinical toxicological tests to confirm the results obtained.

Financing: ASCES-UNITA.

CFSP399

Tracking diabetes type 2 in moto-taxi drivers in a municipality of the west region of Pará

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Introduction and objective: *Diabetes Mellitus* is a metabolic disorder that is due to the deficiency of insulin production or action and can lead to acute and chronic complications. Motorcycle taxi drivers have an intense work routine, leading to a lack of good health habits. The objective of this study was to track the risk of type 2 diabetes in motorcycle taxi drivers.

Materials and methods: This is a descriptive field research with motorcycle taxi drivers in the municipality of Santarém, interior of the Amazon. The study evaluated anthropometric data, fasting blood glucose measurement and the risk of developing diabetes by FINDRISC method. Data were analysed using descriptive statistics. The study was approved by the Ethics Committee in Research of IESPES, under no. 3308978.

Results and conclusion: Twenty-four motorcycle taxi drivers participated, all male, with an average age of 42 years. 75% had elevated body mass index, 79% high waist circumference, 75% do not practice physical activity, 50% have a family history of diabetes and 33% feature fasting high blood glucose. The risk of developing type 2 diabetes in 10 years was: 38% have slightly moderate risk and 50% have moderate to high risk. This partial result showed that motorcycle taxi drivers present several factors and risks for developing diabetes. The tracking of people suspected of diabetes is important to develop preventive actions and health education geared to diabetes.

Financing: Hope Institute of Higher Education (IESPES).

CFSP400

Training strategy use for the development of management skills and competences in a continuing education program pharmacists service

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Introduction and objective: Pharmaceutical Services and Access to Medicines Course (PSAM) was a pharmaceutical specialization course for developing management competencies and health policy services. Students developed training activities in service (Operative Plan). The objective was to analyse the use of the Operative Plan for the development of management skills and competences.

Materials and methods: This was a mixed-method study with pharmacists, course staff, faculty members, and managers. The applied methods were: surveys, SWOT analysis, documentary analysis, focus groups, and interviews. This project was approved by Committee of Ethics in Research with Human Beings of the Federal University of Santa Catarina (CAAE nº 46912815.0.0000.0121).

Results and conclusion: This practical activity enabled pharmacists to interact with other actors, such as other health professionals, health care facility directors, and patients. Prioritized problems were related to administrative management (28%), medicines provision (29%), matrix articulation (27%) and health care (16%). About 74.8% reported they have partially or totally resolved the priority problem, and 58.1% continue to use the method. The manager's support was identified as the main factor in implementing actions. The Operative Plan was important to bridge the gap between the contents studied and its application in the service. Results indicate that the Operative Plan was able to qualify the decision-making process by health professionals, especially pharmacists, thus producing improvements in health services.

Financing: Fundo Nacional de Saúde.

CFSP401

Treatment of bone metastasis with the association of paclitaxel to lipid nanoparticles in patients with malignant solid tumors

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Introduction and objective: Bone metastasis occurs in solid malignant tumors being not responsive to standard treatments. Previously, evidence was presented showing that nanoparticles resembling LDL-cholesterol were uptake by tumor tissues and also delivered chemotherapeutics. There was an assessment of clinical responses and laboratory toxicities during treatment with paclitaxel associated with nanoparticles.

Materials and methods: A total of 20 patients were included (nine with breast, five with prostate, and six with lung carcinoma). Paclitaxel (175 mg/m² body surface) was associated with lipid nanoparticles, I.V., 3/3 weeks. Biochemistry determinations were performed before onset and at the end of each cycle. Verbal Analogue Scale and the use of opioids assessed pain relief. Ethics Committee approved by reference number 216/09.

Results and conclusion: A total of 107 cycles of chemotherapy were performed without clinical or laboratory toxicities. No patient experienced skeletal-related events during the treatment. At the beginning of treatment, the pain score was 8 (range 5-10). After six months, it had reduced to a mean of 5 (range 4-8). All patients used potent analgesic AQA score 4. During treatment, the potent analgesic was replaced, and the AQA score diminished to 2. The notable absence of toxicity and significant improvement in pain indicate paclitaxel associated with lipid nanoparticles as a promising option in chemotherapy regimens.

CFSP402

Treatment of leishmaniotic lesions with essential oil of oregano gel (EOO) reduces the levels of nitric oxide and increases deposition of collagen

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Introduction and objective: Leishmaniasis is a zoonosis caused by parasites of the genus *Leishmania*, whose current therapy shows high toxicity and resistance, motivating the search for new drugs. Therefore, this work aims to evaluate the effect of EOO treatment on collagen deposition and nitric oxide (NO) production in leishmaniotic lesions of BALB/c mice.

Materials and methods: Lesions of BALB/c mice infected with *L. amazonensis* (1x10⁵) (CEUA 8595.2018.89) treated with base gel associated with EOO 0.2% for 30 days were evaluated for the level of NO by Griess method and stained with Picro Sirius Red with polarization for morphometric analysis of collagen. As positive control, infected BALB/c without treatment were used and as negative control, animals inoculated with PBS.

Results and conclusion: Regarding NO levels, the treatment of leishmaniotic lesions with EOO 0.2% presented an alleviation of the inflammatory response, reducing NO levels by 57.46% (p<0.05) compared to the control group. In addition, in the morphometric evaluation, there was an exacerbated formation of collagen type III. It was observed an increase of 2,238.66% in the treated group compared to the control group (p<0.05), evidencing a significant acceleration of the healing process at the site of the lesion. Therefore, the use of natural compounds such as EOO aid in the treatment of leishmaniotic lesions, proving to be a viable alternative for new tests in this experimental model.

CFSP403

Ultraprocessed food labeling: fat content in frozen foods and labeling fidelity

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Introduction and objective: The growing consumption of ultra-processed foods coupled with flaws in the nutritional information presented on the label favors the growth of obesity. The objective was to analyse the food labeling as to the mandatory information, caloric and lipid content, and reliability of the total fat values.

Materials and methods: Fifty frozen foods were evaluated on mandatory general labeling items and nutritional information according to current legislation. Information was collected regarding the presence and amount of total and trans fat, and caloric value represented by the total fat for the portion. The total fat content of 12 samples was quantified by evaluating the deviation from that expressed on the label.

Results and conclusion: According to mandatory labeling, 66% of foods are non-compliant, and 40% have prohibited information. For trans fat, 36% have values above the recommended. The caloric contribution from total fat to the fat portion accounts for over 30% of the total caloric amount in 46 products. In 7 (58%) of the 12 samples, the total fat values were observed above the variability allowed by the legislation ($\pm 20\%$), that is, there was more fat in the food than expressed in the nutritional information. It is concluded that the high number of divergences present in food regarding the labeling and the actual amount of nutrients damages the right to information and the consumer's health, evidencing failures in the supervision of the ultra-processed food labels.

CFSP404

Uric acid serum concentration and insulin resistance in adolescents

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Introduction and objective: The term adolescence encompasses a wide age group with crucial differences among them, especially in body composition and biochemical profile. This study's aim was to verify the possible link between serum uric acid concentrations and insulin resistance in adolescents.

Materials and methods: Data collected from adolescents: anthropometric measurements, body fat percentage, blood pressure, and blood collection (for glucose, triglycerides and total cholesterol analysis). They were divided into two groups: G1 (with hyperuricemia) and G2 (without hyperuricemia). The Ethics and Research Committee approved this research under n. 2.673.791. Data analysis was performed using the Stata[®] program.

Results and conclusion: Anthropometric measurements, such as body mass index and waist circumference, were statistically significant when comparing G1 and G2 data, as well as body fat percentage and the systolic and diastolic blood pressure. The biochemical parameters related to total cholesterol, triglycerides, glucose, and the TyG index (insulin resistance) also presented a significant statistic between Groups 1 and 2. Increased serum uric acid level shows a positive statistical correlation with insulin resistance and is associated with high cardiovascular risk for the studied individuals.

Financing: FAPEMA, BIOCLIN.

CFSP405

Use and knowledge of medicinal plants by adolescents: an approach to pharmaceutical care

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Introduction and objective: The use of medicinal plants by the youngest is constantly decreasing. Thus, the school acts as a place of formation, where health and phytotherapy can be discussed for the development of a healthy society. In this panorama, this work aimed to investigate the use and knowledge of medicinal plants by adolescents in a public school in João Pessoa, PB.

Materials and methods: The descriptive and exploratory method was used in the present study through the application of a semistructured questionnaire to high school students of a public school, from September 2017 to June 2018. The number of the protocol is 2,311,355 and the study was appreciated by the Research Ethics Committee of the Federal University of Paraíba.

Results and conclusion: Of the 250 questionnaires applied, 38 (15.2%) were satisfactory. Most students were 18 years old (27%). The average knowledge about plant utilization per student was 1.3%. The lack of knowledge about health risk is demonstrated by 51% of the interviewees who quoted “that natural herbs can do no harm;” 43% “are worse than medicines;” 6% “are as bad as a medicines;” and none have claimed that “they can do more harm than good.” Faced with the study and the need to instruct about medicinal plants, the performance of the pharmacist in the school environment to teach about Health Education becomes pertinent, since pharmaceutical assistance is defined as the set of actions developed by the pharmacist and other health professionals, focused on health promotion, prevention and recovery.

Financing: CNPq, CAPES.

CFSP406

Use of benzodiazepínicos (BZD) in patients with Alzheimer’s Disease (AD)

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Introduction and objective: Although the use of BZD is considered a risk factor for cognitive impairment and consequently, for patients with AD, they are frequently prescribed for the management of the Behavioral and Psychological Symptoms of Dementia, such as insomnia, depression, and anxiety. Therefore, it is intended to identify the use of BDZ in the life of patients with AD.

Materials and methods: A cross-sectional study was conducted in 2017 in Araraquara, Brazil. Patients included in the Clinical Protocol, and Therapeutic Guidelines of Alzheimer’s Disease (PCDTDA) were included. The data were collected through an interview. The variables of interest were: sex, age, time of diagnosis, use of BZD, time and indication of use. This study was approved by the Research Ethics Committee (no. 2.877.560).

Results and conclusion: A total of 143 patients were evaluated, 95 women and aged range from 64 to 97 years old. The median time to diagnosis was 76 years (Q1 = 73 / Q3 = 81.5). Seventy-one, patients used BZD at some point in their lives, and the time of use ranged from one day to 50 years. The most commonly used BZD were clonazepam and flunitrazepam. During the study, 39 patients were using BZD, six of which were coadjuvants for the treatment of depression and 33 for insomnia. Thirteen patients used BZD before diagnosis; 35 after; and 23 used prior and after diagnosis. Therefore, one in two patients had already used BZD in their lives. Although the use of BZD is considered inappropriate for the elderly, 49.6% of patients with AD use BZD.

Financing: FAPESP [2013/12681-2; 2018/07501-9]; CNPq [459461/2014-1; 131206/2017-6]; CAPES (finance Code 001).

CFSP407

Use of carbapenems and prescription profiles

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Introduction and objective: Bacterial resistance has been increasing in recent years, aggravating health problems, mainly in immunocompromised patients. Thus, the prescription evaluation of antibiotics in hospitals is essential, aiming at reducing this resistance. The objective of this study is to evaluate the profile of carbapenem prescriptions.

Materials and methods: An observational, prospective, descriptive, and analytical study was carried out in a high-complexity teaching hospital. In the analyses, there were prescriptions of carbapenems from patients over 12 years old, that had used the medication for 24 hours or more, and were evaluated by the Infection Control Service. The information was collected from the database and the follow-up form of patients using antibiotics.

Results and conclusion: In conclusion, 93 prescriptions for carbapenems were evaluated. 57% of the patients were men, with 71% in hospitalization units and 29% in the intensive care unit. The main justification for use on 45% was pneumonia treatment, 15% skin and soft tissue infections. The main duration of treatment was 12 days, and 91% of the patients used antimicrobial agents before the prescription of carbapenems. There were growths of gram-negative bacteria in 39 prescriptions evaluated, and 19 were resistant to carbapenems. Twenty-five interventions were performed by the ICS; of these, 17 were advised to discontinue the treatment. The rate of adherence to interventions was 72%. The high rate of adherence to antimicrobial prescription interventions can reduce the time of exposure to these drugs, costs, and the development of resistance.

CFSP408

Use of diazepam and other drugs by patients at the alcohol psychosocial care center in Caucaia, CE

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Introduction and objective: Diazepam is a benzodiazepine-class medicine used to treat people with alcohol abstinence syndrome; the prolonged use may develop tolerance, dependence, and abstinence. The objective was to characterize users who take Diazepam and identify what they know about the services provided in CAPS AD.

Materials and methods: Descriptive observational research with a quantitative approach performed from April to May 2018, approved by the ethics committee – CAAE 88643218.2.0000.5618. Fifty people were interviewed. The variables analysed were related to age, sex, education, length of use of Diazepam, knowledge about the risks related to the use of the medicine, and about the services provided by CAPS AD.

Results and conclusion: Among the interviewed people, 70% were female, 34% were over 60 years old, 54% were married, and had not completed elementary school. Regarding the time of use of Diazepam, 90% used for more than six months, and 82% answered feeling some discomfort or disagreeable sensation when not taking this medicine. About the activities, which they participated in CAPS AD, only 20% reported that they participated in other activities such as consultation with the psychologist, lectures, and therapeutic groups. The research has demonstrated that a large number of reports related to discomfort from not taking Diazepam and the symptoms mentioned by the interviewed people showed the consequences of chronic use of this medicine, such as physical and psychological dependence.

CFSP409

Use of liraglutide and sibutramine associated with weight loss: a study in Minas Gerais

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Introduction and objective: Influenced by the media, women seek the perfect body and to lose weight faster, they use medications that are, in some cases, extremely expensive and destined for other purposes, and sometimes without medical prescription. The objective was to evaluate the dispensation of liraglutide and sibutramine for the purpose of weight loss.

Materials and methods: A descriptive study was conducted in five drugstores in 2017 from June to December, aiming to correlate the prescriptions of sibutramine with the specialty of the prescribing physician, the months in which the drug was requested the most, and to evaluate the report of pharmacists on the dispensation of drugs to lose weight and to verify the possibility of the associated use of liraglutide and sibutramine.

Results and conclusion: Considering the five drugstores, the one located in the most privileged area and bigger in size was the one that received the most requests for the two medications. The period of dispensation was correlated with the proximity of Summer. Considering the physician's specialty, endocrinologists were shown to be more relevant in numbers than others. In addition, 94.1% of the pharmaceutical professionals reported that women are the ones who seek the medications more often, 76.5% aged 30 to 45 years and who sometimes ask about drug interaction or side effects, which makes it essential the role of the pharmaceutical professional to carry out pharmaceutical care during the dispensation of drugs to lose weight.

Financing: Centro Regional Universitário de Espírito Santo de Pinhal-UniPinhal.

CFSP410

Use of molecular biology as a complementary test in the detection of *Strongyloides stercoralis* in fecal samples from patients with tuberculosis

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Introduction and objective: Co-infection with tuberculosis and strongyloidiasis presents an important public health issue since the two diseases are of high incidence and present in vulnerable populations. Our goal was to make the fecal and molecular diagnosis for *Strongyloides stercoralis* in individuals diagnosed with tuberculosis.

Materials and methods: The study was approved by the ethics committee on human studies at the State University of Londrina (protocol number 1.306.715). The fecal samples obtained from patients were analysed parasitological test Rugai, Lutz and searched for larvae and helminth eggs, as well as protozoan cysts, and further stool culture on an agar plate. For PCR amplification, the primer specific genus-392bp was used.

Results and conclusion: A total of 86 cases of pulmonary tuberculosis was identified. The main signs and symptoms presented by these patients were cough, fever, and weight loss. Coproparasitological examinations were detected in cases of *Strongyloides stercoralis* (n=2), Hookworm (n=2), *Balantidium coli* (n=1), *Entamoeba coli* (n=1), *Endolimax nana* (n=1). The molecular diagnosis revealed 17% (n = 8) of positivity in fecal samples for *S. stercoralis*. Cases of patients in co-infection are poorly studied and reported. However, examinations that complement the rapid and accurate diagnosis of these infections are essential for the good prognosis of patients, mainly because the specific parasitological tests for the detection of *S. stercoralis* do not present adequate sensitivity and depend on variables.

Financing: CAPES, FAPESP.

CFSP411

Use of probiotics in oral health of patients: systematic review and methanalysis

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Introduction and objective: It is remarkable the increasing interest of researchers, in recent years, regarding the beneficial actions of probiotics, especially about the current problem regarding bacterial resistance. Therefore, this systematic review aimed to investigate articles that sought the benefits of probiotics in the oral health of patients.

Materials and methods: A systematic review based on Preferred Reporting Items for Systematic Reviews (PRISMA) and meta-analysis carried out in August 2019, performing bibliographic searches in the PubMed/Medline and LILACS databases with the following search: “probiotics in oral health.” Inclusion criteria were human clinical studies and papers with the publication date of the last five years, due to the current theme.

Results and conclusion: Initially, 977 records were found, of which 80 met the inclusion criteria. From that, 24 articles were selected according to the final evaluation and abstract. Thus, studies have reported the recovery of oral health in patients with diseases such as periodontitis, dental plaque, gingivitis, halitosis, *Streptococcus mutans* infection, causing dental caries, oropharyngeal mucositis, and oral candidiasis through the use of oral care probiotics products. According to the metanalysis, it can be inferred that there is a 69% effect (heterogeneity: $I^2 = 93\%$, $\tau^2 = 0.0364$, $p < 0.01$) in which *Lactobacillus rhamnosus* strains are beneficial for the pathologies mentioned above. Therefore, the use of probiotics helps in the prevention and treatment of oral health problems.

CFSP412

Use of proton pump inhibitors by elderly people with cardiovascular diseases and diabetes type 2

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Introduction and objective: The management of drugs in cardiovascular diseases (CVD) and Diabetes type 2 (DM) is associated with gastric discomfort and consequent prescription of proton pump inhibitors. This work aimed to demonstrate the prevalence of the use of these drugs by patients cared at the cardiology and endocrinology outpatient clinic.

Materials and methods: Data were collected in electronic records, referring to the drugs used by older people with CVD and DM, attended in 2017, in a teaching service in Rio Grande do Sul. It is part of the research “Evaluation of Processes and Practices Implemented in the Network of Attention to People with CVD and DM” and was approved by the Research Ethics Committee of UNIVATES, number 2.196.011.

Results and conclusion: A total of 132 medical records of patients aged 60 years or over were reviewed, 53% female, with a mean age of 70.24 ± 7.06 years. The use of proton pump inhibitors was identified in 45.45% (60) of the elderly. Of these, 95% use omeprazole and 5% use pantoprazole. The use of these drugs by older adults is considered potentially inappropriate according to the Beers Criteria, and its use for more than eight weeks increases the risk of infection by *Clostridium difficile*, bone loss and, fractures. It is also related to the development of dementia. More attention is needed regarding the clinical pharmacology of the elderly, and situations where the prescribing can be adopted should be considered.

Financing: Univates.

CFSP413

Use of proton pump inhibitors by patients eldered in a commercial pharmacy of the city of Juazeiro do Norte

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Introduction and objective: An individual aged 60 or older is considered an older person. The elderly are often polymedicated, and use PPIs chronically, which makes them more susceptible to the development of acid suppression side effects. This study aimed to verify the use of PPIs by the elderly in a community pharmacy in the city of Juazeiro do Norte, CE.

Materials and methods: The sample consisted of patients aged greater than or equal to 60 years, who used PPIs and were seen at a commercial pharmacy in the months from February to June 2019. The study was developed with the authorization of the hospital's management and was approved by the Research Ethics Committee of the Juazeiro do Norte (FJN College) under the opinion number 3.334.146.

Results and conclusion: The results showed a predominance of female patients (53.33%), aged between 60 and 65 years (56.66%), and with incomplete elementary schooling (33.33%). Regarding the medicines used by users, there was a predominance of Omeprazole with 56%, and most of them used PPIs without a prescription (92.4%). Knowledge about this class is of great importance because continuous and irrational use may cause harm to the health of users, especially the elderly, who generally have compromised physiological functions when compared to the adult population.

CFSP414

Use of the plackett-burman design in the study of factors involved in the preparation of polymeric emulsion containing babacu oil

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Introduction and objective: Emulsions are important systems used for drug and cosmetic delivery. In this study, polymer emulsions were prepared with babacu oil, and the Plackett-Burman model was used to formulation design. The objective of this work was to study the technological variables involved in obtaining stable emulsions.

Materials and methods: Twelve formulations were prepared with water, babacu oil, spam 80, and Pemulen TR-1. The study involved 11 dependent variables such as heating, cooling, NaCl, Span 80 and polymer concentration, the order of addition, time, and type of agitation. Droplet size and variation were analysed by light microscopy, and the measurement of separation was made after centrifugation at 3000 rpm for 30 minutes.

Results and conclusion: There was a large variation in apparent consistency among the 12 emulsions from fluid to cream, with some showing signs of poor stability. Microscopic analysis indicated that in general, the samples presented heterogeneity, except to F6, F8, and F10, which presented the smallest sizes, respectively, 3.0, 3.12, and 3.45 μm , with smaller size variations between 0.8 to 5.45 μm . After centrifugation, all samples showed instability, such as phase separation, flocculation, and creaming. However, two emulsions showed little sign of oil separation (F8 and F10). The factorial results, such as Pareto and interaction graphs, indicated that among the studied variables, the presence and concentration of the polymer in the aqueous phase or oil phase, were the most relevant.

CFSP415

Use prevention cardiovascular drugs to acute myocardial infarction in SUS: victim registry

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Introduction and objective: The underuse of cardiovascular prevention is a problem in the world. In Brazil, this fact may have a greater impact on the population that depends exclusively on the Unified Health System (SUS). This study investigates, in patients suffering from STEMI, whether pharmacological interventions for primary or secondary prevention were being used within seven days before the event.

Materials and methods: A total of 589 patients were analysed using the Via Crucis for the Treatment of Myocardial Infarction database (VICTIM Register database). Patients with a diagnosis of ST-segment acute myocardial infarction (STEMI) in a single hospital capable of performing angioplasty in SUS users in Sergipe. We evaluated the rates of prior medication use in hypertensive, dyslipidemic, diabetic patients with a history of prior chronic coronary artery disease (prior CAD), and prior stroke in these users.

Results and conclusion: About 60.8%, 36.3%, and 33.8% of the sample had hypertension, dyslipidemia, and diabetes, respectively. Another 8.7% had CAD and 7.0% stroke. The proportions receiving medication between CAD and stroke were: Antiplatelet agents (58% vs 30%), Beta blockers (46% vs 15%); Angiotensin-converting enzyme inhibitor (30% vs 20%); Statins (54% vs 30%), respectively. Approximately 20% of the entire sample did not use any medication. The data show that there is a sub-use of medications to decrease cardiovascular risk in SUS users. Our data underscore the imperative necessity of quality of care campaigns to improve adherence to cardiovascular prevention drugs in Brazil and to decrease disparities.

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CFSP416

User profile and influencing factors of biological medicine prescription for rheumatoid arthritis of SUS

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Introduction and objective: The recommendation of choosing disease-modifying disease (MMCD) drugs for the treatment of rheumatoid arthritis (RA) is based on convenience, safety and cost. This study aimed to identify the factors influencing the prescription of biological medicines for RA to users of the Brazilian Unified Health System.

Materials and methods: An observational cross-sectional study was carried out, which had as its data source the drug dispensation records of the Specialized Component of Pharmaceutical Assistance (CEAF) of the second regional health unit of Paraná. The outcome evaluated was the prescription of biological medicines to the user, considered positive when it contained at least one of the biological MMCDs registered by the SUS and considered by the Clinical Protocol and Therapeutic Guidelines (PCDT) for RA.

Results and conclusion: Data from 16,005 users of both sexes were used, with an average age of 59.25 ± 13.17 years. 70.4% (11,271) used non-biological drugs; 8.7% (1,395) used only biological medicines and 20.9% (3,339) used both medicines. Being male, having a prescription from private or mixed institutions, from a different region of residence, having a diagnosis of juvenile RA (M 08.0), Felty's syndrome (M 5.0), other seropositive RA (M 05.8), or other specified RA (M 06.8), compared to the diagnosis of sera-negative RA, influenced the prescription of biological MMCD. Other factors were identified, such as the use of the public system by patients coming from private services, further burdening the public system.

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CFSP417

Vaccination status of pharmacy undergraduate students

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Introduction and objective: Vaccines are among the safest, most effective, and most cost-effective biological products. Health students should recognize this importance and apply it to their routine. The study aims to analyse the vaccination status of Pharmacy undergraduate students from the first, fifth, and ninth semester, from the Federal University of Ceará.

Materials and methods: It is a descriptive, cross-sectional study with a quantitative approach. It was conducted from September to October 2018, through the answers of a semi-structured questionnaire. Data were analysed in Microsoft Office Excel 2016 spreadsheets.

Results and conclusion: Among students, up to 20 years old, who have a vaccine card, most answered that the document is under the custody of their mothers, while among those aged 23 years old, the domain is the individual's own. Of the participants of the first and ninth semesters, 46.66% and 61.53%, respectively, answered to have a card with all vaccines up to date. Among the factors that can affect students' non-immunization, fear of vaccination, and lack of knowledge of nearby places that offer this service are the main causes of inefficient prophylaxis. From the results found, one can think of strategies that aim to improve students' immunization and enable them to become knowledgeable multipliers agents on this subject.

CFSP418

Vaccines in Brazil: sanitary registration and their incorporation in the national immunization program

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Introduction and objective: In Brazil, vaccines are commercialized with the concession of a sanitary registry by The Brazilian Health Regulatory Agency (Anvisa); the National Immunization Program coordinates the actions of immunization. The goal of this article is to analyse the chronological registry of vaccines in Anvisa and the incorporation of PNI.

Materials and methods: A descriptive study of secondary data acquired by consulting the Anvisa website and literature review. All the products classified in the medication as vaccines were analysed for registration, registration companies and incorporation into PNI.

Results and conclusion: The first registry of vaccines in Brazil occurred in 1988. Until September of 2018, there were 173 products that Anvisa registered, by the ownership of 23 different companies, where four are state-related. Among the registered products, 54% (n=93) were found in active commercialization status and, between the canceled (n=80), 90% (n=72) referred to private companies. In 1977, the PNI started with four vaccines, and in 2018, there were available 28, made by 21 different active principles, being 18 produced by state-related laboratories, identifying enough official laboratories in vaccine production. Also, spotting the chronological advance of official laboratories in vaccine production available to the population by PNI, as well as the self-sufficiency of official laboratories in essential vaccines.

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CFSP419

Validation of an alternative method and its applicability in water for dialysis and dialysate

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Introduction and objective: During hemodialysis, patients are exposed to a large volume of water, which, if not according to quality standards, may lead to fatal risks. In this context, it was intended to validate an alternative method and its applicability in treated water for dialysis and dialysate analysis; in order to favor corrective actions in real-time.

Materials and methods: Both validation and applicability were analysed by a conventional and an alternative method. In the validation, E. coli standard endotoxin was diluted with apyrogenic water in five concentrations. For this applicability analysis treated water for dialysis was collected from different points in the treatment system (reverse osmosis, drainage canalization at the storage tank bottom, reuse, and loop), and dialysate was collected from four machines located in different rooms at the hemodialysis sector.

Results and conclusion: The validation results were in accordance with the Brazilian Pharmacopoeia acceptance criteria, except for the last two concentrations analysed. In addition, the ruggedness criterion performed in accordance with the US Pharmacopoeia and was in agreement with it. A limiting factor in the applicability analysis was the absence of endotoxin maximum permitted level in dialysate by the Brazilian legislation. When comparing the analysed time, the alternative method consumed more time than the conventional one. This suggests that the alternative method is effective in the case of few analyses, that is, in analyses made in real-time, favoring corrective actions in a timely manner. On the other hand, it does not favor its implantation on a laboratory routine due to the analyses demand. In conclusion, the alternative method was suitable for analysing samples in loco in order to evaluate the dialysis water system in real-time on samples that show an absence of endotoxins or samples whose concentration is in the range of 0.25 EU/mL - 1.0 EU/mL.

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CFSP420

Vegetable substances as low-cost inductors of the ligninolytic system produced by *Pleurotus ostreatus*

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Introduction and objective: Studies show that the basidiomycete fungi that degrade lignin are efficient in the degradation of several compounds like the dyes from the textile industries. The main objective of this study is to identify vegetable substances capable of inducing the ligninolytic system of the white-rot *Pleurotus ostreatus* basidiomycete fungus.

Materials and methods: This study and related experiments were conducted in the IPECI/UNISANTOS Scientific Research Laboratories during the second semester of 2018 and the first semester of 2019. The cultivation of the *Pleurotus ostreatus* fungus was prepared with selected substances, to which the RBBR dye was added after a week, and daily analyses of discoloration were carried out using the spectrophotometer.

Results and conclusion: The initial objective was to identify low-cost plant substances that could enhance the action of the ligninolytic system of the *Pleurotus ostreatus* fungus in the process of industrial dye degradation, which was achieved. It was possible to identify four substances with positive results: ginger, white pepper, garlic, and rosemary. It was also possible to quantify which concentration of these substances presented a better performance in the induction of the discoloration process. All the tested substances presented superior results than the control study, demonstrating the ability to optimize the process of dye degradation.

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CFSP421

Verification of antifungal use in women attending a pharmacy in Jundiaí-SP

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Introduction and objective: Candida yeasts are considered pathogens that lead to the development of the infection called Candidiasis. The goal of this study is to determine whether treatment is being made based on medical prescriptions or not, whether patients know the risks that these drugs may cause, and whether they receive adequate guidance at the time of medication purchase.

Materials and methods: In this study exploratory research was conducted; the methodology was the application of a questionnaire with 13 closed questions to 40 female patients who attended a pharmacy in Jundiaí, SP, in which they purchased antifungal medication with or without prescriptions. This project was submitted to the ethics committee of Unianchieta following the CNS number 466/12 Resolution and was approved.

Results and conclusion: Most of the volunteers in the research were between 18 and 30 years old, totaling 62% of the population. The rate of antifungal use without prescription was high (58%) since drugs were used by self-medication. The most widely used drug, regardless of medical orientation or age, was Fluconazole, probably due to its form of administration that is oral. When purchasing the medication, 92% said they asked a pharmacist for advice. When volunteers were questioned if they respect dosage and time, 75% said to follow the instructions while 25% did not follow the dosage correctly. This is possibly due to the fact that most of the drugs described are single dose. All women said they take oral medications with water. When patients were asked why they were taking a particular medication, the answers were 42% from medical advice, 33% for the same previous symptoms, and 25% the for suggestion of friends. Results show that pharmaceutical care is very important providing patients with knowledge of medications, their indications, the correct usage, and health promotion which can avoid possible side effects.

CFSP422

Versatility of electrochemical technique for antihistamine drug quality control procedure

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Introduction and objective: Desloratadine (DESL) is an antihistamine drug used to treat the symptoms associated with allergic rhinitis. The development of cheaper and time-saving methods for the determination of DESL is of paramount importance in order to ensure safety to the patient with minor cost and time. This work aimed to develop a voltammetric method for DESL determination.

Materials and methods: The voltammetric analyses were carried out in a potentiostat/galvanostat AUTOLAB PGSTAT 101 coupled to an electrochemical cell. A boron-doped diamond electrode (BDDE) was employed as a working electrode, and it was cathodically pretreated by applying -0.25 A cm^{-2} during 240 s before the analysis. The samples (tablets and oral solutions) used in this work were bought in a local pharmacy.

Results and conclusion: DESL presented a well-defined oxidation peak at 1.60 V on the cathodically pretreated surface of the BDDE in phosphate buffer solution (pH 4.0). When using the differential pulse voltammetry under optimized operating parameters, the analytical curve was obtained, and the current was linearly dependent to the concentration range of 0.099 – 6.3 μM , with a limit of detection of 0.041 μM . The proposed method was successfully applied for the determination of DESL in commercial pharmaceutical formulations, and the results were statistically similar to those obtained using a validated spectrophotometric method ($p=0.05$). According to the results, the voltammetric method using a BDDE proved to be an alternative for fast and cheap determination of DESL in pharmaceuticals.

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CFSP423

Vitamin D deficiency analysis in patients attended at clinical analysis laboratory in Mogi Guaçu, São Paulo

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Introduction and objective: Vitamin D is responsible for various functions in the human body, but it is mainly known for bone health-related functions. The aim was to analyse the frequency of patients with vitamin D deficiency in a Clinical Analysis laboratory in the municipality of Mogi Guaçu, São Paulo.

Materials and methods: The study was approved on PlataformaBrasil by CAAE number 68581717.8.0000.5679. This is a retrospective descriptive cross-sectional research. The evaluation was performed in medical records from patients who underwent tests for vitamin D, such as 25-hydroxyvitamin D from 2014 to 2016. The analysed variables were gender, age, and serum 25-hydroxyvitamin D levels.

Results and conclusion: During the period, 3210 medical records were analysed. According to the 25-hydroxyvitamin D levels, it was observed in the results of the patients that 767 (24%) had deficiency, 1655 (51.55%) insufficiency, 743 (23.1%) sufficiency, and 45 (1.4 %) of the patients had toxicity. The highest frequency of vitamin D deficiency occurred in females, corresponding to 80% (618) of the patients, and the most frequent age group was from 60 to 69 years old, with 170 (27.50%) patients, the lowest age group was 10 to 19 years (0.97%). The study concluded that the frequency of vitamin D deficiency was more evident in the elderly. Incentives such as sun exposure, drug supplementation, and food enrichment are potential preventive benefits for the geriatric population.

CFSP424

Zolpidem causes toxicity in morphometric parameters of salivary glands of pregnant mice

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Introduction and objective: Zolpidem (ZD) is a medicine indicated for the treatment of insomnia, and is known to be an inducer of xerostomia. Pregnant women suffering from psychiatric illnesses have a commonly prescribed hypnotic agent. The objective of this study was to evaluate the morphometric alterations in the major salivary glands (GSM) of pregnant mice exposed to ZD.

Materials and methods: Approval - 264.2018.20. Design - treated (GZD) and control groups. Treatment by gavage - ZD 10mg/kg and distilled water, respectively, from the 5th to the 17th day of pregnancy. Euthanasia: on the 18th day. Analysis - collection and histological processing of GSM and analysis under an optical microscope with the measurement of morphometric parameters. Statistics: Student's t-test and Mann-Whitney's test.

Results and conclusion: In the GZD parotid, the diameter of the acini (DA) was higher (C: 39.36 ± 11.35 ; GZD: 45.82 ± 10.52) and the perimeter of the acini (PA) smaller (C: 125.10 ± 17.42 ; GZD: 115.60 ± 18.07), compared to C. In the submandibular, the DA (C: $43.40 [39.38 - 52.30]$; GZD: $37.90 [33.40 - 46.60]$), PA (C: $127.10 [115.10 - 143.30]$; GZD: $107.20 [99.80 - 121.60]$), the area of the acini (AA) (C: $929.40 [740.30 - 1209.00]$; GZD: $695.80 [601.70 - 865.50]$), and DA (C: $47.50 [44.40 - 56.13]$; GZD: $41.30 [36.70 - 49.10]$), PA (C: $140.40 [131.30 - 158.20]$; GZD: $127.90 [109.90 - 150.50]$) and AA (C: 1197.00 ± 419.90 ; GZD: 975.40 ± 306.70) of the sublingual were lower in GZD. The duct thickness was not altered. Exposure to ZD during pregnancy altered morphometric parameters in GSM of mice, showing atrophy of the acini.