

MICROBIOTA IMPACT AND FUNGIC RESISTANCE DUE TO IRRATIONAL USE OF ANTIFUNGALS

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A complex microorganism ecosystem lives in the human organism and is known as the human microbiota. The microbiome carries out an important control in the pathogen resistance, immune system improvement besides performs in the nutrients absorption. Fungi are normal inhabitants of microbial communities. When the host is immunocompromised or the host environment is compromised, these microorganisms can become pathogenic and lead to several infections. The prescription of antifungals and the lack of orientations may cause nasty damage to the patient, such as their resident microbiota impact in addition to the resistance to drugs by these microorganisms. In order to point out the relevance of the rational use of antifungals, this study investigated at the literature the main damages which should be explained by the irrational use of antifungals by patients, by an investigation in the PubMed library between 2010 and 2020 using the search words antibiotics, resistance and microbiota, in English. There are many reasons for the irrational use of antifungals be a problems, one of the main elements is resistance to the antifungal treatment and the microbiota damage. Commensal fungi like *Candida* spp. are able to adapt to different environments and form communities named biofilms. *Candida* spp. cells in biofilm exhibit improved resistance to available antifungals; this

can be explained by the complex matrix extracellular formed by the biofilm cells which prevent the antifungal into. Antifungal resistance is a significant problem for physicians who are in charge of caring for patients at high risk of infection. One instance is vulvovaginal candidiasis. During the time that the vaginal microbiota decreases as a result of antibiotic therapy or competition with other microflora for mucous surfaces, opportunistic fungal diseases may occur. Although candidiasis can be successfully treated with antifungal drugs, chronic and frequent recurring infections are common. Therefore, it is important to monitor the fungal infection and the pharmacist's instructions regarding the prescription and the pharmaceutical care service for the patient. Through his knowledge, the pharmacist is able to guide the most frequent doubts regarding the use of the medication (dose and dosage), in addition, it plays an important role regarding the prophylaxis of the disease, preventing the onset of mycoses thus helping in possible curative problems, such as antifungal resistance and drug failures. Broadly translated these findings indicate that, due to the irrational use of antifungals and their drug interactions, the health professionals' knowledge is essential for therapeutic success and to avoid drug failures.

RATIONAL USE OF ANTIBIOTIC THERAPIES, THE ROLE OF THE PHARMACEUTICAL PROFESSIONAL AND THEIR IMPACT ON THE RESIDENT MICROBIOTA

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The rational use of drugs is defined by the Drugs National Politic as a process which comprises the appropriated prescription, the opportune disponibility and assessable prices. Furthermore, it involves the dispensation in suitable condition and the use on indicated doses, in defined gaps and on the correct efficacy of the medicinal quality and safety. The present study was aimed to investigate problems which results from the antibiotic irrational use, once that it may cause communitarian problems. Moreover, it emphasizes the role of the pharmaceutical profession in the rational use of this class of medicament. We performed a search of the literature between 2000 and 2020 using PubMed and Google Scholar in Portuguese and English languages and it was searched the terms antibiotics, pharmaceutical and resistance. Human gut microbiota consists of an estimated 100 trillion bacteria of different species. Antibiotics may disrupt the equilibrium among commensal populations by decreasing its density and modifying its composition may cause potential to developing allergies and metabolic syndrome. Researchers and some professionals recommend that the administration of an antibiotic be allowed after the antibiogram completion, making the pathogen identification possible and rationalizing the use of the medicament. The nonrealization of this test may result in the wrong diagnostic. It culminates in incorrect prescriptions or even in an unnecessary drug prescription that does not guarantee an appropriate treatment, preconized on the rational use of medicine. Microbial resistance and possible adverse effects are other problems due to the drug dispensation without orientation. This would be arising by the lack of monitoring and information about doses, instructions of use and treatment time. Information about the treatment time is extremely important once that when the treatment initiates a fake impression of

cure occurs. The lack of guidance can make the patient stop with the treatment allowing the proliferation of bacteria and it may promote the occurrence of a reinfection. In addition to the expected adverse effects by the use of antibiotics, researches show that some representative of the class can cause remaining effects than culminate on the extinction of the resident microbiota, the one that is naturally present on the human body and it is beneficial to the host once that plays a role of defense. The extinction of those microorganisms will further the propagation of opportunistic and/or pathogenic bacteria that may be more aggressive to the host engendering infections no-responsive to the available treatments. This fact makes that the frequency of administration of an antibiotic is directly proportional to the development of resistant strain against it. Given the above, it is clear the necessity of interlocution between prescribers and dispensers. The dispensation it is usually replaced by the drug delivery made by the pharmacy assistant who must be guided by the pharmacist in order to avoid dispensation mistakes and patient injury. In addition, strategies aiming at the offer of information and orientation are necessary and should be given according to the level of instruction of the patient; this needs be accomplished by the Pharmaceutical Care service, through the pharmacotherapeutic follow-up. Therefore, it is concluded that the pharmaceutical professional in addition to offering the Pharmaceutical Care service to monitor the antibiotic user given orientation about the correct use of this medicine, should offer training programs to the pharmaceutical assistant and act on active dispensation inside of pharmacies and drug stores, promoting the rational use of medicaments which benefits the patient and the society.

REFLECTIONS ON THE PERFORMANCE OF RESIDENT PHARMACEUTICALS IN A PEDIATRIC HEMATOLOGICAL UNIT IN THE PANDEMIC PERIOD

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During the second year of University Hospital of Santa Maria – HUSM pharmaceutical residence program, the activities are developed in the unit that serves children and teens with hematological and neoplastic diseases. In this unit, the professional acts in a multidisciplinary way, providing discharge guidance, therapeutic drug follow-up, and helping family members with strategies for these patients better treatment adherence. These actions could prevent recurrences and disease worsening. Most of the patients have leukemia, a disease that includes a complex treatment and with many side effects related to drugs, which makes the pharmacist a highly important professional in this sense. The aim of this study was to describe the changes in the pharmaceutical resident activities of the pediatric hemato-oncology sector of University Hospital of Santa Maria (HUSM) during the coronavirus pandemic - COVID-19. The Pharmacy residency described in this study is inserted in the Multiprofessional Residency Program at the Federal University of Santa Maria, in the emphasis of hemato-oncology. This work corresponds to descriptive and comparative analysis of the changes in the activities of the pharmaceutical resident in the pediatric hemato-oncology sector of HUSM due to the coronavirus pandemic period - COVID-19. Some resident activities were adapted to reduce the exposure of immunosuppressed patients to professionals during pandemic period. In this sense, changes in the work scales were made and the pharmaceutical

resident developed more actions without hospital unit. The resident's training was concentrated in drug manipulation, theoretical studies about cancer and new therapeutic options and online interactions with tutors. Pharmaceutical evaluations of prescriptions about food-drug or drug-drug interactions, therapeutic protocols and doses were maintained, since they can be performed individually and result in quality and safety in the treatment of the patient. The patient/family education about medications (action mechanism, side effects, drug and food interactions, administration schedule), which previously occurred at the hospital bed, were performed only in exceptional cases, where the health team observed poor adherence or difficulty understanding about therapeutic regimen. In these cases, the guidelines were passed to the nursing team that transmitted to the patient and/or family. The multidisciplinary activities of health education with patient and/or family, such as lectures and education games with children, were suspended during the pandemic period to avoid people agglomerations. The hemato-oncologic treatment of children and teenagers needs special attention by pharmaceuticals and multidisciplinary team, due to many side effects of oncology drugs, complex protocols and difficult adherence. Thus, the adaptations in the activities resulted in losses in the resident's learning and in the safety of the treatment, since the patient and/or family's education and pharmaceutical follow-up were not carried out in person.

INFLUENCE OF THE USE OF HYLOCEREUS COSTARICENSIS (RED PULP PITAYA) IN THERAPY WITH WARFARIN IN RATS

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Venous thromboembolism (VTE) is considered a major problem of public health with social and economic impact for governments. The treatment of VTE is done with the use of oral anticoagulants such as warfarin, which when administered decreases prothrombin time. Foods or teas, which contain flavonoids, can influence blood clotting, changing the Prothrombin Time. The red pulp pitaya (*Hylocereus costaricensis*) is widely used in popular medicine because it contains flavonoids, anthocyanins and other antioxidant compounds in its composition. Thus, the aim of this study was to evaluate the antioxidant effect *in vitro* and the influence of the intake of hydroethanol extract of pitaya in rats using warfarin. The polyphenols content was determined by Folin-Ciocalteu and the antioxidant activity by the DPPH radical assay. For the *in vivo* test, Wistar rats (300 g \pm 20 g) were used, divided into 4 groups (n = 6): animals that received water (negative control); animals that received only pitaya extract (3 mL/Kg/day); animals treated with water and warfarin (0.07 mg/kg) (positive control), 12 hours before euthanasia and animals treated concomitantly with pitaya and warfarin. The treatment was carried out by gavage for 7 days. On the eighth day, the animals were anesthetized to collect blood by cardiac puncture and the blood was packed in tubes containing EDTA (hemogram), in tubes containing citrate (determination of Prothrombin Time - PT) and in

dry tube (determination of liver enzymes). After euthanasia by exsanguination, the liver was removed to determine lipid peroxidation. The antioxidant action of pitaya was confirmed by *in vitro* test and this action can be attributed to the high content of polyphenols and flavonoids present in the species *Hylocereus costaricensis*. In the *in vivo* analyzes, there was no significant inhibition of lipid peroxidation among the groups studied. There were also no changes in the biochemical (ALT and AST enzymes) and hematological (platelets, white blood cells, blood glucose, uric acid, triglycerides, serum creatinine, total cholesterol) parameters, thus indicating the safety of using pitaya hydroalcoholic extract for healthy rats. Regarding PT, the pharmacological action of warfarin was confirmed by an increase in prothrombin in the positive control group (PT = 50 s) when compared to the negative control (PT = 20 s). However, animals that received pitaya extract prior to warfarin use had a significantly reduced prothrombin time (PT = 32 s), indicating an interaction between pitaya hydroalcoholic extract and warfarin. The results obtained suggest that there was interference from the consumption of pitaya in anticoagulation by warfarin. Therefore, when warfarin is administered, pitaya should not be consumed. Further studies should be done to elucidate the mechanisms of action of the extract and its interaction with warfarin.

IMPLICATIONS OF THE USE OF BISPHOSPHONATES RELATED TO OSTEONECROSIS AFFECTION IN MANDIBLE.

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Bisphosphonates are drugs that act in the prevention and treatment of disorders related to bone remodeling processes. They act as anti-resorptive agents, binding to the hydroxyapatite crystals on the bone surface, agglomerating in the bone tissue. The action of bisphosphonates occurs preferably in regions with high bone formation and resorption. Osteoclastic activity is suppressed by the action of bisphosphonates, which will decrease the pace of bone remodeling and cause an increase in matrix mineralization. Medical administration of bisphosphonates can take place either orally or intravenously. The type of bisphosphonate, the route of administration and the period in which the drug will be consumed should be chosen based on the characteristics of the patients. Bisphosphonates are divided into two groups, according to the presence or absence of nitrogen, being designated as amino or nitrogenated (alendronate, risedronate, pamidronate, zolehydronic acid, ibandronate) and non-amino or non-nitrogenated (etidronate). As for generation, bisphosphonates have three generations: first, second and third generations. The first generation, or non-nitrogen, has clodronate and etidronate. The second or nitrogenous generation has pamidronate, alendronate and rizedronate. The third generation includes generation used for its satisfactory potency in diseases with metastases, and has zoledronic acid. The aim of the present study was to investigate how osteonecrosis can occur due to the action of bisphosphonates. A bibliographic review study was conducted with a search in the databases: PubMed, Google Scholar, involving the survey of studies and articles dealing with the administration of bisphosphonates and the

concomitant possibility of osteonecrosis. A selective and analytical reading of all the works surveyed was carried out and, following, the main considerations found in the scientific literature consulted are explained. The use of bisphosphonates acts in the inhibition of bone resorption in bone diseases, such as: osteoporosis, imperfect osteogenesis, multiple myeloma, Paget's disease, and in pathologies with bone metastases, involving breast, prostate, lung and kidney carcinomas. Bisphosphonates can cause osteonecrosis. Related to the risk factors that predispose to being affected by osteonecrosis, resulting from the action of bisphosphonates, the following are mentioned: use of corticosteroids; administration of chemotherapeutic drugs; smoking; alcoholism; age over 65 years; prescription of the medication for more than three years and insufficient oral hygiene. In the Stomatognathic System, osteonecrosis due to the use of bisphosphonates can occur in the maxilla and / or in the mandible. There are situations in which osteonecrosis has a spontaneous appearance in places where there is a thin covering mucosa. The consumption of bisphosphonates alone can lead to spontaneous osteonecrosis in a portion of the people who use it. The onset of osteonecrosis, however, only occurs when the use of bisphosphonates occurs concurrently with invasive dental procedures. It was concluded that adverse effects of drugs should be taken into account, with awareness of the role played by them when opting for a particular prescription. The quality of life of individuals who received a prescription may be affected if there is no prior planning.

ORIENTATION ON ENVIRONMENTAL CONTROL FOR THE MANAGEMENT OF ALLERGIC DISEASES IN A BASIC HEALTH UNIT IN THE MUNICIPALITY OF ALFENAS-MG

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The prevalence of allergic diseases in the world is increasing, affecting a significant portion of the population, especially children. A study published by the International Study of Asthma and Allergies in Children (ISSAC) revealed that Brazil is one of the countries with the highest prevalence of allergic diseases, with a quarter of the population testing positive for some allergy. Sensitization to inhaled allergens occurs through IgE mediation, and it is a risk factor for the development of asthma and allergic rhinitis. Exposure of sensitized patients to high concentrations of these allergens increases inflammation of airways and consequently increases the severity of symptoms. Hypersensitivity to acarids, mold, animal hair, and fungus are some of the predisposing factors for rhinitis and other allergic diseases. Environmental control is widely used to prevent exposure to aeroallergens in the environment in which the individual lives. It is a management method for controlling asthma or other allergic diseases indicated as an adjuvant to pharmacological treatment. However, for environmental control measures to be adopted, families must understand the relationship between exposure to allergens and the symptoms related, be open to adopting the control measures, and be able to adapt their routines due to changes in practices. The objective of our work was to guide community agents from a basic health unit in the county of Alfenas-MG about environmental control in allergic treatment since they have closer contact with the families of the community. Face-to-face lectures at the UBS (basic unit of health) was conducted by the

students of the Allergology and Immunology League of UNIFAL-MG (LAAI) from July to December 2019. During the visit to a UBS, two academics from LAAI noticed a remarkable number of patients who present allergic symptoms. Those symptoms are characterized as allergic rhinitis and asthma, such as cough, rhinorrhea, congestion, sneezing, and nasal itching. With this information, the students were able to plan an activity with community agents about environmental control. It included actions that can be adopted in each case, prioritizing those allergens that cause sensitivity to the patient, emphasizing that this information is fundamental for planning an adequate orientation for environmental control. Different environments of a household can be reservoirs of several aeroallergens. Furthermore, the location, type, and frequency of cleaning can favor the accumulation of allergens. Environmental control interventions can bring more benefits than isolated interventions. However, it is desirable that the people with clinical conditions of atopy attend the UBSs must be directed to an allergist for specific exams. The environmental control associated with the pharmacological treatment improves the quality of life of the patient. Due to the SARS-Cov-2 pandemic, visitation activities were suspended making it impossible to quantify the results of the actions planned by LAAI with the patients. Summarizing, the LAAI proposes that the community agents must know about the relationship between allergy disease and environmental control to benefits the population.

ORAL MUCOSITIS ARISING FROM THE ADMINISTRATION OF CHEMOTHERAPY FOR ANTINEOPLASTIC TREATMENT

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Chemotherapy is a treatment in which drugs are used to fight cancer. The type of cancer will define which drugs will be used, as well as what dose and combination will be used. The objective is to promote the destruction of cancer cells belonging to the tumor and to stop the spread of the tumor through the body with metastases. Chemotherapy can be called curative, adjuvant, neoadjuvant and palliative chemotherapy. Chemotherapy treatment can be on an outpatient basis, when the patient travels to receive treatment on an outpatient basis and returns home afterwards. Another option for the application of chemotherapy treatment is the patient's hospitalization, in these circumstances the patient remains hospitalized during the course of the entire treatment. There are more than 100 chemotherapy drugs to fight cancer, which are consumed alone or in combination with other medications or treatments. These drugs show different chemical compositions, forms of administration and side or adverse effects. The onset of adverse effects comes from the chemotherapeutic agent used, depending on it to occur. One of the most common side effects of antineoplastic treatment is the installation of oral mucositis, the lesions of which can cause pain, dysphagia, alteration of oral hygiene and nutrition, and often trigger length of stay or hospital stay, in addition to increasing the costs of treatment. The aim of the present study was to investigate how oral mucositis can occur from the consumption of chemotherapy drugs. A bibliographic review was carried out with a search in the databases: Google Scholar, PubMed, involving a bibliographic survey of studies and articles dealing with the

occurrence of oral mucositis as a result of the application of chemotherapy sessions as antineoplastic treatment. In Google Scholar the search term used was: cancer and chemotherapy and oral mucositis and adverse effect and antineoplastic treatment and 2020 and 2019 and 2018 and 2017 and 2016 and 100 results were found. In PubMed the expression search was used: oral mucositis and chemotherapy and cancer and drugs and adverse effect and antineoplastic treatment and quality of life and 57 results were obtained. A selective and analytical analysis was carried out of all the studies surveyed and the main considerations presented by the scientific literature consulted are described below. Oral mucositis is an inflammation of the mucosa caused by chemotherapy and radiotherapy of the head and neck. The clinical aspect of mucositis initially appears in the form of an erythema, which often progresses to ulceration. These lesions may be covered by a white fibrinous pseudomembrane. This lesion can affect the oral and gastrointestinal mucosa. The treatments available for oral mucositis include vitamin E, lubricating agents, anti-inflammatories, cryotherapy, mouthwashes, topical anesthetics and low-power laser. It was concluded that measures should be taken, aiming at minimizing the adverse effects resulting from chemotherapy, such as the occurrence of oral mucositis, involving therapeutic planning and preliminary analysis that meets the characteristics and medical records of each patient when the option to use certain treatment or chemotherapy.

EVALUATION OF GOIÁS STATE PHARMACISTS PROFILE FOR CARRYING OUT CLINICAL SERVICES

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In the mid-1980s in the United States and Europe, the so-called clinical pharmaceutical movement began, which promoted a new meaning for science and professional practice. As a science, it triggered the production of knowledge about the clinical performance of the pharmacist and the improvement of this practice. In professional practice, clinical pharmacy has guided the development of practice models aimed at patient care, through the provision of different pharmaceutical services, aiming the prevention and resolution of pharmacotherapy problems, the rational and optimal use of medicines, promotion, protection and health recovery, as well as disease prevention. In Brazil, although some initiatives were already being developed, only in 2013 the Federal Pharmacy Council regulate the performance of these activities. As these changes in the profession took place, the need to change the profile of the pharmaceutical professional was determined. From a technician perspective, the professional now needs to incorporate the practice of patient care and multiprofessional health teamwork. Given this reality, this study aimed to assess the profile of pharmacists in the state of Goiás to perform pharmaceutical clinical services. This was a cross-sectional and quantitative study, carried out in June 2019, with “snowball” sampling. Pharmacists in Goiás state were invited,

via e-mail and whatsapp, to answer a questionnaire addressing questions related to their socio-demographic, professional profile and intention to perform clinical pharmaceutical services in health facilities. For this purpose, the questionnaire "Instrument for evaluating the profile of the pharmacist for clinical services" was used, translated and validated for Brazilian Portuguese. A total of 75 pharmacists answered the questionnaire, which five of them were not from Goiás state and, therefore, were excluded from the study, totaling a sample of 70 pharmacists. The data obtained showed a predominance of female pharmacists (75.71%), trained in a private institution (64.29%) with less than 10 years of training (59.52%). A total of 58.6% of pharmacists showed a favorable profile to perform clinical pharmaceutical services. Pharmacists from basic health unit (100%) and drugstores (80%) had a strong intention to carry out clinical services, as well as those with a higher number of qualifications after graduation (83.33%). This study pharmacists follow a worldwide demand showing an intention to perform clinical pharmaceutical services.

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PHARMACEUTICAL CARE TOOLS FOR PATIENTS DIAGNOSED WITH HEPATOCELLULAR CARCINOMA

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The hepatocellular carcinoma (HCC) is the sixth most common type of cancer in the world. According to Barcelona Clinical Liver Cancer, the systemic therapy, used in patients in advanced stage of HCC are oral chemotherapy drugs such as sorafenib, lenvatinibe and regorafenib. Unfortunately, chemotherapy is frequently related to expected adverse events (EAE), drug interactions (DI) and reduction of drug-related problems (DRP). These factors are significant on adherence and it influence negatively in patients' quality of life. Pharmaceutical care is a tool for the improvement of treatment and this service requires instruments to implement the pharmacotherapeutic follow-up (PF), to measure and to monitor patients' EAE, DI and DRP. The main objective is tool's development for PF monitoring EAE, DI and DRP. Descriptive study of PF forms development for pharmaceutical care, focused on HCC patients, under treatment with sorafenib, lenvatinib and regorafenibe in a general hospital in Rio de Janeiro. The EAE monitoring tool was created using each treatment labels'. The adherence questionnaire was adapted from literature. The documents were elaborated using Therapeutic Outcomes Monitoring (TOM) method. Six formularies were developed and

adapted for digital format to make data compilation easier. The tool used for registering information collected from pharmaceutical consultation contains: sociodemographic data (gender, race and education); social assessment (habits such as smoking, alcohol and illicit drugs consumption); medicine (drug name, when treatment began and possible allergies to drugs or food); signs and symptoms related to the HCC diagnosis; comorbidities; information about the treatment and room for notes. The EAE monitoring forms were created for each treatment. The form contains information in the label classified as very common and common. The adherence questionnaire aims to evaluate: patients' therapy adherence, his understanding of disease's stage, his sense of trust in the healthcare professionals, patients' expectations and attitude towards the treatment. The TOM method requires the development of PF tools, because it is focused for pharmaceutical care of specific illnesses. We hope that systematic data collection will support the stages of pharmacotherapeutic analysis, identification of DRP and action plans regarding patient care during cancer treatment and promoting patient's safety.

NICE PHARMACY HAS PHARMACEUTICAL CARE IN MENTAL HEALTH

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In past decades, the attention focused on people with mental disorders has been marked by aggressive, disconnected and punitive attitudes in asylums. The people with mental disorders was treated like crazy, demon-possessed or dangerous, being isolated from society. After the psychiatric reform, policies were emerging that sought to improve the assistance to these people, such as the Psychosocial Care Centers (CAPS) and therapeutic residences (RT). This study is an experience report of an extension project and aimed to develop pharmaceutical care actions for patients with mental disorders at CAPS and RT in a city in the south of Minas Gerais. So far, several activities have been carried out, such as handicraft workshops to establish a relationship of trust with CAPS patients, discussion of clinical cases between team members with the pharmacist in order to promote interventions in pharmacotherapy and health screening. Of the 22 patients submitted to the measurement of casual capillary blood glucose and blood pressure, 10 had values above those recommended in the Brazilian Guidelines of the Societies of Cardiology and Diabetes (SBC and SBD), however the interventions could not be carried out due to the beginning of the pandemic. In RT, patients medical records were analyzed and it was observed that most patients are polymedicated (mean = 7.4) and is common for the patient to develop metabolic syndrome due to the use of antipsychotic drugs and other risk factors that may also be present. The medical records of CAPS

patients have not been evaluated yet, but it was observed in a previous analysis that they do not have the list of other drugs that patients use, which will make it difficult to fully assess pharmacotherapy and develop interventions aimed at other health problems that do not belong to the mental health sphere. The pharmaceutical care actions started in February 2019 and in 2020, due to the pandemic, no face-to-face activities were performed, however, through videoconferences on google meet it was possible to study the clinical cases of 17 RT patients, which 14 of then had problems related to pharmacotherapy, identifying interactions and adverse reactions that may impair treatment. The meetings were held weekly between the project team (academics, advisor and pharmaceutical of the service). Patients did not participate in these meetings. As we have seen, it was possible to assess the need, effectiveness and safety of medications and to provide the elaboration of a care plan and establish interventions, which were discussed with the service pharmacist and noted in the medical records. Most of the results of the interventions are still under analysis. It is expected that pharmaceutical care inserted in the field of mental health will contribute to more adequate therapeutic plans that aim for the integrality of the individual.

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EVALUATION OF ADHERENCE TO IMATINIBE TREATMENT IN PATIENTS WITH CHRONIC MYELOID LEUKEMIA ASSISTED BY A HEMATOLOGY AMBULATORY IN A UNIVERSITY HOSPITAL IN THE MUNICIPALITY OF GOIÂNIA-GO.

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Chronic Myeloid Leukemia (CML) is a hematological neoplasm that corresponds to 15% to 20% of all leukemias. The first line for disease treatment is performed with medications, reserving the bone marrow transplant, the only curative therapy available, for patients who develop resistance to pharmacotherapy, due to the high morbidity and mortality associated with the procedure. Imatinib is the first-line pharmacological treatment for a CML according to the therapeutic guidelines of the Ministry of Health of Brazil. Adherence to pharmacotherapy is a key aspect to achieve the desired clinical results with the treatment and it is known that it is influenced by several determinants. These are partial results of a study which aimed to investigate adherence to treatment with imatinib in CML patients assisted by a Hematology Outpatient Clinic of a University Hospital in the city of Goiânia-GO. This is a cross-sectional study. Adherence to treatment was assessed using the Morisky Test and Medication Possession Rate (MPR) calculated for the last 12 months, with those with MPR <90% being considered non-adherent. The association of non-adherent behavior, measured by the Morisky test, with the variables age, sex, complexity index of pharmacotherapy, polypharmacy, knowledge about the drug and PMS <90% was investigated.

Data collection was carried out through interviews with patients, data in the medical record and in the Materials Management System of the hospital. For statistical analysis, the variables were studied in a descriptive manner, by calculating absolute frequencies, mean and standard deviation. The association of independent variables with the outcome variable was tested using Pearson's Chi-square test and Fischer's exact test with a significance of 5% and the strength of this association was estimated by means of Prevalence Ratio with 95% Confidence Interval. Were interviewed 35 patients from November 2019 to March 2020, with a frequency of 51.43% (n = 18) males and 48.57% (n = 17) females. The mean age was 54.05 ± 12.67 (SD). The prevalence of low adherence was 60% (n = 21) by the Morisky-Green test and 34.3% (n = 12) MPR. The low adherence evidenced by the Morisky-Green test was associated with the low complexity of pharmacotherapy (p = 0.036) and MPR below 90% (p = 0.006). It is concluded that patients have low adherence to treatment, even those with low pharmacotherapy complexity, showing the need for interventions to improve adherence, such as pharmaceutical care.

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DRUG INTERACTIONS BETWEEN POTENTIALLY INAPPROPRIATE MEDICATIONS USED IN PATIENTS WITH NERVOUS SYSTEM DISORDERS

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Potentially inappropriate medications for the elderly (PIM) are drugs that the safety risks (e.g., adverse drug events) can outweigh the benefits (e.g., effectiveness), especially when there are safer pharmacotherapeutic options. Studies have been identifying the use of PIM associated with risks of hospitalizations, occurrence of drug interactions and increased mortality. However, PIM are often prescribed in clinical practice, especially in elderly people with nervous system disorders. In this context, there are several explicit criteria tools to assess the risk/benefit of geriatric drug therapy, in order to identify PIM use and potential drug interactions. Therefore, this study aimed to identify explicit criteria tools that reported drug interactions between PIM used in patient with nervous system disorders. A systematic scoping review was conducted in the PubMed and Scopus databases until February 2020. Two researchers (G.S and M.F) conduct the study selection process independently and disagreements were solved through consensus discussion or with a third reviewer (R.C.L). Studies that developed explicit criteria tools were included. Editorials, commentaries, letters, gray literature, and implicit criteria were excluded. PIM, drug interactions, concerns and therapeutic management were identified. PIM and therapeutic management standard were assessed as essential medication according to the National List of Essential Medicines (Rename) and the List of Essential Medicines of World Health Organization (WHO). 2,380 records were identified. During screening, 2,273 records were considered irrelevant and 78 were excluded in the full-text evaluation. Thus, 19 studies that developed explicit criteria tools and reported drug interactions of PIM in patients with nervous system disorders were included. 24 drug interactions between 21 PIM (17 drugs and four pharmacological classes) and four nervous system disorders (Parkinson's disease, epilepsy, transient ischemic attack, and sleep apnea) were identified.

Antipsychotics, especially chlorpromazine, clozapine, and olanzapine; metoclopramide; donepezil; and tacrine were the PIM most involved in drug interactions, while Parkinson's disease and sleep apnea were the most frequent disorders reported. The drug interactions are associated with extrapyramidal, antidopaminergic, and cholinergic events, which exacerbate nervous system disorders and drug interactions with epilepsy, can lower the seizure threshold. For the management of the PIM identified, seven safer medications were proposed by the tools (two essential by WHO and five for Rename), being memantine preferable for treatment of dementia in patients with Parkinson's disease; domperidone and a careful diet instead of metoclopramide; and when the use of antipsychotics is necessary, atypical antipsychotics with less D2 blocking activity are preferable. If possible, deprescription process and non-pharmacological options should be considered. Regarding the essentiality, among the 17 drugs identified, five and eight are standardized as essential by WHO and Rename, respectively, while the four pharmacological classes identified are essential. In conclusion, antipsychotics and metoclopramide were the PIM most reported in drug interactions, mainly with Parkinson's disease and sleep apnea. Therefore, explicit criteria tools can be important health technologies for identification of PIM, drug interactions, and screening of possible adverse drug events, thus, promoting the safety of geriatric patients and the rational drug use. Moreover, it is relevant to highlight that a significant amount of PIM is standardized as essential in Brazil and worldwide and that the safety of the elderly should be considered in the standardization process.

Ethics Committee approval protocol: Not applicable.

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EVALUATION OF THE STAGE OF CHRONIC KIDNEY DISEASE IN PATIENTS RECEIVING PHARMACEUTICAL CARE IN THE PHARMACEUTICAL CONSULTING CENTER FOR THE DISTRIBUTION OF MEDICINES IN ALFENAS-MG

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Abstract: Chronic Kidney Disease (CKD) has an increasing prevalence, high mortality rates and high costs for health systems. The best strategy is to prevent CKD or detect it early, avoiding its evolution to more advanced stages whose treatment are dialysis processes and/or kidney transplantation. The objective of this work was to identify patients with different levels of CKD and develop a guide with guidance on the subject. Through the extension project Pharmaceutical Office in the Drug Distribution Center, Alfenas - MG, 42 elderly patients with a mean age of 68 years (19 women and 23 men) under pharmacotherapeutic follow-up were mapped. Inclusion criteria were: age over 60 years, both sexes, having Diabetes Mellitus and/or Hypertension. Twenty-two diabetic patients, 04 hypertensive patients and 26 patients with both pathologies were identified. The stages of renal function are: stage 1, stage 2, stage 3a, stage 3b, stage 4 and stage 5. Among these, 34 patients have alterations in renal function and varied stages of CKD (26.5% stage 1; 41.2% stage 2; 26.5% stage 3a; 5.8% stage 3b; 0% stage 4 and 0% stage 5), and require follow-up. The study is a screening, so the variables considered were only age and serum creatinine, thus calculating the glomerular filtration rate. Screening allows patients to be referred according to the guidelines of the Ministry of Health for primary care for

monitoring or for the nephrologist. Through the patients' medical records, the use of medications that interfere with renal function such as Domperidone, Pantropazol, Atenolol, Losartana, Hydrochloritiazide, AAS, Codeine, among others was identified. Thus, the "Guide to prevention of Chronic Kidney Disease" was elaborated, which aimed to address the theme in clear and simple language. The guide has 33 pages, with the following themes: "What is CKD and how to prevent it"; "Medicines that may affect the kidneys and contribute to the establishment of CKD"; "Relationship between Diabetes mellitus and CKD"; "Diet for diabetics with CKD" and; "Relationship between hypertension and CKD". This guide was registered in the National Library, published in digital format and distributed to patients who are seen at the CDM Pharmaceutical Office. Those who have CKD at some stage are being referred for medical follow-up. It is believed that the guide is an important strategy for the population to have access to safe and clear information. Patients continue to follow pharmacotherapeutic and under monitoring of renal function and other health problems.

Ethics Committee: 2,963,306

Financing: there was no financing.

USE OF TECHNOLOGY TO OPTIMIZE ADHERENCE TO MEDICATION IN CHRONIC HYPERTENSIVE PATIENTS WHO WITHDRAW THEIR MEDICINES FROM THE SOCIAL SECURITY PHARMACY

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Arterial Hypertension (HTN) is a disease that presents nonspecific symptoms, in general, only 50% of hypertensive patients know its diagnosis; and of that percentage, only half of the patients go to the doctor's office to be treated. One of the causes of low hypertension control is non-adherence to medication. Studies report that the use of technologies has been well accepted by doctors, and patients with chronic diseases, good results are detected using text messages to patients' cell phones, to remind them of taking medication or information about their disease. The objective of this work was to evaluate the use of technology to optimize adherence to medication in chronic hypertensive patients, who withdraw their medications at a Social Security pharmacy in the city of San Lorenzo, in Paraguay.

Quasi-experimental pilot study, with convenience sampling. The Moriski-Green Test was used to evaluate compliance with therapy and the causes of non-compliance. The technique used was the personal interview in the first contact and the follow-up was carried out by telephone and WhatsApp messaging. Twenty-two (22) patients participated, thirteen (13) women and nine (9) men. Most of the participants between 48 and 81

years old, the majority had secondary and tertiary studies and residents in urban areas.

The follow-up lasted six months; at the beginning, 50% of non-adherence to drug therapy was detected, forgetfulness was the cause in 90.9% of cases, at the end of the interventions, non-adherence was reduced to 9.1%. The median blood pressure values at the beginning was 130/80 mmHg, at the end of the study the median was 120/80 mmHg. Applying a satisfaction survey on the interventions, the patients expressed being satisfied with the phone calls, text messages, audios and messages via WhatsApp. Patients over 75 years of age preferred phone calls, audios and text messages to remind them to take their medication.

The use of technology could be a tool to obtain a greater participation of chronic patients in their health care and improve adherence to medication, furthermore studies with a larger population will be conducted.

Ethics Committee approval protocol: Code 443/2019. FCQ- UNA

Supported by: In house researchers

ANALYSIS OF NONPRESCRIPTION DRUGS ADVERTISEMENTS ON TELEVISION AND SOCIAL NETWORKS

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Since the first drug advertisement in Brazil, the pharmaceutical sector has been investing in advertising and advertisements for medicines to attract consumers. The most used means of communication for the reproduction of these advertisements was television, since, in a certain twentieth century, this was the one with the greatest coverage. However, with the growth of social media, the pharmaceutical industry has expanded its means of dissemination, starting to advertise medicines on the internet and creating medicine pages on social networks. Due to the concern with self-medication, which is more and more common, and consequently, with the individual and collective health risk, the present study aimed to analyze how non-prescription drug advertisements broadcast on social networks and on the three largest open television stations. audience in Brazil, to point out as therapeutic classes of greater incidence in these advertisements, and to identify as possible

irregularities of these advertisements in face of RDC 96/2008. 29 advertisements were analyzed with the aid of a checklist built from RDC n° 96/08, of which 14 were shown on television stations, and 15 were shown on Facebook medication pages. All advertisements dissipated, at least, an infraction, most of them related to the lack of clarity and visibility of information about the medicine. The therapeutic classes with the highest incidence in advertisements were antacids, analgesics and anti-inflammatory drugs. This study concludes that the fulfillment of the condition by the drug factories is still very precarious, requiring stricter enforcement and punishment, in order to increasingly promote the rational use of medicines, as, as notoriously known, any and all. The drug presents a risk potential, a potential that multiplies with incorrect and indiscriminate use.

POTENTIALLY INAPPROPRIATE DRUGS FOR THE ELDERLY: PRESCRIPTIONS ANALYSIS IN A PRIVATE HOSPITAL IN MARANHÃO, BRAZIL, 2016-2017.

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Aging involves the chronic diseases emergence, which require drugs to maintain health, which makes the elderly candidates for polypharmacy. Knowing of drug interactions risks and adverse reactions in the polypharmacy uses, prescriptions should be carefully evaluated for the risk of presenting Potentially Inappropriate Medicines (PIMs). The present study aimed to verify the frequency of PIMs among the prescriptions of elderly people at Clínica Médica-C3 of a Private Hospital in the city of São Luís - MA, by using Beers 2019 criteria as an instrument for evaluating these prescriptions. The study had a retrospective, quantitative, descriptive, and transversal character, where for retrospective analyzes, secondary data from medical records of patients admitted to the Clinical Medical Unit-C3, from January 2016 to December 2017 were used. The data collected and evaluated were: the medical record numbers, age, gender, quantity and name of the drugs in use at the hospitalization time, and also the diseases. 559 medical records were analyzed, and of these 119 were selected according to the inclusion criteria, 63.9% from 2016 and 36.1% from 2017. Regarding gender, the highest frequency was female in 2016 (71.1%) and in 2017 (67.4%). The mean age was 74 ± 10 years in both years of the study. The most frequent diseases were arterial hypertension, coronary artery disease and diabetes mellitus. The average number of drugs prescribed per patient was 8.87 ± 2.69 in 2016 and 8.89 ± 2.68 in 2017.

The most frequent drugs were from the digestive system and metabolism, cardiovascular system and blood and hematopoietic organs, representing 69.3% in 2016 and 65.2% in 2017. The average length of stay for was $3.29 (\pm 1.20)$ days in 2016 and $3.31 (\pm 1.20)$ days in 2017. According to Beers criteria 2019, 98.3% of patients used PIMs. 24 PIMs were found among the prescriptions, the most prescribed: pantoprazole, dimenhydrinate, scopolamine, ketoprofen, clonazepam, acetylsalicylic acid, hydrochlorothiazide, tramadol, ranitidine, and enoxaparin. The PIMs average per prescription was $2.79 (\pm 1.27)$ in 2016 and $2.78 (\pm 1.28)$ in 2017. Therefore, the profile of the patients in this study was made up of all polymedicated elderly people, with a higher frequency of chronic diseases. The analysis of prescriptions for the elderly with the application of Beers' Criteria proved to be extremely important and useful for health professionals in the process of caring for the elderly, when assessing the iatrogenies presence of and adverse reactions to medications. The criteria showed important applicability, however, it is necessary to consider in addition to the variables used by these criteria, considering mainly the use need by assessing the risks and benefits therapy.

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BENZODIAZEPINES AND RISK OF FALLING: IS THIS INFORMATION PRESENT IN BRAZILIAN DRUG LABELS?

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Physiological changes in the elderly associated with the use of potentially inappropriate medications, such as benzodiazepines, have several negative health outcomes and increased frailty. The continuous use of this class of drugs is associated with reduced attention and motor coordination, contributing to the increase in falls and bone fractures in the elderly. In this context, the contents of the drug labels were analyzed as to information about falls and bone fractures in the elderly of BZDs marketed in Brazil. The analysis was carried out by identification through the electronic form of the National Health Surveillance Agency (*Agência Nacional de Vigilância Sanitária* – ANVISA), http://www.anvisa.gov.br/datavisa/fila_bula/index.asp, of all BZDs with valid records for sale in Brazil. And from the drug labeling, the technical content was analyzed to verify the description of falls and bone fractures in the elderly. Twelve drugs were found, being Alprazolam, Bromazepam, Clobazam, Clonazepam, Cloxazolam, Diazepam, Estazolam, Flunitrazepam, Flurazepam, Lorazepam, Midazolam and Nitrazepam. In the drug labeling of the drugs it was identified that in seven (58.3%)

of them there is the information risk of falling and in six (50.0%), regarding the risk of fractures. The risk of falling and fracturing was related to elderly patients or those using sedatives (medications or alcoholic drinks). In a drug labeling (8.3%), benzodiazepine is indicated for the treatment of vertigo and symptoms related to balance disturbance, such as falling, despite the clear increase in the risk of falling evidenced by the literature. Only in three drug labels (25.0%) are management recommendations related to these risks, such as use with caution, monitoring and dose reduction in the elderly. It is concluded that not all Brazilian drug labels provide information regarding the risk of falls and fractures associated with the use of benzodiazepines by the elderly, present in the literature, and it is necessary to include this information for proper instruction by health professionals.

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PHARMACISTS PERCEPTIONS IN THE IMPLEMENTATION OF PHARMACEUTICAL CARE IN PRIMARY HEALTH CARE

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The Pharmaceutical Care constitutes the integrated action of the pharmacist for the promotion, the protection, the health recovery and the prevention of diseases. It aims to the education in the health field and to the promotion of a rational use of drugs through the pharmaceutical clinical services and through the pedagogical-technical activities directed to the individual, the family, the community, and the health team. Describing the perception of the Primary Care pharmacists who participated in the process of pharmaceutical care implementation in a region of the township of São Paulo. A qualitative research with a descriptive approach. The data collection was carried out with ten pharmacists who participated in two focus groups in May and August 2018 (CEP UNIFESP 2.480.641/ CEP SMS 2.587.651). The data were submitted to the Bardin's Content Analysis. Starting from 52 record units and 10 categories, 3 syntheses about the process of pharmaceutical care implementation were realized: Synthesis 1- The positive aspects and the facilitators highlighted by the pharmacists concerned the care practice, such as the consultation and the listening time, looking beyond the pharmacotherapy and the specific instruments; the insertion in the Basic Health Unit (BHU); the formation and the training; the expansion of the scope of activities such as household visits and educational groups. These

aspects responded to the pharmacists' expectations, besides responding to the managers' support and to the demand for the implementation of goals, flows and protocols to optimize the pharmaceutical care; Synthesis 2- The negative aspects and the barriers highlighted by the pharmacists intertwine when related to the sensations and feelings about the execution capability of the service; the demand for goals and the lack of support in the management; Synthesis 3- The Primary Care pharmacists highlighted the influence of the user in the implementation of the pharmaceutical care; the team role in the execution of the project with moments of recognition and strangeness; the profile and the skills required for the pharmacist, such as the pro-activity, empathy, and auto-valorization extended the concept of Pharmaceutical Care, besides the prescription, so differentiating it from the Pharmaceutical Care. With the results obtained, it was possible to describe the perception of the pharmacists in the Pharmaceutical Care implementation through the positive and negative aspects and through the necessary advances reported by the pharmacists. Thus, all the actors involved in this practice – the users, the health team, the managers, and the pharmacists - are expected to recognize their role and to value new forms of care in the National Health System.

ANALYSIS OF SOURCES OF INFORMATION FOR UPDATING THE LIST OF ESSENTIAL MEDICINES IN PARAGUAY

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Essential medicines are those that cover the priority health needs of the population and that, in a well-functioning health system, must be available at all times, in the appropriate pharmaceutical form, with quality assurance and at prices that individuals and the community can afford. Maintaining up-to-date lists of the major medicines a country needs is crucial to achieving the goal of health for all in a sustainable way. The objective of the work was to evaluate the quality of requests for inclusion of medicines in the List of Essential Medicines (LME) of Paraguay. The study was observational and descriptive. At the Medicine Information Center, the records of requests for inclusion of medicines made by the programs and health professionals during March to October 2019 were analyzed. A standardized

record approved by the Ministry of Public Health and Social Welfare was used. Experts from PAHO advised us. During the study period, 89 medicines were requested to be included in the LME, of which all (100%) had the general data of Generic Name, Concentration and Pharmaceutical Form; 81 (91%) corresponded to a Pharmaceutical Specialty and 8 (9%) to Master Preparations. Only 4 (4,5%) had Safety data; 85 (95%) had Efficacy data. In 65 (73%) of the medicines requested were supported with a source of information recommended by WHO. Of the applications, 32 (36%) coincide with the Essential Drug List proposed by the WHO. It is necessary that the applications have all the technical and scientific support to support the inclusion decisions.

EVOLUTION OF PHARMACEUTICAL INTERVENTIONS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Pharmaceutical Care is the responsible provision of pharmacotherapy with the purpose of achieving concrete results that improve the quality of life of patients. Diabetes Mellitus (DM) is a chronic metabolic pathology characterized by the increase of glycemia values above the normal value. It is accompanied by complications in the kidney, retina, vessels, heart and nervous system. The aim of the work was to evaluate the evolution of pharmaceutical interventions in patients with Diabetes Mellitus Type 2. The study was a randomized clinical trial, with measurement of before and after variables. Non-probabilistic. Of convenience. 32 patients from the intervened group and 32 in the control group participated. Monthly interviews were conducted during a 6-month pharmaceutical intervention period (from October 2011 to June 2012), by a pharmacist. Only 3 dropouts were recorded. The variables were clinical parameters (glycemia, glycosylated hemoglobin: measured by clinical blood tests); quality of life (measured by SF-36 questionnaire) and drug-related problems (DRP) by Strand et al. The age of the patients was 55.6±10.6 years. Of the patients of the operated group, 24 improved

glycemia, with value (≤ 130 mg/dL); 15 patients achieved the desired parameters of glycosylated hemoglobin ($\leq 6.5\%$). The quality of life of the intervened group increased from 56.3 to 71.3%. In the intervened group, 80 DRPs were found; in 27 patients, 59 DRPs were resolved; at the end of the study, 12 patients resolved all DRPs. A total of 308 problems were detected, mostly between the first and second appointments, of which 199 (65%) were resolved between the second, third, and fourth appointments. There were 254 pharmaceutical interventions, where 33 were interventions on the quantity of medicine, 22 interventions on the pharmacological strategy, 169 patient education interventions on non-compliance with pharmacotherapy and non-pharmacological measures, and 30 interventions on preventing adverse reactions and interactions. The pharmaceutical interventions improved clinical parameters of glycemia, glycosylated hemoglobin, optimized drug use, decreased drug-related problems, and improved patients' quality of life. The work was approved by the FCQ-UNA Ethics Committee with the code PI-07/12 and financed with own funds.

THE IMPLEMENTATION PROCESS OF PHARMACEUTICAL CARE FOR PEOPLE LIVING WITH HIV/AIDS IN A SPECIALIZED SERVICE IN SOUTHERN BRAZIL: A PROFESSIONAL EXPERIENCE REPORT

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Pharmaceutical care is a philosophy of practice whose main aim is to optimize people's health outcomes. In the scenario of people living with HIV/AIDS, the pharmacist plays a challenging role in a collaborative way with the multiprofessional team, meeting the demands it related to the use of medicines. The purpose of this experience report is to present the implementation process of pharmaceutical care in a specialized service that treats people living with HIV/AIDS. It is a descriptive study, an experience report type and anchored in the Design Thinking models, that comprises an integrated practice with the management of processes in order to improve existing services and innovate by proposals that meet the expectations and health needs of patients. Design Thinking was carried out in four steps: exploration, creation, reflection and implementation. Pharmaceutical care consultations were offered to all individuals treated at the service, which is located in the city of Porto Alegre, state of Rio Grande do Sul. In the exploration step, the main needs of patients in the service itinerary were mapped, establishing as criteria for referral to people in the beginning of treatment in need of guidance; with comorbidities and polymedications; with delay in the withdrawal of their medications in the pharmacy and/or with problems of treatment adherence and, finally, with complaints related to adverse effects of medications. In the creation step, the technical instruments for consultations were designed, resulting in a pharmaceutical medical record for anamnesis. Health education materials were also made, such as a folder explaining adverse effects and intuitive medications calendars, as well as explanatory material on HIV Post-Exposure

Prophylaxis (PEP). In the reflection step, the objective was to model the service's operating logic, where pharmaceutical care consultations were estimated for the time of 30 minutes and idealized in a private pharmaceutical room, specifically for this purpose. The pharmaceutical room is located inside the physical space of pharmacy as it is an easily accessible place for everyone who receives the service. The implementation step consisted of planning the service's awareness of pharmaceutical consultations and defining monitoring indicators. All service sectors were made aware about the importance of the pharmacist for management care of people living with HIV/AIDS. Monitoring indicators were defined as the frequency withdrawal of medicines in the pharmacy, attendance at pharmaceutical appointments and viral load. This work contributes to the development of the implementation process of pharmaceutical care in the health care network of specialized services, which today constitutes a global challenge for all health professionals. The implementation of clinical pharmaceutical services, when well designed, can directly impact the resolution of demands linked to people's health problems. Design Thinking, as a recent technique in the field of health, is a tool capable of assisting in the development of clinical services centered on people.

Ethics Committee approval protocol: not applicable.

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INFORMATION AS AN AWARENESS STRATEGY FOR THE RATIONAL USE OF MEDICINES IN IPIRANGA DO SUL - RS

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Self-medication and the problems arising from the misuse of medicines generate a serious risk of complications, intoxications and deaths in Brazil. In the city of Ipiranga do Sul, in addition to the culture of self-medication, there are many patients with polypharmacy, and the Basic Health Unit Gervázio Gorrosterrazu dispenses more than 80 thousand pills per month for a population of 1800 inhabitants. Believing that prevention is more effective and generates less costs than treatment, we sought to develop a project to raise awareness about the rational use of medicines, where the main objective was to analyze prior knowledge about the use of medicines and their health implications and make children and adolescents aware of the rational use of medicines, encouraging them to be agents who distribute information. Among the various actions, one was developed at the Municipal School of Fundamental Education Dom João Becker with students from 5th to 9th grade, with discussion, dynamics and preparation of material for socialization. In this stage we discussed in the classroom, the bases of the functioning of medicines in the body for the recognition of the risks generated by them, we seek to evaluate how the population acquires, stores and uses the medicines, raising awareness about the correct

storage and disposal. The main activity carried out by the project was a dynamic where the students received a box of medicines, representing a “Homemade Pharmacy”. This box contained drugs with various types of technical failures, from degraded by inadequate storage and transportation to expired drugs. In order to identify the main problems with the available drugs, the participants were instructed to analyze the contents of the box and detect the problems, and then the knowledge was socialized and discussed to consolidate the information. At the end of the proposed challenges, a moment was held to share with the community, placing posters in public places and promoting actions to raise awareness about the correct use of medicines. These actions were developed in order to reduce the problems resulting from the inappropriate use of medicines, always in search of improving the citizen's quality of life and goals are being achieved. After carrying out the activities, there was an increase in adherence to treatment and a reduction in administration errors, it was also noticed through reports, that children and adolescents started to assist and guide the family on correct disposal and on the risks of medicines used without proper guidance.

DRUGS INTERACTIONS OF ANTIBIOTICS WITH DRUGS USED TO TREAT COVID-19.

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COVID-19 is a disease caused by the severe acute respiratory syndrome coronavirus 2 virus (SARS-CoV-2), with a clinical picture ranging from asymptomatic infections to severe respiratory conditions. Antiretroviral drugs such as atazanavir, lopinavir/ritonavir, remdesivir and favinavir; antimalarials such as chloroquine and hydrochloroquine and antiparasitic such as nitazoxamide and ivermectin are being studied for the treatment of COVID-19 and its complications. According to COVID's Diagnostic and Treatment Guidelines, "So far, there is no robust, high-quality evidence that makes it possible to indicate a specific pharmacological therapy for COVID-19". Based on this, an interaction research was carried out between the drugs mentioned for the treatment of COVID-19 and the antibiotics standardized at the Brazilian Hospital Services Company (EBSERH), using the databases: MedScape, UpToDate and Drugs. As a result, there was a higher prevalence in drug interactions

classified as moderate, among the drugs mentioned for the treatment of COVID-19 and antibiotics standardized in EBSEH, such as decreased ampicillin absorption when associated with hydroxychloroquine / chloroquine; increased concentration of ivermectin due to enzyme inhibition caused by this antibiotic; risks of QT prolongation and cardiac arrhythmia when combined with azithromycin or levofloxacin with hydroxychloroquine / chloroquine and lopinavir / ritonavir; unpleasant effects such as difficulty breathing, palpitations, hypotension and confusion between lopinavir / ritonavir and metronidazole. Serious interactions were also observed, such as decreased metabolism of remdesivir and atazanavir caused by rifampicin; increased urinary excretion of ciprofloxacin when associated with hydroxychloroquine / chloroquine. Thus requiring the performance of the clinical pharmacist to monitor pharmacotherapy and assess patient safety in the face of their use.

EVALUATION OF CARDIOVASCULAR DISEASES IN THE PHARMACEUTICAL CLINIC OF THE CITY OF ALFENAS-MG

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Population's life habits associated to the increase of life expectancy, may influence the increase of the prevalence of chronic non-transmissible diseases and, consequently, the demand for primary health care. The aim of this work is to report the experience of a University Extension project regarding the prevention of cardiovascular diseases in Alfenas, Minas Gerais. The Pharmaceutical Clinic Project started in November 2017 as part of the Extension Program Pharmaceutical Care Nucleus UNIFAL-MG (NAFAU). Structured within a health unit in Alfenas, the Pharmaceutical Clinic aims to empower carriers of chronic non-transmissible diseases towards the prevention of cardiovascular diseases through knowledge sharing and offering clinical services such as health education, health screening, pharmacotherapeutical follow-up and pharmacotherapy review. Thus, it turns possible to identify, prevent and solve problems related to medications, in addition to support the improvement of patients' quality of life and rationalize the financial resources of SUS. Regarding the care provided by teachers and students, it seeks to understand the context of a person's life and listen to their subjective experience about the comorbidities they may have

and the medications they use, in order to agree between both parts about the health interventions which favor the prevention of cardiovascular diseases. Elderly patients of both genders over the age of 60 (n = 31) who had not suffered any episode of cardiovascular disease were included in that study. The Framingham Score, which estimates cardiovascular risk based on the influence of some factors such as age, total cholesterol, diabetes, blood pressure and smoking was determined from that data. It was observed that about 40% of all patients match the established criteria. Of these, 61% are female. In addition, it was found that about 60% of men had a high risk for developing cardiovascular issues (greater than 20%), while the same risk was found among 37% of women. Through these data, individual therapeutic interventions were carried out to prevent and reduce this risk. The researchers intend to develop group actions such as community meetings and debates, in order to reinforce the importance of cardiovascular prevention.

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MAIN INTERACTIONS CAUSED BY TOBACCO WHEN ASSOCIATED WITH DRUG TREATMENT

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Smoking is directly related to complications that lead to breathing problems, heart disease and lung cancer, accounting for millions of deaths worldwide. In addition, the tobacco is composed of substances that may interact with many drugs. Those interactions are related to pharmacokinetics and pharmacodynamics changes, influencing the metabolism and reducing the drug's ability to treat the health problem, which can further harm the smoker's health status. Two substances are the main causes of these interactions: nicotine and aromatic hydrocarbons. Nicotine acts on the pharmacokinetics of some drugs to increase its metabolism and it is also able to change the pharmacodynamics of others to oppose its pharmacological action. Aromatic hydrocarbons, changes the pharmacokinetics of some drugs, since they induce cytochrome P450 enzymes. Thus, this study aimed to describe and analyze the existing main pharmacological interactions between nicotine and aromatic hydrocarbons in the therapy of patients who smoke. The study was developed through the search for scientific articles in the Scielo database, where 15 articles were selected, but only 6 were used for the analysis of interactions. Among the classes of drugs analyzed, we obtained as a result that, antiepileptics,

antiplatelet agents, benzodiazepines, antihistamines and insulin, interact with nicotine. While antidepressants, antipsychotics and anticancer drugs, interact with aromatic hydrocarbons. There are also drugs that suffer consequences of both substances, such as opioids and cardiovascular drugs, as beta adrenergic blockers, diuretics and antiarrhythmics. And, drugs that have not been reported to interact with either substances, which are anesthetics and neuromuscular blockers, muscle relaxant, antimalarial, cytotoxic, medication for altering cognitive function, anticoagulant, hormonal contraceptives, corticosteroids and antiparkinsonics. In view of the presented study, it was possible to conclude that many drugs commonly used by the population, suffer interference from nicotine and aromatic hydrocarbons, resulting in an ineffective pharmacological treatment, which can lead to a worsening of the clinical condition of smoking patients. With this, it is necessary to reinforce the importance of good pharmacotherapeutic follow-up, where the patient must be clarified and made aware of the risks and consequences of such action.

POTENTIALLY INAPPROPRIATE DRUGS FOR THE ELDERLY IN A PRIVATE HOSPITAL IN MARANHÃO, BRAZIL, 2018

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In the last few years, the population aging process has been taking place in several countries and its discussion has become increasingly important, given the economic and structural consequences that this change will bring to the various social centers. The present study aimed to verify the of potentially inappropriate medications (MPIs) prevalence for use in elderly, according to the Beers-Fick criteria, among the Clínica Médica-C3 prescriptions, of a private hospital in Maranhão, at São Luís city during 2018. A retrospective, quantitative, descriptive and cross-sectional study was carried out to obtain data medical records of 78 patients. The information were obtained through the analysis data medical records from the Clinical Medical inpatient unit - C3, of the Private Hospital, in a period of 1 year, with an age range greater than or equal to 60 years of age, of both genders, on which 12 did not meet these inclusion criteria. The medications used were classified as Potentially Inappropriate Medicines (PIM) according to the categories of Beers criteria 2019. The data were analyzed in the Excel program, by using descriptive statistics, with a 5% confidence limit. Of the 66 elderly people included in the study, 68.2% were male and with a mean age of 72 years. The most frequent morbidities among

these patients were systemic arterial hypertension (74.2%), diabetes mellitus (51.5%) and dyslipidemia (11.7%). The total number of drugs used is 484, with an average of 7.3 drugs per patient, and polypharmacy was found in 88.3% of cases analyzed. Among the PIMs to be avoided by all the elderly, the high use of proton pump inhibitors (48.7%) stood out, among them, the highest prevalence was omeprazole (18.0%), in addition to some psychotropic drugs (23.2%), like quetiapine (12.8%). As for drugs that should be used with caution, the most frequent class in this category was diuretics (49.0%), mainly represented by hydrochlorothiazide (28.0%). Thus, a high prevalence of PIMs was identified in this population, showing that the elderly need greater specificity in their care. Thus, the pharmacist must continue to perform drug management through the analysis of prescriptions and drug reconciliations, in order to identify the adverse reactions to medications and promote safe and individualized treatment of patients.

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EVALUATION OF THE HEPATOPROTECTIVE EFFECT OF MAROLO SEED

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Oxidative stress is an important factor in the process of aging, alteration and cell death, which is present in pathological processes such as tumor formation and the development of chronic diseases (high blood pressure, diabetes, liver disease and others). The consumption and application of natural products rich in phytochemicals has shown beneficial effects in the prevention and/or treatment of several diseases. However, many of these products can interact with traditional medicines and interfere with their metabolism, therapeutic action or exacerbate their hepatotoxic effects. Paracetamol (Acetaminofen) is an analgesic and antipyretic without a prescription, widely recommended by pharmacists inside drugstores. High doses of paracetamol can be harmful to the liver by depleting glutathione reserves, being converted into a toxic metabolite. The aqueous extracts of marolo seeds have a high concentration of phenols, phenolic acids and their carotenoid derivatives, especially when compared to other natural extracts. However, there are no studies in the literature that assess the protective capacity of marolo seed against hepatotoxicity induced by drugs such as paracetamol. The aim of this study was to evaluate the hepatotoxicity of the aqueous extract of the seeds of marolo (*Annona crassiflora* Mart) in Wistar rats. The extract was obtained by the infusion process in boiling water (13% w/v), for 60 minutes and followed by filtration. To assess the toxicity of the extract, it was

administered daily to the animals by gavage (2 mL/kg of body weight) for 15 days. Liver damage was induced in rats administered paracetamol at a dose of 2 g/kg body weight, 24 hours before euthanasia. Blood samples collected by cardiac puncture were used to analyze biochemical parameters (alanine aminotransferase - ALT, aspartate aminotransferase - AST, total proteins, albumin and alkaline phosphatase - FA). The induction of liver injury was confirmed by an increase 2.2 and 3 times greater than the negative control for the enzymes ALT and AST, respectively. The parameters total proteins and albumin did not change for any of the groups analyzed. The animals treated only with the extract had a small reduction in the concentration of ALT and AST (4.9% and 8.4%, respectively) and an increase of 16.3% in the AF levels when compared to the negative control. The rats with liver damage and treated with the extract showed values of ALT, AST and FA 14.9%, 19.9% and 6.6% lower, respectively, than the animals with liver injury without treatment. The results suggest that the aqueous extract of the marolo seed was not toxic to the liver of normal rats or to animals with hepatitis, partially protecting the injury caused by paracetamol. These data are relevant because it is a natural product in popular use.

Ethics Committee approval protocol: CEUA n° 74/2017

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GEOPROCESSING OF ANTIMICROBIALS PRESCRIPTION ERRORS IN THE HEALTH CARE NETWORK OF A MUNICIPALITY IN SOUTHEAST BRAZIL

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Antimicrobials are widely used to treat bacterial infections. However, errors in prescribing, such as poor legibility and completeness, can cause harm to the patient. In this sense, geoprocessing can be an important tool for building thematic maps that allows understanding the origin of prescription errors, enabling the adoption of strategies aimed at solving such errors. Thus, the objective of the study was to identify the origin of antimicrobials prescription errors related to legibility in the health care network of a municipality in Southeast Brazil. A cross-sectional, retrospective study was carried out to analyze the antimicrobials prescriptions dispensed at the Municipal Pharmacy in Alegre city, located in the state of Espírito Santo, from March/2018 to February/2019. Antimicrobials prescriptions were selected from a sample calculation and simple random sampling. The legibility of the prescriptions was classified as: legible (reading and certainty of full understanding of the writing) and poorly legible / illegible (poorly legible, illegible or it was not possible to evaluate due to a lack of data). To reduce the subjectivity bias in the evaluation process, the prescriptions analysis was carried out by two evaluators independently and a third evaluator was consulted in cases of disagreement. In geoprocessing, the ArcGIS® software was used to prepare thematic maps that contained the location of the main Public Health Units (PHU) of the urban and rural area of the municipality. As results, 359 prescriptions were analyzed, containing 373 prescribed antimicrobials. Of these, 4.56% (n = 17) came

from the private health care network or from other municipalities and 95.44% (n = 356) from the health care network in Alegre/ES, on what 16.01% (n = 57) were originated from five PHU in the rural area and 83.99% (n = 299) from seven PHU in the urban area. After legibility assessment, it was observed that 84.21% (n = 48) of antimicrobials in rural areas and 61.2% (n = 183) in urban areas were prescribed in a poorly legible/illegible manner, totaling 64.89% (n = 231) of the antimicrobials analyzed in the study. It is worth mentioning that the analyzed PHU obtained a percentage of antimicrobials prescribed in a poorly legible / illegible manner, varying from 19.05% to 100%, with 10 of the 12 USP having a percentage higher than 62.50%. The present study identified the origin of antimicrobials prescription errors related to legibility, through geoprocessing, showing a high prevalence of prescription poorly legible / illegible in the municipality, especially in the rural area. This mapping can help health managers and decision makers to implement specific and targeted actions to improve the legibility of prescriptions, such as the provision of continuing education courses for health teams and the implementation of technological resources to support the prescriptions writing.

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PHARMACOKINETIC AND PHARMACODYNAMIC TARGET ATTAINMENTS OF MEROPENEM REGIMENS IN CRITICAL PATIENTS IN A BRAZILIAN PUBLIC HOSPITAL

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Critical illness can alter concentrations of antibiotics (ATB), predisposing patients to potential treatment failure, emergence of resistance and/or drug toxicity. Thus, optimizing the exposure of ATB in critically ill patients individually can improve clinical outcomes. One of the possibilities of this optimization is the calculation of ATB dosage based on pharmacokinetic/pharmacodynamic (PK/PD) correlation considering patient clinical data, population PK models, information on the microorganism and ATB Minimum Inhibitory Concentration (MIC). In this context, this study aimed to analyze the scope of the PK and PD target attainments of meropenem regimens in critically ill patients in the Intensive Care Unit (ICU) of a general public Brazilian hospital considering the PK/PD correlation through a retrospective observational study. Clinical and anthropometric parameters of critical patients who were prescribed meropenem in 2019 and standardized formulas were used to calculate the PK and PD goals of this ATB in relation to the MIC as a function of time (f_{TMIC}) (the target used as a comparative parameter was $f_{TMIC} > 100.0\%$ according to literature). Data from 26 patients with a mean age of 66 years (ranging from 27 to 88) were included in the study. The most frequent bacterium was *Klebsiella pneumoniae* (14 patients; 53.85%), followed by *Acinetobacter baumannii/haemolyticus* (11 patients; 42.31%); 16 (61.54%) patients had more than one infecting microorganism. Only four patients (15.38%) had bacteria with MIC within the susceptibility range for the ATB. The average time of use of

meropenem was 11 days (± 5) with a Defined Daily Dose (DDD) equal to six grams, being administered in a three-hour infusion in 24 (92.31%) patients. The general average of f_{TMIC} was 141.00% (ranging from 47.23% to 256.39%). The drug concentrations remained above the MIC during the entire period of ATB use in 17 (65.38%) patients, ranging from 100.80% to 256.39%, and below $f_{TMIC} > 100.0\%$ in five patients (19.23%) (f_{TMIC} ranging from 66.26% to 89.23%). The others ($n=4$; 15.38%) presented drug concentrations below and above f_{TMIC} throughout the period of use, varying according to dose. Although complementary studies are needed to evaluate clinical outcomes, the results refer to the importance of optimizing ATB dosage in critically ill patients through an individualized approach providing a dosing regimen that can achieve the predictive PK/PD ratio of treatment success. The role of the pharmacist in the clinical team in this context is fundamental, especially considering the potential of not reaching the adequate ATB concentration for therapeutic effectiveness and increasing the probability of resistance of the microorganism for those patients without reaching the therapeutic objective and increased risk of toxicity for those whose ATB concentration leads to a f_{TMIC} far above the ideal for critical patients.

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KNOWLEDGE ABOUT SELF-APPLICATION OF INSULIN AMONG USERS OF A BASIC HEALTH UNIT: PILOT STUDY

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Diabetes mellitus (DM) is a worldwide health problem that presents insulin therapy as a treatment option. However, the correct use of insulin therapy requires the fulfillment of steps that include the preparation and administration of insulin to ensure the desired therapeutic results. The aim of the study is to assess knowledge about the self-application of insulin. This is the pilot phase of the cross-sectional study to detect the need for adequacy of the data collection instrument and how to approach the users. The collection was carried out in October 2020 in a Basic Health Unit (UBS) in Lagarto/SE. Sampling was by convenience and not probabilistic. The data collection instrument contained socio-demographic variables, information on the types of insulin and the time of use, and on how to use the insulin (preparation and application). The data were analyzed through descriptive statistics. Eight insulin users were interviewed. It was observed the need to include in the instrument whether the patient was an insulin pen user, as well as if the individual who acquired the insulin was the patient himself or third parties (caregiver, family, friend, neighbor). During the interview, all the participants reported understanding the questions asked. The analysis revealed that 62.5% (n=5) were male and 100% (n=8) did not have completed elementary school. Regarding the level of knowledge about insulin self-application, 50% (n=4) of the participants had insufficient knowledge (<50 of correct answers). It was observed the non-fulfillment of the steps for the

correct and safe use of the insulin therapy regarding the sanitization of the rubber of the insulin bottle (75%), the introduction of the syringe needle into the insulin bottle, and air injection (87.5%), observation of the time to remove the needle after the administration (75%), the compression of the place of application with cotton (62.5%), friction of the place of administration (87.5%) and using a suitable container for sharps (75%). The pilot phase represents an essential stage of research planning. The patients pointed out the comprehension of the instrument's questions, however, limitations were verified regarding the identification of the individual who took the insulin in the pharmacy and regarding the type of pharmaceutical presentation of the insulin distributed to the patients (vial and pen), which restricted the sample and doubts about the insulin storage. For this, questions that included these three variables were added. It was verified a lack of information about the correct use of insulin, from the preparation to the disposal of the material used. Thus, the provision of information on insulin therapy to the patient and implementation of educational strategy in basic care fulfills the perspective of promoting the rational use of the drug and meets the actions of health promotion and prevention of diseases within the primary health care.

Ethics Committee approval protocol:
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EDUCATIONAL ANIMATED IMAGES: A TEACHING EXPERIENCE TO DIFFUSE THE BRAZILIAN PUBLIC HEALTH SYSTEM IN A SOCIAL MEDIA

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Social media have become an important tool to facilitate communication, social contact and sharing of common interests between people in a professional or community environment. The use of animated images, also known as Graphics Interchange Formats (GIFs), reaches a high number of individuals and is a major strategy for promoting online engagement. Animated images used to disseminate scientific and academic information are called Educational GIFs (E-GIFs). They might be used in the students' learning process and promote an integration between teaching and the community. Thus, the objective of this study was to describe a teaching experience of E-GIFs as a strategy to diffuse information regarding the Brazilian Public Health System (SUS) in a social media. Undergraduate Pharmacy students enrolled in the 'Healthcare Policies' class at the Federal University of Espírito Santo - Alegre Campus (UFES) were randomly distributed into eight groups, namely: SUS definition, SUS main principles (i.e. universality, integrality, equity), healthcare decentralization and regionalization, SUS social participation, SUS gratuity and SUS defense. The groups were instructed to develop E-GIFs with a maximum duration of 59 seconds in a video editing software. Subsequently, the E-GIFs were published in an Instagram profile (@cuidadofarmaceuticoufes), and their impact was measured using the metrics generated by the social media itself: number of accounts reached, likes, shares and saves. In addition, the E-GIFs were independently judged

by a panel of evaluators composed of three pharmacists with expertise in healthcare education, SUS experience and graphic design for social media. The panel judged each E-GIF on a scale of 0 to 10 points, based on the following criteria: content, originality, creativity, aesthetics, adequacy for time and theme. As a result, 30 students participated in the activity. After posting the E-GIFs in the online profile, 8,241 accounts were reached and all E-GIFs gathered 2,666 likes, 1,858 shares, and 799 saves. The E-GIFs with the highest number of likes were: SUS defense (n = 1,432), integrality principle (n = 1,330) and universality principle (n = 1,299). The most shared E-GIFs were: integrality principle (n = 395), SUS definition (n = 334) and equity principle (n = 329). The most saved E-GIFs were: integrality principle (n = 201), universality principle (n = 111) and SUS definition (n = 101). The average of the panel's scores was 9 ± 0.4 points, ranging from 8.4 to 9.7 points. The E-GIFs with the highest score were: universality principle (9.7), SUS defense (9.4) and SUS definition (9.2). The teaching experience of using E-GIFs came out as an effective approach to diffuse information regarding SUS, developing remote healthcare education strategies and engaging undergraduate Pharmacy students with the community.

Ethics Committee approval protocol: Not applied

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POSITIVE OUTCOME OF URINARY TRACT INFECTION TREATMENT IN A PATIENT IN PALLIATIVE CARE WITH MEROPENEM BY HYPODERMOCLYSIS: A CASE REPORT

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The use of hypodermoclysis as a route of drug administration is commonly used in palliative care, elderly and debilitated patients. It is a safe and more economical methodology, in addition to ensuring that a patient who is often debilitated, with difficulty in swallowing, dehydrated and with little muscle mass is benefited by the use of medication through hypodermoclysis. Although little known and used in clinical practice, in addition to covering replacement fluids, different medications can also be administered, such as antimicrobials and analgesics. Since the use of antimicrobials in this route of drug administration is still little used and is often indicated according to the professional's clinical experience due to little information in the literature, the following case report is necessary to contribute to the knowledge on the subject. Female patient, 83 years old, in palliative care for advanced stage dementia syndrome, totally dependent on basic daily care, bedridden, using an exclusive nasoenteral tube, hospitalized for recurrent urinary tract infection by *Pseudomonas aeruginosa* ESBL, sensitive carbapenem and aminoglycoside. Initially, she was treated with intramuscular amikacin for four days. Considering the patient's

profile (emaciated and in palliative care), it was decided to replace the therapy with meropenem 1 gram of 8/8 hours with hypodermoclysis. The patient completed seven days of treatment for urinary tract infection and, while using the medication, did not present any adverse events related to the route of administration, in addition to that, she presented an important improvement in urinary symptoms and hypoactive delirium, with negative urine culture throughout hospitalization, demonstrating that the goal of using the antimicrobial was achieved even when using hypodermoclysis as a route of administration, in addition to contributing to patient safety, ensuring greater comfort during hospitalization and reducing possible psychological and physical damage than the patient it could have been affected in the process, corroborating the definition of palliative care according to the World Health Organization, as it was a multidisciplinary care aimed at improving the quality of life of patients and family members, also guaranteeing humanized care to the patient.

Ethics Committee approval protocol: CAAE 60268916.5.0000.5440. number 1.999.192.

ANALYSIS OF PRESCRIPTIONS OF A BASIC HEALTH UNIT OF DISTRITO FEDERAL (BRAZIL) FROM THE POINT OF VIEW OF PATIENT SAFETY

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Patient safety refers to reducing the risk of unnecessary harm associated with health care to an acceptable minimum. The process of health assistance involves several aspects, such as the use of medications. Although this discussion has gained importance in the hospital environment since the 2000s, there is a lack of this approach in Primary Health Care. This study aimed to analyze the prescriptions of a Basic Health Unit (BHU) in the Distrito Federal (Brazil) from the perspective of patient safety. To this end, a cross-sectional survey was carried out involving the analysis of 431 prescriptions presented to the BHU pharmacy service between February and July 2019 (quantity defined based on the local average of attendance at the pharmacy – confidence level = 95%). From the perspective of patient safety, bulletins from the Institute of Safe Practices in the Use of Medicines (ISMP) were considered as well as the Global Patient Safety Challenge “Medication Without Harm” considering priority areas (high risk situations and polypharmacy – use of four or more medications), relevant work areas related to pediatric and elderly patients and specific medication groups (high-alert medications in ambulatory healthcare, high-risk medications, pediatric liquid medications that needed measurement and inappropriate medications for the elderly defined by criteria Beers). The average age of patients whose prescriptions were analyzed was 49 (\pm 21), with 149 (34.6%) prescriptions for the elderly and 25 for pediatric patients (5.8%). Most of the prescriptions were from doctors (N = 378; 87.7%) and were manual (N = 340; 78.9%). A total of 1208 medications were prescribed and polypharmacy had a prevalence of 15.5% (N = 67). Of the prescription drugs, 72.9% (N = 881)

were provided with complete information of concentration, dose, pharmaceutical form, dosage, time of treatment and route of administration. Almost half of the drugs were prescribed with abbreviations, acronyms and/or symbols considered inappropriate (N = 558; 46.2%), most of them related to the pharmaceutical form. Approximately 10% (N = 108; 8.9%) of the prescribed drugs were with some non-metric measure and more than half had instructions for use in the prescription (N = 706; 58.4%), the most frequent being those related the period/time of use. Of the medications prescribed, 191 (15.8%) were MPP or high-risk, the majority with a role in glucose metabolism. 147 Potential Drug Interactions were found, of which almost 30% (N = 41; 28.0%) were of severe severity; 46 (31.3%) involved at least one high risk/high-alert medications, five of them (10.9%) of significant severity. Liquid medications that needed measurement were prescribed to 10 pediatric patients and only two prescriptions had guidelines for use. A total of 49 inappropriate drugs were prescribed to 38 (25.5%) elderly people, 20 of them prescribed for “continuous use”. From the results obtained, it appears that there are important aspects concerning the prescription of medications that can negatively influence patient safety, from aspects related to information about the medications themselves to the lack of guidance on their use, evidencing the need for practice readjustments.

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CONCORDANCE ANALYSIS OF THREE DATABASES FOR RESEARCH OF POTENTIAL DRUG INTERACTIONS IN PATIENTS USING TYROSINE KINASE INHIBITORS

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Pharmacological therapy with tyrosine kinase inhibitors (TKI) is first line treatment for Chronic Myeloid Leukemia (CML). Among TKI used, the main are: imatinib, nilotinib and dasatinib. For the success of pharmacotherapy, it is mandatory that the patient takes more than 90% of prescribed doses. In this context, the presence of potential drug interactions (PDI) resulting in a decrease of TKI concentration, may result an underexposure of necessary dose for an optimal response to treatment. On the other hand, a PDI that increases concentration can result in adverse reactions which hinder treatment adherence. Given the above, it is necessary to identify databases which provide reliable data on interactions, so that the best conduct is adopted. The objective was to analyze the agreement of three databases for PDI research in patients with CML using TKI. This is a cross-sectional study, carried out in a hematology outpatient clinic of a University Hospital, from october 2019 to september 2020. Data gathering and analysis were held by a team composed of 1 pharmaceutical resident and 3 pharmacists of the institution. The sample consisted of 35 patients, with the data related to prescribed medication and self-medication utilized by the patient being collect by a structured interview. Subsequently, PDI were searched in Micromedex, UpToDate and Medscape databases.

Each pair of PDI was analyzed for their presence in each database. The reliability analysis was performed using the Kappa test, using RStudio software, version 3.6.3. Kappa values range from 0, where there is no agreement, up to 0.80 to 1.00, where there is almost perfect agreement. 41 PDI were found involving TKI, which most frequent were losartan 17.1% (n=7), simvastatin 12.2% (n=5) and amlodipine 9.8% (n=4). The frequency of PDI with potential to decrease TKI plasma concentration was 2.4% (n=1), with trazodone. Regarding PDI with potential to increase TKI plasma concentration, it was 9.8% (n=4), involving topiramate, amiodarone, darunavir and ritonavir. The general Kappa, when all databases were compared, was <0. When databases were analyzed in pairs, there was a greater agreement between the UpToDate / Micromedex, with 0.120 (p = 0.228) and a negative agreement between the databases UpToDate / Medscape -0.44 (p = 0.977) and Micromedex / Medscape -0.111 (p = 0.700). Considering the lack of agreement between the databases, more studies are needed to elucidate which are the reliable sources of search for information about PDI, an important tool to support pharmaceutical care activities.

Ethics Committee approval protocol:
14964619.1.0000.5078.

HEALTH STUDENTS KNOWLEDGE ABOUT THE NATIONAL THERAPEUTIC FORM

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The National Therapeutic Form (NTF) is a tool that contains scientific information targeted to the clinic in order to promote Rational Use of Medicines (RUM). The use of NTF assists health professionals in the clinical decision-making process, especially prescribers and pharmacists. Thus, it is necessary to know and use the NTF during the academic training of future health professionals. The objective was to identify the undergraduate health students' knowledge about NTF. A cross-sectional study was carried out during October, 2020. The link to the google docs questionnaire was sent to students enrolled in medical, nursing, dentistry and pharmacy courses at the Federal University of Sergipe in the Lagarto campus (UFS-Lag). Socio-demographic and knowledge data about NTF were collected. The data were computed in an Excel spreadsheet and analyzed using the BioEstat version 5.0 for Windows. Frequency, measures of central tendency and variability of the collected variables were listed. A total of 53 responses were obtained, of which 37.7% and 30.1% correspond from,

respectively, medical and pharmacy students. Among the sources of information used (96.2%), 62.3% said use of scientific information databases as sources of finding medicines information. On the other hand, 60.4% of those surveyed did not know the NTF and 62.3% do not know what its function is. Regarding the use of NTF as a source of medication research, only 35.8% had already used it during undergraduation. Despite this, 83% believe they would use NTF as a source of information in the future professional practice. The study showed that undergraduate health students do not know the NTF, but they state the possible use of NTF when in the professional practice setting. The capillarization of the importance and usefulness of NTF in undergraduate health courses significantly interferes in the promotion of RUM, in minimizing predictable risks and enhancing therapeutic results in the provision of health care.

Ethics Committee approval protocol:
31727120.8.0000.5546

PATIENTS ADMITTED FOR SUICIDE BEHAVIOR AND THE USE OF DRUGS WITH POTENTIAL ADVERSE PSYCHIATRIC EVENTS

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Mental health has progressively gained visibility in the world, a fact that has provided the mobilization of various society sectors, so that the present topic can be addressed appropriately. Thus, the literature describes that suicidal behavior has a multifactorial origin, and may be related to adverse reactions of certain drugs, which prove capable of inducing such behaviors in susceptible individuals. This work aimed to check the medicine use which cause psychiatric adverse events already described, taking as a study sample the patients assisted by suicide attempt in a hospital of São Luís/MA during 2018. A retrospective cross-sectional observational survey was chosen, with quantitative treatment, carried out through data collection from the patient records served in the privative hospital. Based on this, data were collected from 82 patients who met the established inclusion criteria, obtaining two distinct samples, patients admitted after self-injurious conduct (I) and patients seen only in the emergency (N.I). The data obtained were analyzed by descriptive statistics in Excel Program (2013). The DSM-5 was used for the classification of mental disorders, ATC for medicinal products classification and IBM Micromedex for the adverse reaction investigations. It was observed that most of patients attended to were females (I: 56; NI: 13), aged between 20 and 29 years (I: 34; NI: 5) and

that had some mental disorder (I: 56; NI: 6), like depression. In addition, a significant proportion of study population used at least one drug (I: 55; NI: 3), with emphasis on antidepressants, most commonly used by patients (I: 36; NI: 2). Clonazepam was the most frequently used drug (I: 21; NI: 2) by women. In relation to psychiatric adverse reaction research, it was denoted that a large part of the patients (I: 50; NI: 2) used drugs that already had the induction of psychiatric problems reported in the literature. Data showed that the medication use profile of hospitalized and non-hospitalized patients was similar, however the low percentage presented by some variables analyzed, mainly with the medicine use relationships, may be due to the lack of interest data, observed in many emergency medical records, a fact that may have hidden the real health conditions of these patients. Thus, there is a need for greater action by the pharmaceutical professional in patients with psychiatric disorders, so that potential adverse reactions can be recorded, monitored and managed. Furthermore, it is emphasized the extreme importance that the interprofessional team plays in the present scenario, considering that it ensures integrality in patient care.

Ethics Committee approval protocol: 3.253.707

ANALYSIS OF PRESCRIPTION ERRORS FOR DRUG PRESCRIPTION OF SPECIAL CONTROL IN A COMMUNITY PHARMACY IN SOUTHEAST BRAZIL

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The medication errors have been a worldwide concern. Among these errors, the prescription error is highlighted, which can be defined as any preventable event that may cause or lead to inappropriate medication use. Particularly, Drug of Special Control (DSC) when associated with prescription errors can cause important harm to the patients' health. However, few studies approach prescription errors related to DSC in community pharmacies. Thus, this study aimed to analyze prescription errors related to completeness and legibility of DSC in a community pharmacy in the health care network of a municipality in Southeast Brazil. A cross-sectional study was carried out to analyze the DSC prescriptions retained, from March 2018 to March 2019, in a public community pharmacy in Alegre city, located in Espírito Santo state. The prescriptions were enumerated, the sample size was calculated (95% confidence interval, 5% margin of error) and simple random sample was adopted. A data collection form containing 38 parameters for evaluating a good prescription was developed to analyze the completeness (complete, incomplete or absent) and the legibility of the prescription data (good legibility, poorly legible or illegible). Posteriorly, 10 pharmacy students received a 16-hour theoretical-practical training to standardize the data collection. After training, the analysis of prescriptions was carried out independently by two pharmacy students and the divergences were resolved by a third evaluator with expertise in drug dispensing practice. In total, 19,392 prescriptions were enumerated. After

performing the sample size, 377 prescriptions were randomly obtained, which contained 477 DSC. Regarding the prescriptions analysis: 40.3% (n=152) had the patient's name poorly legible or illegible spelling, 32.4% (n=122) did not have a date, and 11.9% (n=45) had abbreviations. Concerning DSC it was observed that the quantity (99.2%, n=473), duration of treatment (98.3%, n=469) and frequency (71%, n=339) were absent or incompletely written. In addition, duration of treatment (99.2%, n=473), pharmaceutical form (33.6%, n=160), frequency (26.6%, n=127) and concentration (22.6%, n=108) were poorly legible or illegible. If current legislation was considered during drug dispensing, no DSC should have been dispensed by the pharmacy. The present study showed that the prescription errors related to completeness and legibility of DSC are frequent in the community pharmacy studied. Such errors can directly impact in the work process of pharmacists during drug dispensing and in the patients' medication use. Thus, interventions are needed, such as continuing education for prescribers, patient awareness and the adoption of technological tools, to reverse the problem of prescription errors in the municipality.

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USE OF MEDICATIONS IN A PEDIATRIC INTENSIVE CARE UNIT VIA CONTINUOUS INFUSION: IS THERE ANY AGREEMENT BETWEEN INFORMATION SOURCES?

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Hospitalized pediatric patients are three times more likely to experience medication errors with the potential to cause harm, when they're compared to adults. The lack of specific medications for children that facilitate administration and dose adjustment and as pharmacodynamic and pharmacokinetic particularities of the pediatric population justify the main difficulties in the use of medications in children. The lack of research in pediatrics, difficulties that are derived as indications and the parameters of safety and effectiveness of pharmacological therapy in children. The aim of this study was to compare as indications of drugs commonly used via continuous infusion (CI) in a pediatric intensive care unit (ICU) contained in drug information sources. It is a documentary study in which four sources of information about medicines were chosen, being a package insert and as bases Micromedex Pediatrics®, Neofax® and Lexicomp®. Drugs used via CI in pediatric ICU classified at level 1 of the Anatomical Therapeutic Chemical classification were selected as medicines for the central nervous system and for the cardiovascular system. Of the 13

medications displaced, seven (54%) do not have instructions for the pediatric population in the package inserts. In the Lexicomp® and Micromedex Pediatrics® bases, all probable drugs are indicated for the pediatric population via IC. The NeoFax® database does not contain information on two (15%) of the drugs studied. Of the six drugs indicated in package inserts for a population studied, only three (23%) had an indication for use via BIC and one drug (7.5%) had an additional indication in the Lexicomp®, Micromedex Pediatrics® and NeoFax® bases in relation to the package leaflet. The use of medications in pediatric ICU should be cautious and access to information that increases the safety of using medications is crucial. Package inserts are easily accessible sources of information in portuguese that is updated and in accordance with clinical practice, but this is not observed in practice. It is necessary for the pharmaceutical industries that prescribe medications in Brazil to adapt their package inserts, adding information about the safety and effectiveness of the drugs commonly used in the pediatric population in intensive care.

FEASIBILITY OF IMPLEMENTING A PHARMACEUTICAL OFFICE IN A MULTIPROFESSIONAL CLINIC

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Considering the constant socioeconomic changes that have involved health over the years, the pharmacist has sought to rescue his role as an independent clinical professional, as well as in a multiprofessional health team. Having this in mind, this work aims to present the process of opening a viable pharmaceutical office, using methodologies such as Design Thinking and Business Plan. For the first methodology, the technical steps of immersion, ideation and prototype were developed. In the immersion step, two types of field research were applied, in order to have a deep understanding of different potential clients and their main needs, such as, interviews with families and / or patients, as indirect clients, and online research with health professionals of multiprofessional clinics, as direct clients. Therewith, after the treatment of the responses, it was concluded that initially the pharmaceutical intervention and guidance to families should be the main services offered; then a brainstorm was worked on in the ideation phase, where the best ideas were chosen for the construction of the prototype; and to conclude the Design Thinking, the prototype was designed schematically, and its application still needs to be carried out and effectively validated. Moving to the sequential methodology, with all the information and results previously collected, it was possible to develop the business plan, using the online tool on the My Business Plan website, which consisted of the following phases: market analysis, marketing

plan, strategic evaluation, operational plan and financial plan with the construction of optimistic and pessimistic scenarios. In the market analysis, a study of customers was carried out, defining their profile, behavior, and location, as well as a definition of potential competitors and a survey of suppliers. For the marketing plan, the offered products and services at the respective prices were detailed, as well as their promotion and marketing strategies. The services listed in the project were consultation and guidance, conciliation and / or review of pharmacotherapy, Intervention and Report for other health professionals, pharmaceutical segment, health tracking, evaluation follow-up milestones, administration of injectable drugs and quick tests. At the operational level, production capacity, number of employees and the flow of business activities were defined. Continuing with the development of the financial plan, estimates of investments and working capital, average sales and purchase terms, billing, and costs, as well as projection of billing, costs and revenues, were calculated at 5% per year for 5 years. All these calculations were necessary for the results of the feasibility indexes, such as 10% profit per year, with profitability of 227.36% and return on investment in 7 months, with 10% of the variability considering an optimistic scenario and 23% in a pessimistic one. In this way, an innovative and financially viable business model was achieved.

HEALTH PROMOTION AND INCENTIVE TO THE RATIONAL USE OF MEDICINES IN THE COMMUNITY

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Primary Health Care plays a recognized and important function, due to its role in welcoming and executing health actions at the individual and collective level. Among its lines of action, health promotion stands out as a process of building knowledge and developing practical actions that aim to achieve more favorable living conditions for the population. The provision of pharmaceutical care in the Brazilian Health System must encompass health promotion actions aimed at the family and the community, aiming at solving problems related to pharmacotherapy and the rational use of medicines. The purpose of this experience report is to present health promotion actions and encourage the rational use of medicines, carried out during an extension project aimed at a community outside the area covered by the Family Health Strategy. This is a descriptive study, the result of the experience of undergraduate and graduate students in the health field, participating in the extension project "Integration: knowing and promoting health", aimed at residents of the Jardim Caiçaras neighborhood (Juiz de Fora, MG). After training, in the months of August and September 2019, the project members addressed the theme "rational use and correct disposal of medicines" with home visits in the community, with the support of a

pharmacist and project member, guiding the population about the safe and correct use of medicines. As a complement to the conversations, booklets were provided, produced in simple language, with general guidelines regarding the correct handling and disposal of medicines. It was found in the records of the field diaries, that generally the population faces a series of problems in the use of the drugs prescribed in Primary Health Care, including low adherence to pharmacological treatment; difficulties in purchasing some medications; incorrect storage and ignorance of the ways of disposing of medicines resulting from expiration losses and accumulations in households; low understanding of prescriptions with disorganized information and inappropriate handwriting. Thus, it made it possible for individuals in the community to exercise the right to information, to understand the importance of using medicines according to guidelines provided by health professionals and to develop their health potential. With regard to the irrational use of medicines in society, it is essential that the activities of approximation with the community are increasingly frequent in order to guarantee rights, comprehensive health and advances in the field of pharmaceutical care.

PERCEPTION OF AMBULATORY PATIENTS OF SUS OF MARIANA ABOUT THE USE OF BENZODIAZEPINES

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Brazil is the country with the highest number of cases of people with anxiety disorders in the world in which 9,3% of the population suffers from these disorders, according to the World Health Organization. The benzodiazepine consumption (BZD) by outpatients of Mariana, Minas Gerais is object of managers and health professionals concerns. This research aimed to approach the perceptions and motivation of public health patients to chronic use of BZD in Mariana and its consequences. After Ethics Committee approval, this qualitative study was developed with chronic users of BZD in Mariana, during January 2020, when 14 people were interviewed, most female, aged between 35 and 71 years. It was found that the main motivating factors to the use of BZD were need of escaping from reality and need to relief traumatic experiences that lead emotional and functional disorders and sleep disorders. Such factors include the need to reach a state of mental relaxation. The participants'

reports suggest psychological and chemical dependence on the studied drugs, as well as the development of tolerance and withdrawal symptoms. In cases of unsuccessful withdrawal attempts, patients were tempted to take longer drug use beyond the appropriate clinical indications. It was possible to perceive that BZDs has converted to the interviewed people in "therapeutic crutches" that goes beyond their appropriated and rational clinical purpose and became "essential objects" to them to deal with everyday problems. This research allowed to recognize the importance of Pharmacists in mental health team, empowering patients about their pharmacotherapy and support them to the rational use of BZDs.

Ethics Committee approval protocol:
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POSITIVE IMPACT OF DRUG THERAPY MANAGEMENT ON INSULIN APPLICATION TECHNIQUES

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Diabetes mellitus (DM) is a chronic disease that requires continuous and multidimensional care, and for that, it is essential that the patient performs correct techniques in the application of insulin. The incorrect insulin application can provide a negative clinical settings and cause damage to the patient's metabolic control. In this context, this study aims to assess the impact of medication therapy management (MTM), in relation to the application technique of insulin, on patients with type 1 DM (T1DM) who receive insulin analogues through lawsuit. This is an intervention study of the type before-and-after, which was conducted with patients who received the insulin analogs through lawsuit, in a medium-sized Brazilian municipality. Study participants received MTM in five pharmaceutical consultations. Sociodemographic data were collected and subsequent descriptive analysis. The Data Collection Instrument - Group teaching of self-application of insulin at home was used to obtain information regarding insulin application techniques, which permeate type of insulin, form of use, rotation and hygiene of application site. Insulin application mastery was considered when patients who knew how to correctly perform all the procedures of the technique. McNemar's X^2 test was performed to compare the proportion of correct practice of insulin application, before and after interventions. 28 patients with T1DM diagnosis participated in the study, with a mean age of 32.8 ± 11.6 years and the majority were female ($n = 16$; 57.1%). Regarding the time of T1DM diagnosis, the average was 19.93 ± 9.43

years, with the time of use of the insulin analogues judicialized of 8.80 ± 3.30 years. Before the MTM, 17 (68%) patients had no mastery of the correct insulin application technique and after the intervention, 2 (8%) of these patients remained without mastery. The reduction in the proportion of patients without mastery of application techniques was statistically significant ($p < 0.001$). Three patients who were using a continuous infusion pump were excluded from this analysis. Most patients with T1DM diagnosis, who receive insulins through lawsuits, unaware of the correct execution of insulin application techniques. The study demonstrates the importance of pharmacist in MTM and contributes to construction of strategies aimed their insertion in multidisciplinary team to assist in metabolic control of patients with DM, especially in context of judicial access.

Ethics Committee approval protocol: This study was approved by the Research Ethics Committee involving Human Beings (CEPES) of the Federal University of São João del-Rei (UFSJ), Center-west Dona Lindu Campus (CCO). CAAE: 87590518.9.0000.5545.

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FACTORS RELATED TO NON-ADHESION TO PHARMACOTHERAPY IN ELDERLY

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Population aging is a remarkable phenomenon that consists of a relative and absolute increase in the number of people of more advanced age groups in a given population. In Brazil, this phenomenon occurs in an accelerated manner, demanding rapid responses from several social sectors, mainly from the health sector. With the shift in the burden of morbidity and mortality from communicable infectious diseases to chronic non-communicable diseases, people started to live with chronic illness conditions that need continuous monitoring, including pharmacotherapeutic, since pharmacological treatments are the main forms of control and recovery from diseases and health problems. Even in the face of a health system that seeks to satisfactorily meet the demands of the elderly population, such as the Brazilian Health System, impasses related to the management and continuity of treatments are experienced by the elderly. Within the scope of possible drug-related problems, the challenging non-adherence to pharmacotherapy stands out. Thus, it is extremely important to assess this non-adherence and list the

main factors that influence it. The present study aimed to determine the factors related to non-adherence to pharmacological treatment in the elderly within the scope of Primary Health Care through a narrative review of the literature. In conducting the study, searches for scientific articles published in Portuguese, English and Spanish were carried out in the last ten years, considering the databases SciELO, MEDLINE (via PubMed), LILACS, Embase and Web of Science. Among the factors associated with non-adherence to pharmacotherapy found, the difficulties or failures in access to medicines, the unfavorable socioeconomic conditions, the low level of education, the use of multiple medications, the low self-perceived health, the cognitive impairment and the beliefs associated with medication use. From partial results, it is essential to emphasize the importance of pharmacoepidemiological studies related to the elderly, in order to contribute to the quality of life of this population group and in the improvement and development of pharmaceutical care in Primary Health Care.

ONLINE PHARMACEUTICAL CARE SERVICE: EXPERIENCES AND CHALLENGES

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The pharmaceutical care service aims to meet the health demands of patients in search of improvement in their process of drug use, health outcomes, and quality of life, aiming to optimize pharmacotherapeutic treatment through the identification, resolution, and prevention of problems related to pharmacotherapy. This study reports the experiences and challenges encountered by pharmacists and students in an online Pharmaceutical Care Service (SCF). The service, implemented since May 2020, is the result of a partnership between the Laboratory of Studies in Pharmaceutical Care (LECFAR), Multiprofessional Residence in Lagarto Family Health (RMSFL), Multiprofessional Residence in Lagarto Hospital Care (RMSFL), and Brazilian Company of Hospital Services (EBSERH), linked to the Federal University of Sergipe. A form was applied to the team members in order to identify the profile of the services and the main difficulties in providing SCF online. Since the implantation of SCF, 36 patients have been attended, with 69 pharmacotherapeutic follow-up consultations offered. The most pharmacotherapeutic problems observed were: low adherence to treatment, untreated health problems, difficulty in accessing medication, the occurrence of adverse reactions, lack of knowledge about the use, storage, and correct disposal of insulin, and difficulties in using the medication at the prescribed time. Consequently, the main pharmaceutical interventions were: advice to the patient on self-

monitoring, on general treatment and non-pharmacological measures, referral to the doctor and/or nurse, provision of educational materials and health education actions, personalized dosage calendar, in addition to the personal contact with a doctor for drug dose adjustment, however, the team highlighted difficulties regarding communication, availability of the patient's internet, difficulties in developing the care plan and conducting the pharmacotherapy review, and the failure of patients to attend calls, other challenges encountered were the difficulties of expression and listening to patients, limitations of literacy, some of the patients did not want the care, and others had no understanding about the service being offered. The SCF online is a modality that allows access to the provision of pharmaceutical care, despite the difficulties in relation to the communication way. The gap in the knowledge of the potential of the digital environment by patients makes it difficult to provide care. However, the digital vehicle still represents an alternative to be explored. Therefore, we sought to listen to the team involved in the service, regarding the services provided and the barriers faced, in order to understand the gaps that can still be explored. This way, is possible think the alternatives that optimize the service offered to the population so that it is a tool that facilitates the access of the population to the pharmaceutical professional.

IMPACT OF CLINICAL PHARMACEUTICAL PERFORMANCE FOR THE RATIONAL USE OF MEDICINES IN INTENSIVE CARE UNIT

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Medication errors is one of the most important factors to contribute for prolong hospitalization and promote patient harms. Therefore, it's important to promote the rational use of medications during hospitalization, especially in Intensive Care Units (ICU). A Pharmaceutical Monitoring Service (PMS) can be an important strategy, where the pharmacist works around the pharmacotherapy, aiming optimize the positive clinical results in health. This study aimed to assess the impact of implementing PMS in an ICU. This is a cross-sectional study, carried in an ICU of a private general hospital, in Belo Horizonte. Inpatients prescriptions were analyzed in two periods: period I from 08/2015 to 12/2016 and period II from 01/2017 to 07/2018, the first and the last 1.5 years of implementation of the PMS in ICU. The PMS includes evaluation of indication, dosage, route, incompatibilities, drug interactions, pharmaceutical form, side effects, medication reconciliation, therapeutic duplicity and allergies. In view of the identification of a medication-related problem (MRP), an intervention was carried out with the health team during the multiprofessional visit. The analysis of the prescriptions took place through the institution's computerized system, where laboratory tests were also collected related to the parameters of effectiveness and safety of pharmacotherapy. For data analysis, a computerized system report was generated and

compiled into a Microsoft Excel®, followed by an evaluation of absolute and relative frequencies and measures of central tendency. The correlation analysis between the two periods was performed using the Student's T test, using the OpenEPI® software, assuming a 95% confidence interval and $p\text{-value} < 0.05$. There was a significant difference between the number of MRP in period I and II ($p=0.003$), 333, with a mean of 19.6/month (± 16.0), and 285 MRP, mean of 15/month (± 11.2), respectively. A total of 156 pharmaceutical interventions were proposed in period I, mean 9.2/month (± 6.8), and 229 in period II, mean 12.1/month (± 9.9), ($p < 0.001$). Of the interventions suggested for the health team, 104 were accepted in period I, mean 6.1/month (± 4.6), while 175 were accepted in period II, mean 9.2/month (± 6) ($p < 0.00001$). This study shows a significant reduction in the identification of MRP between the periods, which suggests that, the multiprofessional discussions contributed to promote the rational use of medicines by the team. In addition, there was also an increase in the number of interventions and acceptability by the health team, which suggests professional qualification and the establishment of a multiprofessional relationship.

Ethics Committee approval protocol:
86872818.2.0000.5126

PHARMACEUTICAL INTERVENTIONS PERFORMED IN AN INTENSIVE CARE UNIT IN A PRIVATE HOSPITAL OF MARANHÃO: TWO-YEAR STUDY (2016 AND 2017) OF CLINICAL ACTIVITIES

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In intensive care units (ICU) hospitals present critical clinical conditions and is using more complex drug therapy, as patients are generally polymedicated, making them more susceptible to problems occurrence of generated by the drug use. The pharmacist must take part in actions in favor of the patient, to rationalizing the medicines use, providing comprehensive care to the patient to optimize their pharmacotherapy, resulting in economic benefits, as well as greater safety and the effectiveness of the prescribed drug therapy. This study aimed to characterize the profile of hospitalized patients, to evaluate pharmaceutical interventions carried out in an surgical ICU, regarding their type and acceptability by the multiprofessional team in a surgical ICU of a highly complex hospital in the private health network of São Luís, Maranhão, Brazil. The study had a retrospective, descriptive and longitudinal design, carried out through the collection of data from the medical records of patients under hospitalization period between January 1, 2016 to December 31, 2017. In this work, pharmaceutical interventions (PhI) called Group III will be presented, which correspond to those with the possibility of analyzing acceptability by the multidisciplinary team and when identified by the pharmacist, are signaled in the pharmaceutical evolution but, when possible, should be talked to directly and personally with the prescriber or the team and can reach a consensus between making the changes proposed by the pharmacist, or keeping it unchanged, in the face of a justification that represents greater benefit than risk to the

patient. 124 medical records were analyzed, 52.42% in 2016 and 47.58% in 2017. Both years had a greater male audience with 52.3% in 2016, mean age 64 years (± 28) and time mean hospital stay of 8.11 (± 5.22) days, and 52.4% in 2017 with a mean age of 71 years (± 28) and mean hospital stay of 9.25 (± 5.83) days. The most frequent comorbidities were Systemic Arterial Hypertension, Diabetes Mellitus, Heart Diseases, Chronic Kidney Disease, Cancer and Chronic Obstructive Pulmonary Disease. 97 group III interventions were identified in 2016 and 88 in 2017. Among the interventions were drug interactions (2016 = 47.42%; 2017 = 43.18%), dose adjustments (2016 = 8.25%; 2017 = 0), medication reconciliation (2016 = 44.33%; 2017 = 55.68%) and therapeutic duplicity (2016 = 0; 2017 = 1.13%). The acceptability of PhIs was 18.55% (2016) and 21.59% (2017). Thus, in addition to characterizing the hospitalized patients profile regarding gender, age, average hospital stay and main comorbidities, it was possible to evaluate pharmaceutical interventions and their acceptability by health team. The pharmaceutical service favors the improvement of patients' clinical cases, since it works with events that can be avoided and that when they do not receive due attention can negatively interfere with therapeutic effectiveness, patient safety and result in higher hospital costs.

Ethics Committee approval protocol:
08810119.0.0000.5085

UNIVERSITY EXTENSION IN CARE AND PHARMACEUTICAL ATTENTION IN THE CITY OF ARARAQUARA – SP

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Permanent Student Pharmaceutical Care (AFEP) is a student body established by undergraduate students in Pharmacy since 2001, with the purpose of obtaining practical experiences in the field of Pharmaceutical Attention (PA). Structured as a university extension project since 2015, it aims to awaken undergraduate students the “Caring, Orienting and Humanizing”, AFEP's motto and, thus, training more critical and prepared professionals to work in the context of PA. In 2020, the entity was constituted by 84 students of the Pharmacy course, distributed in different coordinators (General; Health Education; Pharmacotherapeutic Follow-up; Social Projects; Marketing; Secretariat and Treasury), performing various pharmaceutical services in the city of Araraquara, mainly guided in Health Education processes. This paper aims to present the experience of undergraduate students from the AFEP entity with Pharmaceutical Care activities in the city of Araraquara-SP. The activities developed between the years 2018-2020 were analyzed, which the activities of pharmacotherapeutic follow-up and health education will be highlighted. Pharmacotherapeutic follow-up activities were carried out by students at the University Pharmacy, under the supervision of pharmacists, with an average of 16 elderly users of the pharmacy and diagnosed with hypertension and diabetes using the Dáder method. Twenty volunteers were followed up each year, whose quantitative indicators (fasting capillary glucose and blood pressure) were monitored for 12 months. Health education activities were carried out through lectures and health fairs. Health Education lectures took place, for the most part, in schools and NGOs to present and discuss topics of

interest in health, mainly related to the correct use of medicine. Knowledge levels were assessed before and after health interventions. In addition, educational activities took place in orphanages in the city, integrated with social projects. Among the results found in the follow-up area, it was possible to identify that the elderly patients with chronic diseases (Diabetes, hypertension and dyslipidemia) attended were benefited with the pharmacotherapeutic follow-up, and even in 5 patients considered more critical, was observed maintenance and / or reduction of values of physiological (blood pressure) and biochemical (blood glucose) parameters. Patients' adherence increased, and there was an improvement in quantitative indicators (mean reduction in mmHg of systolic and diastolic blood pressure, and also mean reduction in mg / dL of blood glucose). The results show that the follow-up of elderly people with diabetes and hypertension is a useful strategy for disease control, preventing the occurrence of health problems. As for health education, 13 events were held, totaling approximately 385 people. Six of these events were carried out in schools and 7 were carried out in NGOs. An increase in the level of knowledge of individuals was observed after educational interventions, assessed by means of pre- and post-lecture questionnaires. In view of all the activities carried out by the student entity AFEP, through extension projects, it is possible to conclude that the activities promote ambience, experience and complementary training for the graduate student in pharmacy, allowing the integration of teaching and research activities focused on provision of services to the community.

Supported by: PROEX

EVALUATION OF NON-PRESCRIPTION DRUGS FOR THE MANAGEMENT OF HEARTBURN AND DYSPEPSY IN COMMUNITY PHARMACY

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Heartburn and dyspepsia are self-limited health problems, with prevalence in the general population of 15 to 40%. Based on that, the search for non-prescription drugs (OTC), especially in community pharmacies, has often been adopted as a therapeutic resource by patients affected by these complaints. However, considering the complexity of these aspects involved in the treatment of these clinical conditions, it is necessary to consider that the misuse of this technology can cause and aggravate considerable damage to the patient. Continuous self-medication with antacids, for example, can result in erosive esophagitis. Therefore, there is a paradox regarding the use of medications and the risk of adverse events, with the need to monitor its use. The community pharmacy is often the first health establishment that the patient starts having contact with and also the last one, before the use of proper medications. Thus, it is in a strategic scenario to carry out pharmaceutical care. In order for the professional to plan health education actions and assist in responsible self-medication, it is essential to know and characterize the non-prescription drugs sold for each of the self-limited health conditions. Thereby, the present study proceeded to evaluate OTCs with indication for heartburn and dyspepsia marketed in a community pharmacy. This is a descriptive study that evaluated the sales volume of antacids in a community pharmacy in a small municipality, from July 2019 to June 2020. The drugs were

evaluated for its presentation, composition and quantity sold in that period. It was observed that among of the 17 pharmaceutical specialties sold, only two do not contain an association of two or more drugs. The most frequently found associations were: aluminum hydroxide with magnesium hydroxide (9 drugs) and sodium bicarbonate with sodium carbonate (5 drugs). The latter being the most sold among the associations. Some of these specialties also contain simethicone, calcium carbonate and citric acid. The potential pharmacokinetic drug interactions due to the increase in pH caused by the use of antacids are highlighted here. The massive use of associations known to be inappropriate (carbonate and bicarbonate) for the treatment of dyspeptic symptoms also drew attention in relation to the rational use of this class of drugs. Based on the knowledge acquired, it is expected that the pharmacist can promote actions of guidance and health education to improve the quality of care for patients with heartburn and dyspepsia, and can promote the rational use of drugs.

Ethics Committee approval protocol: Not applicable.

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PHARMACEUTICAL INTERVENTIONS STUDY IN AN INTENSIVE CARE UNIT IN A PRIVATE HOSPITAL OF SAO LUÍS, MARANHÃO, BRAZIL

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Critical patient has different health conditions and has complex pharmacotherapy, which can result in adverse events, including problems related to medications. Thus, some pharmaceutical interventions must be implemented to prevent and correct these events, in order to ensure greater safety in the medications use and, thus, patient safety. The objective of this work was to evaluate pharmaceutical interventions profile in an intensive care unit of a private hospital in São Luís, Maranhão, Brazil. This is a longitudinal retrospective study, in which secondary data from medical records of patients admitted to the ICU in 2018 were collected and evaluated: patient profile (age, gender, comorbidities, surgical and non-surgical procedures prior to hospitalization), pharmaceutical interventions performed (divided into Group I, Group II and Group III) and acceptability of group III by the health team. Groups I and II represent educational and informative interventions for the team and are not classified for acceptance; those in group II, specifically, are related to medication administration; those in group III are those in which acceptance by the health team can be verified, with drug interactions classified according to Bachmann and collaborators (2006). The data were analyzed descriptively and illustrated graphically using the GraphPad Prism 8.0.2 application. Medical records of 69 patients were evaluated, of which 52.2% were male and the average age found was 73.42 ± 17.06 years. The main comorbidities were arterial hypertension (28.95%) and diabetes mellitus (13.82%). The

average hospital stay was 13.71 ± 12.33 days and 51.64% of hospitalized patients had not previously undergone surgical procedures. The main signaling of group I pharmaceutical interventions were the risk of phlebitis (35.2%) and the use of high-alert medicines (27.1%); those in group II were medication via a tube (67.7%) and incompatibility in a Y-connection (32.3%); those in group III were drug reconciliation (40.8%), signaling for drug interaction risk D (30.6%) and dose adjustment (12.2%). Group III interventions that were accepted by the team correspond to 36.74% of proposed pharmaceutical interventions in this group, resulting in changes in the patient prescription in order to optimize pharmacotherapy and its results. Thus, the pharmaceutical interventions described above are important in the care of critically ill patients, since they prevent and treat problems related to medications. The reasonable acceptability by the health team verified in group III can be justified by the fact that it is a complex care unit, by the age of the patients, comorbidities and procedures performed, factors that sometimes determine an adjustment or not in the care for the patient. However, all pharmaceutical guidelines indicated in the medical record, whether evaluated or not regarding their acceptance, contribute to comprehensive care and safe use of medications.

Ethics Committee approval protocol:
08810119.0.0000.5085

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REMOTE CARE AND THE PROVISION OF MEDICATION THERAPY MANAGEMENT DURING THE PANDEMIC OF INFECTIOUS CORONAVIRUS DISEASE

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One of the main prophylaxis measures against Coronavirus Infectious Disease (COVID-19) is social distance. Faced with this scenario, a great challenge has arisen for pharmacists who provide the Service of Medication Therapy Management to patients with breast cancer at the Hospital das Clínicas, Universidade Federal de Uberlândia (HC-UFU). Considering the patients being followed up and with established therapeutic relationship, the alternative was remote care. Aim: to evaluate the offer of the Medication Therapy Management (MTM) service with the use of telecommunications technology in the monitoring of clinical and laboratory parameters, effective and safe use of medicines. Connections with patients were through WhatsApp, video call, email and phone. WhatsApp was the most used resource. Of a total of 201 patients followed up at the MTM service; 23 patients were seen remotely between March and November 2020. Thirty three drug therapy problems (DTP) were identified, the main causes of which were adverse reactions to medications (n = 9; 23%); inappropriate frequency (n = 6; 15%) and drug interactions (n = 4; 10%). Taking into account the 39 DTP identified, related to 44 drugs in use, 24 were resolved in the period

studied. The other 15 are in the process of being resolved. The interventions used to resolve the DTP were: dose change, prescription, laboratory monitoring and pharmacotherapeutic plan with reminder of medication usage times. Regarding the clinical and pharmacotherapeutic situation of the patients, they remained stable (n = 12), followed by partial improvement (n = 3), resolved (n = 2) and worsening (n = 2). Nine laboratory tests were requested and 01 cosmetic prescribed. The exams were requested in the hospital information system (SIH), recorded in pdf and sent to the patient by WhatsApp, in the same way, prescription and farm therapy plan. It was concluded that the remote clinical service helped in the detection and resolution of DTP and provided optimization of pharmacotherapy, in addition, it was an opportunity that arose with the difficulty induced by the pandemic and could make it institutionalized to remotely monitor the treatment of patients from municipalities within the northern macro region of the Triângulo Mineiro agreed with the city of Uberlândia.

Ethics No. 25780314.4.3001.5140.

EVALUATION OF THE CLINICAL RESULTS OF A MEDICATION THERAPY MANAGEMENT SERVICE OFFERED TO PATIENTS TREATING BREAST NEOPLASMS

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Adverse reactions resulting from the use of medications used by patients undergoing treatment for breast cancer compromise the safety and effectiveness of cancer treatment. To assist these patients, Medication Therapy Management (MTM) aims to identify, resolve and prevent drug therapy problems (DTP). This study aimed to present the clinical results of a MTM service offered to patients undergoing treatment for breast cancer in the phases of neoadjuvant chemotherapy and hormone therapy as well as associated comorbidities. This is a prospective quasi-experimental study, carried out in the oncology sector of a hospital in Minas Gerais, Brazil, involving 76 patients (n = 76). The factors that caused the DTP were evaluated, as well as the clinical results comparing the clinical and laboratory parameters obtained during the initial and final consultations. Based on the analysis of the collected data, there was a high rate of

identification of DTP in the categories safety (60.16%) and indication (33.33%), showing the impact that adverse reactions and untreated conditions imply in the success of pharmacotherapy. The main comorbidities found were: osteopenia, dyslipidemia and diabetes. In the comparison between the laboratory indexes of the markers of these comorbidities before and after the follow-up by the MTM service, it was observed that the clinical pharmaceutical monitoring had a statistically significant impact on the levels of triglycerides, HDLc and vitamin D, in addition to reducing the global number of drugs in use per patient, showing prevention of polypharmacy. Thus, the present study shows that the MTM optimizes pharmacotherapy, generates clinical benefits and guarantees the safety and effectiveness of the treatment.

Ethical Opinion n. 25780314.4.3001.5140.

REMOTE REALISTIC SIMULATION AS EDUCATIONAL TOOL IN A GRADUATION PHARMACEUTICAL CARE COURSE: EXPERIENCE REPORT DURING THE COVID-19 PANDEMIC SITUATION

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The international spread of the new coronavirus called SARS-CoV-2 has led interruption of the population's daily activities, due to the need for social distancing in order to slow the dissemination of the disease. Thus, the struggle against COVID-19 pandemic lead to an abrupt interruption of traditional classroom and demanded fast and dramatic decisions of teaching institutions. It was imposed to teachers and students a new challenge to which none of us were prepared: the remote teaching/learning process using internet. In fact, in Brazil there is an incipience in the appropriation of digital technologies, since teachers nor students weren't trained to work with this kind of remote educational tools. The aim of this study is a report the experience of using remote realistic simulation (RRS) in a remote Pharmaceutical Care Course (PCC) during the 2020's COVID-19 pandemic. This report is a descriptive and observational experience, with a qualitative approach of two Pharmacy teachers of the PCC, one Professor and the other as under teaching internship. The PCC in a special teaching period during pandemic was a 30h during course disposed in 8 weeks of practical classes, approaching specific topics and clinical debates to be treated in synchronous encounters (SE) and asynchronous time of students' dedication (AD). Theoretical material for each topic were posted at the Moodle platform as well as provocative videos, clinical cases to be established at SOAP format with pharmacotherapeutical approach, pharmaceutical and non-pharmaceutical interventions, with referrals as needed, to be treated at AD time. Students would be evaluated continually, progressively and by the SOAP building linked to clinical reasoning. The teacher's role was to interact with students as evaluators, facilitators or consultants. The feedback method was presented and there was an agreement that comprehension and empathy between the teachers and the students have to be the words in a way that they could feel completely comfortable to debate and experience any type of outcome, reendorsing that the SE would be moments of trust and respect. By the 4th week of PCC, some RRS practice at SE was proposed. They had the explanation why the RRS would be a powerful tool

for developing clinical skills. That is, beyond the theoretical approach of selected topics and weakly activities of pharmacotherapeutical clinical cases approach, the students had to prepare an online pharmaceutical interview to simulate a clinical situation at SE moments to practice professional and communication skills. There would be 2 participant/RSS and the others would participate as spectators, cameras off, to feedback their performances. At the end of this experience, it was perceived by the teachers that: a) this pandemic enhanced a process that already was in course: integrating technology to the education process, although it became obvious that learning is much more complex than simply transmitting information; b) dealing with educational applied technology permitted to see opportunities in this unprecedented experience that we are submitted; c) at RRS experience students interacted with simulated patients and had the opportunity to learn by doing and analyzing their mistakes pointed by colleagues feedback, and while reflecting on their errors, they could identify the gaps in their knowledge and cognitively substantiate their skills; d) RRS permitted to build an "interactivity mood" between the participants, as they were accomplices, with facilitates the teaching/learning process of Pharmacy students e) RRS added to the construction of students' knowledge and the development of critical and clinical reasoning; f) after experiencing RRS, students were encouraged to re-signify their previous scope of information, building new significant knowledge about being a clinical pharmacists; g) there were some clear difficulties to them to - concurrently to clinical interview - create written intervention plans and stablish monitoring and evaluation of results at RRS, mainly because it was their very first experience to practice communication skills; h) is necessary more opportunities to Pharmacy students to practice clinical interviews with anamnesis and all the other phases of a theoretical/technical pharmaceutical skills; i) RRS prepared students for clinical practice, overcoming failures and fears, thus representing an important technological advance in graduate

teaching clinical and humanistic skills of Pharmacy students.

CLINICAL PHARMACY SERVICES IN HIV POSITIVE PATIENTS: A SCOPING REVIEW

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Clinical Pharmacy Services (CPS) aims patient's well-being and improvement in its quality of life. Clinical pharmacists' interventions are essential in most morbidities, mainly in those that demands prolonged or chronic treatments and therapeutic regimens with multiple drugs, such as HIV infection, which in 2018 was diagnosed in 37.9 million Brazilians. CPS can improve clinical outcomes and even increase the quality of these patients' lives. Consequently, a scoping review was conducted in March 2019 and updated one year later on PubMed, Scopus and Lilacs databases and complemented by manual search. The inclusion criteria were studies that conducted at least one CPS conducted as an intervention with patients HIV positive, regardless age, and in any Brazilian setting. The data extraction was conducted in sections: study characterization and outcomes or measures reported. It was identified six studies (four quasi-experimental, one cohort and one randomized controlled trial), published between 2012 and 2017 and mostly by institutions located in state of São Paulo. There was no predominance of outpatient (n=3) or inpatient (n=3) settings. The total of patients included was 1,062, among adults (n=5) and teenagers (n=1). Five studies reported clinical outcomes, such as viral load (n=5) and lymphocytes T CD4+ count (n=5). Process measures were reported in five, mainly number of drug-related problem (n=4) followed by treatment adherence (n=1). One study reported humanistic outcome evaluation with the quality of life assessment by the Ware and Sherburne 12-question tool. No studies assessed

efficiency outcome (i.e. cost and consequences analysis). All of the interventions included medication therapy management as the main CPS. Even though the beginning of the AIDS endemic was on the 1980s, only in 2012 HIV was the main subject of an intervention and the last publication located is from 2017. This can be related to the government initiatives to lower the medication prices in 2001 and the prevention campaigns from 2009 to 2011, but in the last few years was not the main morbidity of a study. Besides of the clinical importance of these events, the start in the publications also can be related to the taboos that were broken when the Health System started to inform not only the infected. Therefore, even though there are publications related to CPS in patients HIV positive, when compared to other diseases, our findings suggest a possible neglect of this morbidity, highlighting the need of to conduct more clinical trials to assess the pharmacist role in this health condition.

Ethics Committee approval protocol: Not applicable

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MEDICATION REGIMEN COMPLEXITY IN KIDNEY TRANSPLANTED PATIENTS: THE USE OF A CLINICAL CALCULATOR

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Polypharmacy is common in kidney transplant patients, contributing to an increment in medication regimen complexity and can compromise its effectiveness and safety. This information is important for rational medication used in this group of patients. This study aims to present the results of the medication regimen complexity index for kidney transplanted patients, using a clinical calculator. The medication regimen complexity clinical calculator was performed using a Portuguese version validated (Melchior et al., 2007) from the index developed by George et al. (2004). For this, the Java programming language is used, with the JavaFX graphical interface library. As for the database management system, SQLite was used, which is an embedded database and facilitates the portability of the solution. The technology was chosen because it is a multiplatform language, which allows the system to work independently of the operating system, in addition to being an object-oriented language, facilitating the modularization of codes. It was possible to create a database in Excel® from the calculator with parameters that contributes to the regimen complexity. This calculator was applied to

outpatient kidney transplanted patients at Brasília's transplant service, and it was evaluated the number of medications and the medication regimen complexity index. Of the 177 patients evaluated, the number of medications used ranged from 3 to 23 (7.9 ± 2.9), and the medication regimen complexity index ranged from 11 to 83.5 ($29.4 \pm 11.6\%$). From the database, it was possible to identify the most relevant aspects for the complexity: the number of medications; multiple doses; multiple units; need for relation with food; use of injectables; variable dose; administration at a specific time of day and use as directed. The use of the calculator showed the complexity in kidney transplanted patients and enables the description of the main factors involved in this parameter allowing the care team to evaluate pharmacotherapy to promote the rational use of medicines.

Ethics Committee approval protocol: n° 3.033.663

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CLINICAL PHARMACY SERVICE IN A TRANSPLANTATION AMBULATORY: BUILDING STRATEGIES FOR DRUG SCHEDULING

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One of the pillars for successful kidney transplantation is the correct use of medications. In addition to immunosuppressants, patients are treated for other chronic diseases and use medications to prevent health conditions to which they are vulnerable. The objective of the study is to present the process of building a personalized schedule developed for kidney transplant patients. Longitudinal study carried out by observing participants in the consultations. The scheduling took place through the pharmaceutical consultation. During the anamnesis, patients were asked about their routine, which includes the schedules of daily activities, especially medication and food. From these reports and the prescribed medications, schedules based on effectiveness and safety guidelines, and when possible, on the convenience of treatment were proposed. The proposals were built in conjunction with the patients and this opportunity ensured a space for health education not only related to the orientation of use, but also to the clarification of

pharmacotherapeutic indications. 96 transplant patients were treated, who used 3 to 23 (7.9 ± 2.9) medications and the complexity of the treatment varied between 11 to 83.5 (29.4 ± 11.6). From the development of schedules, it was observed that the greatest difficulties that patients had were related to the precision of the interval between doses; the need for fasting or administration with food and; use of injectable drugs. The schedules were organized and printed or sent by message. Whenever necessary, colors were used to highlight the classes of drugs used. Medicines with “if necessary” or different dosages such as weekly dosages were inserted as notes. Personalized scheduling proved to be a strategy to promote the rational use of medicines, contributing to effectiveness and safety.

Ethics Committee approval protocol: n° 3.033.663

Supported by: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes)

COMPOUNDING AND HANDLING OF ONCOLOGY DRUGS: DEVELOPMENT OF AN ORAL CAPECITABINE SOLUTION FOR “OFF-LABEL” USE

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Capecitabine can be used as second-line for the treatment of patients with metastatic breast cancer for which prior anthracycline-based chemotherapy has failed, and not exists as an oral solution. This drug has to be used with caution as it can cause serious adverse effects when used incorrectly. In addition, The aim of this study was to evaluate off-label formulations available in the literature that could specifically be reproduced in patients for which, the Capecitabine could not be employed in tablets. This information is provided for professionals in oncology trained for the correct administration of oral solids solution. The review was performed on integrative literature search in the Stablis Data Base and PubMed for all studies published in the English for the period from October 2019. Search term used were “extemporaneous formulations AND/OR, oral liquid NAD/OR, suspension AND/OR, compounding AND/OR, anticancer therapy AND/OR, antineoplastic agent” out. Two were identified formulas for the preparation of Capecitabine oral solution. Formulation n° 1:

dissolve 4 tablets of 500 mg in 50 mL purified water for at least 15 minutes at 55°C. Administration using an oral syringe. Formulation n° 2: dissolve 37 grinded up tablets of Capecitabine 500 mg, oral suspension solution q.s.to 185 mL. Stability is 14 days under at 4-8°C. Oral suspension solution formula: xanthan gum (0.1 g), 70% sorbitol (50 mL), glycerin (20 mL), saccharin (0.2 g), methylparaben (0.2 g), citric acid (3 g), sodium citrate dihydrate (4.0 g), potassium sorbate (0.2 g), and purified water q.s.to 200 mL. These formulas might be prepared from tablets or capsules. Liquid formulation provides maximal dosing flexibility and allows a single formulation over a wide age range. This strategy was effective in prevent medication errors and contributing to promote patient safety and pharmaceutical care.

Ethics Committee approval protocol: Not applicable.

Suportted by: Not applicable.

EVALUATION OF THE QUALITY OF CLINICAL GUIDELINES FOR THE MANAGEMENT OF SELF-LIMITED ACUTE COUGH

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Cough is a common symptom of several health problems and can be classified into acute, subacute and chronic, according to the duration, in which the acute cough lasting less than three weeks, the subacute lasts between 3 and 8 weeks, and the chronic cough persists for more than eight weeks. Acute cough is considered as a self-limited health problem, as it is generally of low severity and has a short latency period and usually remits without intervention, however pharmacological and non-pharmacological measures can be administered to relieve symptoms. Cough is one of the leading causes of seeking advice in primary care, as it changes the patient's routine and, consequently, his life quality, in addition to the socio-economic impact. The present study aims to assess the quality of 12 international clinical guidelines for the treatment of self-limited acute cough, since the guidelines have the role of standardizing the conducts for each specific problem and facilitating access to information for the professional and assisting in their decision, maintaining the quality and safety of the service. The selected guidelines were independently assessed by four reviewers, using the AGREE II instrument (Appraisal of Guidelines for Research & Evaluation). The Kappa (K) statistical test was applied to measure the degree of agreement between the judges on the quality of each domain of the clinical guidelines. The degree of agreement was "moderate" (K = 0.44). The guideline recommendation classification criterion was made with the average of the percentage

obtained in each domain of the guideline, with a weight of two for development rigor and applicability (the guideline for the results >60% was strongly recommended, for 30-60%, it was recommended with modifications, and for <30%, it was not recommended). Eight guidelines were considered for recommendation, and four guidelines were recommended with modifications. Only one guidelines was focused on pharmaceutical care. In general, the guidelines showed flaws in quality, mainly in the areas of "involvement of the parties involved", "development rigor", "applicability" and "editorial independence". There was a consensus that the use of pharmacological therapy is not necessary for the treatment of acute cough. However, medications could be indicated if desired by the patient. Nevertheless, the evidence is not clear enough to recommend a specific drug, since the clinical studies presented by the guidelines showed that most of the results did not obtain significant differences between the placebo and the drugs, in addition to the flaws in the methodological development of the studies. However, it was clear that the use of antibiotics for acute cough is not recommended. Thus, it is necessary to carry out more good-quality clinical studies so that the clinical guidelines can be revised, making the recommendations more reliable.

Supported by: The authors declare that they have no conflict of interest.

PILOT STUDY, ALLIANCE OF PHYSICIAN WITH THE PHARMACIST IN A FAMILY HEALTH UNIT

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Epidemiological data at global and regional levels show clear increase in the incidence and prevalence of chronic noncommunicable diseases. The pharmacist, as a drug specialist, has a fundamental role with his training in Pharmaceutical Care. The objective of the study was to determine the health state and use of medications of chronic patients of a Family Health Unit, in a collaborative work of physician and pharmacists. Visits were made to the homes of 24 patients who were present at the time of the visit. Blood pressure and some questions about the use of medications was recorded. 71% of the participants were women, the maximum age was 88 years old and the minimum age 21 years old. 58% spoke only the Spanish language, 25% Guaraní and 17% both languages, which are the official languages of the country. 50% of the patients registered a blood pressure value higher than 120/80 mmHg. Regarding the use of medications, 75% were under some pharmacological treatment with an average of 2

medications per person. The most used medication was Losartan in 38.8%, Enalapril in 27.8%, followed in the same proportion by Atenolol and Atorvastatin in 22.2%.

This study made it possible to identify the needs of the community in terms of drug management and the health condition of the patients. The results demonstrate the need for collaborative work between physicians and pharmacists in the Family Health Units, to improve patient's health care.

Ethical issues: The international ethical principles for biomedical research in human beings proposed by the Council for International Organizations of Medical Sciences (CIOMS) were taken into account in order to maintain the confidentiality and privacy of the individual information of each patient.

Supported by: In house researchers

ADHERENCE IN PATIENTS WITH GLOMERULOPATHIES UNDER TREATMENT WITH MYCOPHENOLIC ACID

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The off-label use of mycophenolic acid (MPA) is increasing, even though there is not a final consensus on the standard treatment of glomerulopathies. According to WHO the adherence to chronic treatments in developed countries averages only 50% and is much lower in developing countries. The lack of local studies about adherence and little information of therapeutic drug monitoring of MPA in this population motivate this research. In this study we aimed at estimating adherence in patients with glomerulopathies under treatment with MPA and establishing the relationship between plasma levels of MPA and adherence levels determined by the questionnaire. Twenty-five patients, between 15 and 71 years old, took part in the study. 92% were female and 92% had lupus diagnosis. All patients had stable glomerular disease and were recruited during their regular office control. The adherence was estimated by the application of a questionnaire that included Morinsky-Green test. MPA plasma levels were quantified using a validated HPLC technique. Clinical and paraclinical data was also registered. 72% were classified as non-adherent by Morinsky-Green test. The educational level showed significant differences ($p < 0,05$) between adherent and non-adherent patients but paraclinical parameters do not. In general, trough concentration (C_0) was between quantification

limit (0,49 mg/L) and 8,3 mg/L. Mean C_0 value (2,9 mg/L) and its high variability ($CV=72,8\%$) were in accordance with previous publications. C_0 of non-adherent patients classified by questionnaire showed higher dispersion than that of adherent ones (Adherent=2,0 to 5,2 mg/L; Non-adherent=0 to 8,3 mg/L). Low C_0 of non-adherent patients belonged to patients that did not take their medicines, while higher C_0 suggested an erroneous medication intake evidenced by the questionnaire. All adherent patients with C_0 below the concentration reported in the literature to show correlation with a good response in lupus nephritis (3,0 mg/L) were taking a lower dose than that recommended by clinical guidelines. The high number of non-adherent patients gives out the need to generate strategies in order to increase adherence, while the confirmation of large interindividual variability in C_0 suggests the usefulness of drug monitoring with paraclinical follow-up in order to adjust therapy.

Ethics Committee approval protocol: "Creación biobanco de patología glomerular en el Hospital de Clínicas"

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POSSIBLE INTERACTION OF THE USE OF ORAL ANTICOAGULANT AND GOJI BERRY

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Lycium barbarum is a plant of the Solanaceae family of Chinese origin that produces the fruit Goji Berry, this fruit has obtained notoriety today by the evidence of its beneficial effects to health as an antioxidant agent, revitalizing, controlling cholesterol, glycemia and regenerating action of organs. Such benefits are appealing in the eyes of society, however there are still no studies on the adverse effects of the use of the fruit, especially in the form of tea concomitant with oral anticoagulants. In the chemical composition of Goji Berry is known the presence of polyphenols, compounds that are associated with the reduction of oxidative stress and also as acting in the alteration of blood coagulation, altering mainly the time of prothrombin. Warfarin is a coumarin anticoagulant that has as action mechanism the reduction of prothrombin activity by inhibiting the epoxy reductase enzyme K-complex 1, also known as anti-hemorrhagic vitamin. The present study proposes to evaluate the antioxidant effect in vivo of the aqueous extract of *Lycium barbarum* and the influence of its ingestion in rats as well as its interaction on hepatic function. For the in vivo assay, male Wistar rats were used, divided into 4 groups (n = 6): animals that received water (negative control); animals that received only Goji Berry extract (2 mL/Kg/day); animals treated with water and warfarin (0.5 mg/kg/day) (positive control) and animals treated

with Goji Berry extract and warfarin. The aqueous extract was administered daily to the animals by gavage (2 mL/kg of body weight) for 7 days. On the eighth day, the animals were anesthetized for blood collection by cardiac puncture and the blood was packed in tubes containing EDTA (CBC), in tubes containing citrate to obtain citrated plasma (Prothrombin Time - TP) and in a dry tube to obtain serum (hepatic enzymes determination). From the quick method it was observed an enlargement in the PT of the positive group (31.46s ± 2.61) compared to the normal group (18.94s ± 0.18) confirming the experimental model. There was no significant change in the PT in the group treated only with Goji Berry (18.94s ± 1.05). Finally, there was also a prolongation in the PT of rats that were treated with Goji Berry and were anticoagulated (37.46s ± 2.09), and all results were statistically proven through the Scott-Knott test at a 5% probability level. The results confirm an increased risk of bleeding in the co-administration of Goji Berry infusion in anticoagulated rats with warfarin. From the biochemical tests performed, it was found that the antioxidant effect of the aqueous extract was not detected, on the contrary, the oxidation was potentialized.

Ethics Committee approval protocol: CEUA 041/2019

PREVALENCE OF POTENTIALLY INAPPROPRIATE MEDICATIONS AMONG NON-INSTITUTIONALIZED ELDERLY

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Population aging means a reduction in the mortality rate and an increase in the population growth rate. This may be seen as a multimodalities phenomenon and may be associated with the increasingly use of medicines. Increasing age and polypharmacy contribute to potentially inappropriate prescriptions for the elderly, which can represent risks for the elderly health, such as drug interactions, falls, adverse drug events, cognitive impairment and poor nutritional status. In this context, the present work aims to describe the profile of medication use as well as to evaluate the prevalence of potentially inappropriate medications (PIM) among elderly people living in a medium-sized municipality in eastern Minas Gerais, Brazil. A descriptive study with a cross-sectional design was carried out from October 2018 to January 2019. The population studied was comprised of elderly people, aged 60 or older, attended by 11 basic health care units. For the sample calculation, the software Epi Info Version 7.0 was used. The socio-demographic variables analyzed were sex, age, marital status, color, family income, education, users of private and public health plans, family arrangement, self-reported diseases, and the presence of polypharmacy (use of five or more medications). Data collection was carried out using a structured questionnaire and for data analysis, the software Statistical Package for Social Sciences was used.

A total of 345 elderly people were included in the study (mean age = 74 years). The prevalence of polypharmacy was 63.48%, the prevalence of use of PIM was 20.92% (95% CI = 28.61-38.63), and a total of 459 identified PIM, independent of comorbidities. In logistic regression using *odds ratio* (OR) with a p value <0,05, an association is found between the use of prescribed PIMs and higher income, living alone and polypharmacy. It also finds an association between the use of non-prescribed PIMs and non-white ethnicity, above one minimum wage income and polypharmacy. There is a high prevalence of PIM use by the elderly population in the Family Health Strategy (FHS) units in the Unified National Health System (SUS) where this study was conducted. Strategies such as reducing the practice of self-medication in the elderly population of primary health care should emphasize the promotion of the rational use of these non-prescription drugs. Furthermore, improve health education by the entire multidisciplinary team, to avoid further complications in the health status of these users, including the use of PIM.

Ethics Committee approval protocol: No.001 / 2013, Opinion No. 3.038.636 of 2018.

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INCLUSION OF NEW MEDICATIONS IN THE PHARMACOTHERAPY OF AGED ATTENDED IN COMPREHENSIVE MEDICATION MANAGEMENT SERVICES

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Comprehensive Medication Management (CMM) is a patient-centered clinical service based on the methodological and theoretical framework of pharmaceutical care practice, in which the main role of the pharmacist is to identify, resolve, and prevent drug therapy problems (DTP). The START tool (Screening Tool to Alert Doctors to Right Treatment) proposes criteria to identify pharmacotherapeutic omissions and the need to include drugs to benefit the health of the elderly. The need to add a new drug to the pharmacotherapy of patients (DTP-2) is commonly identified in the literature, which may be related to an untreated health problem. However, studies on this issue are still scarce in the field of geriatrics. The purpose of this work is to describe the drugs suggested by pharmacists for inclusion in the pharmacotherapy of aged patients (60 years or more) attended in CMM services in the primary care. A descriptive study was carried out between July 2014 and February 2017, with 585 elderly patients attended in CMM services in three primary care centers in Minas Gerais. The frequency of DTP- 2 was determined, as well as the drugs and diseases involved in such. The drugs added to the pharmacotherapy were related

with the START tool. A descriptive analysis of the data was performed and absolute and relative frequencies were determined for categorical and average variables, minimum and maximum standard deviation, for quantitative variables. At least one DTP-2 was identified for 166 elderlies (28.4%), with a total of 233 DTP-2 for 31 different untreated health problems, the most frequent being dyslipidemia (n = 43), prevention of cardiovascular event (n = 37), and systemic arterial hypertension (n = 33). Among the 233 drugs suggested for inclusion in pharmacotherapy, the most frequent were acetylsalicylic acid (n = 29; 12.5%), simvastatin (n = 25; 10.7%) and vitamin D (n = 11; 4.7%). Regarding the START tool, 33.9% (n = 79) of the suggested drugs corresponded to some criterion proposed by the tool. The high number of medication needed for inclusion (DTP-2) and untreated health problems identified by the pharmacists emphasizes the importance of holistic patient care.

Ethics Committee approval protocol:
25780314.4.0000.5149

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THE MAIN PACLITAXEL ADVERSE REACTIONS IN PATIENTS WITH BREAST CANCER AND THE PHARMACEUTICAL CARE

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Cancer is characterized as cells that have uncontrolled growth and changes in specific genes with invasive and survival power. Breast cancer is one of the most incidents highlighted by INCA in 2020, the risk factors that mainly affect women are related to estrogen exposure and genetic predispositions, in addition to old age and lifestyle habits. The chemotherapy treatment with paclitaxel indicated in the breast cancer treatment protocol is among those with the highest incidence of adverse reactions during the infusion. The pharmacist has knowledge of drug therapy, possible adverse drug reactions and drug toxicity. Thus, pharmaceutical care, which seeks to meet the needs of patients' drug therapy and pharmacovigilance measures to detect, evaluate, understand and prevent possible adverse reactions related to the use of medications, should be included in the Multidisciplinary Team. The aim of this study was to describe the role of the pharmacist in the management of adverse reactions to paclitaxel. This is a bibliographic review using the PubMed / MEDLINE and LILACS databases. Sixteen articles were selected

for analysis, in which all articles reported adverse reactions related to paclitaxel (100.00%). The majority of articles report hypersensitivity reactions (56.25%) hand and foot reactions (31.25%), reaction of peripheral neuropathy and neurotoxicity (25.00%) and reactions of hematological toxicity (18.75%). In addition, some articles report hypersensitivity reactions related to the Cremophor® solvent for paclitaxel (25.00%), and information on the underreporting of pharmacovigilance carried out by the FDA in the United States (12.50%). Finally, none of the articles describe information about the importance of the pharmacist, the pharmaceutical care and Multidisciplinary Team in monitoring patients undergoing chemotherapy, handling and reporting adverse reactions to paclitaxel. In view of the complexity of antineoplastic therapy and possible adverse reactions to medications, it is necessary to follow up and monitor by the pharmacist of patients in order to guarantee success in the response to treatment.

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AEROSOL THERAPY IN NONINVASIVE VENTILATION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: AN INTEGRATIVE REVIEW.

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The administration of bronchodilator and anti-inflammatory drugs by inhalation is the basis of pharmacological treatment of patients with Chronic Obstructive Pulmonary Disease (COPD), being used both in outpatients and in the treatment of exacerbations. Despite being commonly used by patients with chronic respiratory diseases, the complexity of the inhalation technique raises doubts in all care contexts, both by patients and the care team. One of the situations in which greater knowledge about the inhaled administration of drugs is needed is during noninvasive mechanical ventilation (NIV), a method of ventilatory support that has been increasingly indicated in the treatment of exacerbations of COPD. The objective of this work is to describe the main technical aspects and care to be observed during NIV in order to reduce problems related to the inhalation technique and to elaborate recommendations to optimize the administration of inhaled drugs for the treatment of COPD patients on non-invasive ventilatory support. It is an integrative literature review, elaborated in four phases: search in the literature, consultation with medical societies and package inserts and monographs of inhaled drugs and

contact with ventilator, medication and spacer companies. The search for the studies was conducted based on the keywords “noninvasive ventilation” AND “inhalation techniques” in databases Medline, Lilacs, Embase e Cochrane, restricted to publications until December 31, 2019, in Portuguese, English and Spanish. 9 articles were found, 1 of which was a primary study, 6 review studies and 2 studies in experimental models. 2 guidelines were also included from the consultation with medical societies. Of the 8 companies contacted, four made recommendations regarding the inhalation technique. Guidance on administration was not found in package inserts and drug monographs. It is recommended to pay attention to measures that can improve the effectiveness of the medication, such as the use of an air chamber with pMDI, minimization of unwanted air leakage, synchronization between patient-ventilator, jet firing in the inspiratory phase, insertion of a leak port in the circuit or in the mask. Pressure parameters of the ventilator, air flow, circuit humidity are factors that affect pulmonary deposition and that need to be further studied.

REVIEW OF PHARMACOTHERAPY IN PEDIATRICS BY THE PCNE METHOD AS A POSSIBLE STRATEGY FOR THE RATIONAL USE OF MEDICINES

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Pediatric patients have pharmacokinetic and pharmacodynamic particularities that alter the responses to the use of medications, in addition to the scarcity in the development of medications suitable for their use. These factors can contribute to the occurrence of adverse drug events in these patients. One of the strategies that can contribute to the rationalization of pharmacotherapy is the review of pharmacotherapy, whose objective is to evaluate the drugs used in order to manage risks, prevent, identify and solve medication-related problem (MRP). The aim of the present study was to review the pharmacotherapy of hospitalized pediatric patients. This is an observational, prospective study conducted from April to August 2019 in the pediatric inpatient units of a university hospital linked to the Unified Health System (SUS), in Belo Horizonte, Minas Gerais. The patients included were aged 28 days to 12 years, users of medication at home, hospitalized for at least 48 hours in the institution. The pharmacotherapy review was carried out according to the methodology recommended by the Pharmaceutical Care Network Europe Association (PCNE). The advanced type review (3) was used, by which the following aspects were evaluated: medication; therapeutic duplicity; dose; recommendation; dosage; contraindication; effectiveness; adverse reaction and drug interaction. These were evaluated with the aid of the Micromedex® and UpToDate® databases. Patients were included after signing the informed consent form or the free and informed consent

form. Of the 69 patients included in the study, 55.1% were male, with a mean age of 4.09 (\pm 3.38) years, remained on average for 10.52 (\pm 9.35) days and used it on average 6.42 (\pm 2.63) medications per day. 185 MRP were identified, with an average of 3.04 (\pm 3.22) per patient, with 55 patients presenting at least one. The MRP found were: 130 (65.3%) related to security; 33 (16.6%) linked to effectiveness and 22 (11.1%) to unnecessary medications. The main causes of safety MRPs were: high dose (44 - 23.78%) and medication without a license for pediatric use (24 - 12.98%). Regarding the effectiveness of the MRP, the main cause was underdose (29 - 15.68%) and for the MRP of unnecessary medication, all were related to the lack of indication of the medication. With the performance of the clinical pharmacist with the health team, the review of pharmacotherapy according to the PCNE methodology can be useful to identify MRP and its causes, and, consequently, propose interventions that contribute to the rational use of medicines, reducing the occurrence of events adverse effects and contributing to better pharmacotherapeutic results.

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PHARMACOEPIDEMOLOGY OF INAPPROPRIATE DRUGS CONSUMED BY THE ELDERLY IN GOIÂNIA, GOIÁS: UNDER VIEWPOINT 2019 ACS BEERS CRITERIA® AND 2019 BRAZILIAN SCALE OF DRUGS WITH ANTICHOLINERGIC ACTIVITY

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Population aging is a new challenge to health care, once this age group has a greater prevalence of multimorbidity and is therefore associated high consumption of drugs. Besides that, pharmacological therapy in older adults calls for special care since aging can affect the metabolic ability to deal with drugs owing to changes in kidney and liver function and their pharmacokinetics and pharmacodynamics. These factors made the older persons more susceptible to adverse effect, polypharmacy and potentially inappropriate medication (PIM) exposure. The present study aimed to assess the quality of pharmacotherapy of participants included in sample studied by evaluate the quality of pharmacotherapy using 2019 AGS Beers® Criteria for Potentially Inappropriate Use of Medicines in Elderly and 2019 Brazilian Scale of Drugs with Anticholinergic Activity (BSDAA). A population-based study and cross-sectional, that selected 934 elderly people who lived in the urban area of Goiânia, Goiás. Data were collected from December 2009 to April 2010 by trained interviewers who applied questionnaires about the sociodemographic profile and medications which was transcribed all the active principles of drugs consumed by elderly people prescribed or administered on their own. The drugs groups were systematized according to Anatomical Therapeutic Chemical and Classification-ATC. The inappropriate drugs for elderly were identified according to 2019 Beers® Criteria. Anticholinergic burden was classified and calculated by BSDAA, where Score 1 drugs has low anticholinergic activity (ACA), drugs Scoring 2 or 3 are those with anticholinergic activity (ACA) clinically relevant cognitive effects. Of the 934 older adults, only 783(83,8%) have been

answers completely of questionnaire, 381 (48,66%) of sample had 70 to 80 years old and 437(56%) were identified consuming PIM. These elderlies used 2.846 medication, average to 3,63 drugs per person, in which 394 (13.9%) were classified as PIM, the most representative pharmacological groups were Proton-pump inhibitors 62(15,74%), Non-cyclooxygenase-selective-NSAID's 67(17,01%) and Other CNS alpha-agonists 72(19,57%). Using rate system BSDAA was found 673(23,65%) drugs with ACA, where 348 (51.7%) are drugs that acted on the cardiovascular system, 205 (30.5%) on the nervous system and 63 (9.4%) on the alimentary tract and metabolism according ATC Classification. Anticholinergic burden measured of prescriptions was of 1(74,1%) and 2 to 6 (25,9%). The study showed that over half of elderly studied took some PIM, that increases the risk of potentially life-threatening adverse events of fall from one's own height, cognitive impairment, and emergency hospitalization. Taking into consideration that anticholinergic medications are known by central and peripheral adverse effects, in addition there is a relationship between high anticholinergic burden prescription in older patients and reduced muscle strength, which is the primary parameter of sarcopenia. Thus, predisposing older patients to increased risk of polypharmacy associated with drug iatrogenic cascade.

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PHARMACEUTICAL CARE IN A BASIC HEALTH UNIT IN THE METROPOLITAN OF PORTO ALEGRE

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The operational structure of the Pharmaceutical Care establishes an essential approach to health promotion since the services offered by the Primary Health Care can help in the decrease of the hospitalizations numbers, the assistance to the patients with chronic diseases, and the educational practice in health. In this paper, the aim was to accomplish a pharmaceutical monitoring through the pharmaceutical consult in a Basic Health Unit in the city of Canoas, State of Rio Grande do Sul. It is an observational study of the cross-sectional kind. The patients were received through medical referrals. The study period was of two months, with four appointments with each one of the patients. As instruments, the Form of Pharmaceutical Consultation was applied and Cardiovascular Risk Stratification was conducted in the cases of the hypertensives. Interventions were conducted accordingly to each of the patients necessities as well as the coming back appointment for an assessment. Eight patients in the average age of 69 years old were part of the study. Following the monitoring of the participants of the study who presented BMI >24,9, were referred by the researcher pharmacist

to the “Canoas Mais Leve” program. The patients reported that they were practicing hiking and that they had observed a physical arrangement increase. The insulin users reported that they were storing it correctly and that they were also changing the application site and the way of homogenize it. In the same way, they pointed out an improvement in the feet hydration and the understanding of self-care. There were identified three participants affected for therapeutic duplicity and four of them with a high-level cardiovascular risk that was referred to the medical care. It is possible to conclude that the implementation of the Pharmaceutical Care on the health network contributes to the promotion of the rational usage of medicines, to the reinforcement of the Primary Health Care, and integration to the health network aiming to optimize and qualify the access to the medicines.

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THE IMPACT OF THE RELIGIOSITY ON THE PAIN PERCEPTION AND THE MEDICINES COMSUPTION IN PATIENTS SUBMITTED TO THE MYOCARDIAL REVASCULARIZATION

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The direct interaction of the pharmaceutical with the user, aiming a rational pharmacotherapy and the acquisition of definitive results, measurable and focused on the improvement of life quality, must also respect the biopsychosocial specificities, under the optical od integrity of health actions. Studies have pointed out that when a person conceives his or her faith as a “big comfort source” and practices religious activities, this faith collaborates with the decrease on harmful damages of chronicle pathologies about the incapacitation, the humor improvement in small anxiety levels, twice more tolerance to pain, and in better mental health indicators and adaptation to the stress. In this case, this study had the aim to evaluate the impact religiosity had on the pain perception and the consumption of the medicines submitted to the myocardial revascularization. This study was carried out at the São Francisco da Santa Casa de Misericórdia Hospital of Porto Alegre/RS, on the period of October to November of 2016. Under the single-blind method, 24 hours after the hospitalization of the patient, the self-applicable questionnaire “Duke Religious Index” was provided to be answered. The “Numerical Visual/Verbal Pain Scale” was applied on the fourth day after the surgery, under the single-blind method. The survey of the medicines that had been used was made through patient records. The sample defined by convenience was of 6 patients. The results

indicated that the patients who presented higher religious engagement were also the ones who reported a lower degree of pain, from 1 to 3 – a light degree, while the patient who presented the lower religious engagement was the one who indicated a higher degree of pain (5) – moderated degree. Both the patients with higher religious engagement and light degree of pain and the one patient who reported smaller religious engagement and moderated degree of pain presented medium general consumption of 6 medicines, being 54% of cardiovascular action. Even though the sample of this research is still small for more definitive conclusions, the results agree with the literature produced in the field. This demonstrates that, given the relevance that a considerable portion of the population grants to their religious and spiritual beliefs, the attention to the dimensions of religiosity and spirituality shows itself an useful tool on facing complicated situations, diseases, resolving countless demands possible, as well as the construction of health in the most integral way possible.

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TRACKING OF RISK FACTORS FOR CARDIOVASCULAR DISEASES AND CONTRIBUTIONS OF THE PHARMACEUTICAL PROFESSIONAL

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Health screening allows the detection of health conditions in sick people who have not yet manifested signs and symptoms and / or have not been diagnosed or who are susceptible to becoming ill. It is performed through validated procedures, exams or interviews, with subsequent guidance and, if necessary, referral to other professionals to determine the diagnosis and prescribe treatment. Cardiovascular diseases are the main causes of death worldwide, in Brazil they represent 30% of the total deaths. They are related to risk factors such as sex, old age, smoking, high blood pressure, diabetes, hypercholesterolemia, obesity, among others. Tracking these risk factors can provide important information about the patient's chances of developing cardiovascular disease. In order to identify the possibility of the occurrence of negative outcomes caused by cardiovascular diseases and to promote the awareness of a community in a municipality in Minas Gerais, data collection and tests were carried out on

individuals who expressed interest in this evaluation. From the results it was possible to verify that most of the members of the studied population did not present high cardiovascular risk, however, educational measures should be directed, mainly, to the female public about the body mass index and waist circumference, in order to prevent the development of future diseases. The analysis of the data was followed by a work of individual awareness of the participants about the risks of developing cardiovascular diseases and the importance of minimizing the modifiable predisposing factors. The experience was also essential for the development of important clinical skills such as investigative mind, situation assessment and communication skills, which are essential for the training of the pharmaceutical professional.

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EXPERIENCE REPORT IN THE PERFORMANCE OF ONLINE EVENT BY THE PHARMACY ACADEMIC CENTER DURING PANDEMIC

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In view of the scenario of educational technological adaptations demanded by the pandemic caused by the SARs-CoV-2 virus, private universities had to adapt to the hybrid teaching model. This scenario also had an influence on the scientific and cultural actions promoted by the Academic Centers in favor of the integration of the student, teaching and technical-administrative community of the institution. Considering the above, the objective of this paper is to describe the experience report of the Academic Pharmacy Center of the University Center of the State of Pará (CAFAR CESUPA) regarding the realization of events in the online environment, during the current pandemic. To this end, we used the report of monthly activities, prepared by the members of that CAFAR. In all, two online events were held, through the Google Meet platform, with registrations via Google Forms, disseminated through social media and messaging applications. The first event, held in June, had the theme "COVID-19: Biological, epidemiological aspects and projections for the future". The lecture was given by a professor at the institution and aimed to promote technical knowledge about the new coronavirus among the 23 students of the course who signed up. The second event, called Light week, was held in October and had a total participation of 76 students,

distributed between the first (n = 22), second (n = 16) and third day (n = 38); The teacher participation was 01 teacher on the first day and 06 on the third day. The program featured an exhibition and debate of an anime called "Cells at work" on the first day, a virtual ad with themes from the pharmacy course, through the "STOPOTS" platform on the second day, and a thematic lecture "Talking about medicinal plants in the northern region" with lecturer at the Sacaca do Amapá Museum, ending the event on the third day. There was brief feedback from the students after the two events were organized, and those who spoke out made positive criticisms. Among the difficulties faced to carry out the aforementioned events, the internet connection deserves mention. The two events held contributed significantly to the academic and social training of students, as they provided a virtual technical environment, as well as, relaxation and fun in a period when social distance is still present. For CAFAR CESUPA, the experience of thinking and developing events for the student community of the course adds to the student career of the group members.

Ethics Committee approval protocol: Not included

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CLINICAL RESULTS OF PHARMACEUTICAL SERVICES OFFERED TO OLDER PEOPLE: A LITERATURE REVIEW

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The aging process is frequently accompanied by the presence of chronic diseases and use of multiple medications. In this context, it is important that the pharmacist checks whether the medicines used by the patient are the most appropriate and if they are effective, safe, and convenient for use in daily living in order to optimize their drug therapy. The present review seeks to gather studies that evaluated the clinical results of pharmaceutical services offered to older people. A literature review was carried out by consulting the MEDLINE, and Lilacs databases. The search strategy prepared for this review was: ("aged" OR "older" OR "elderly") AND ("Medication Therapy Management" OR "Pharmaceutical Care" OR "comprehensive medication management" OR "drug therapy problem"). Four studies were included. Of these studies, two followed Pharmacotherapy Workup (PW) methodology; one followed a similar

methodology based on the philosophy of Pharmaceutical Care, and the fourth presented results within the framework of PW. The included studies were development in Brazil; one randomized clinical trial and others interventional. All services were offered by the Unified Health System, three of which were performed in the primary health-care setting and one performed in the pharmacy of the Specialized Component of Pharmaceutical Assistance. It was possible to bring together in this review the studies that demonstrated the results based on the adequacy of pharmacotherapy and on improving the quality of life of the older people assisted by pharmaceutical services. The findings of this review showed the potential of pharmaceutical services can impact on the clinical condition of the older people, especially if they are developed using the PW methodology, however, more studies in this population need to be developed.

REPORT OF DISCENT EXPERIENCE IN A MULTIDISCIPLINARY EXTENSION PROJECT IN THE HEALTH AREA, AT THE PUBLIC SCHOOL OF BELÉM (PA), IN 2019

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In the job market and in society it is of paramount importance to know how to work in a team and in an interdisciplinary way, specifically to solve problems. Within this, the Innovation Nucleus and Entrepreneurship Junior of the University Center of the State of Pará (NIEJ CESUPA) integrates community, teaching and service in an interdisciplinary and multidisciplinary way, based on its extension projects, among them, the “Crer & Ser”, that has students from different areas objectivity promotion citizenship, health education, and to social development in public schools. This is an experience report of a graduate student in Pharmacy, during the participation in the “Crer & Ser” project of NIEJ CESUPA, in 2019, in a public school in Belém-PA This work aims to present an experience report on the project, highlighting the role of interdisciplinarity in the extension actions carried out to solve the problems of a given reality. The data described in the report was obtained from the monitoring of the project at school and our project meetings, with formal approbation of NIEJ's coordination. After sorting and identifying the problems, the actions included health care and education, in modules, which reached approximately 150 children. The presence of obesity was highlighted through the evaluation by the nutrition team, and the presence of cavities in some children, by the dental team. There were also children with symptoms characteristic of intestinal worms, identified by the medical team. The module referring to nutritional health created for a recipe workshop and responsible for healthy eating. Teams of medicine, nursing and pharmacy addressed the theme of food hygiene and prevention of parasites

and there was the distribution of pamphlets on parasitological exams. These patients were also referred for parasitological exams in partnership with the CESUPA Clinical Analysis Laboratory. The module focused on oral health attended to tooth brushing and hygiene clinics, with the delivery of kits with toothbrushes. While carrying out the actions of the specific courses, students from other courses carried out, in parallel, health education actions, while the public waiting for assistance, on subjects such as self-medication, the concept of health, personal hygiene, environmental education and other topics. At the end of the year, a Christmas event was held, with the drawing of basic baskets and sports dynamics with the children. A partnership was reached with a local cinema, which made cinema tickets available for the children participating in the project. In addition, the doubts of those responsible for them were answered, on various health topics. It was observed that the project contributed to the engagement of children and their guardians regarding self-care, based on the integrated and involved knowledge of students in the project's health courses. In addition, it was motivating for the understanding of the social transformative capacity that health education has on solving various problems that compromise a given reality. Therefore, within health care, communication skills, problem-solving, leadership, are essential and extension is fundamental to it.

Ethics Committee approval protocol: not included
Supported by: CESUPA

INSTRUMENTALIZATION OF POPULAR PHYTOTHERAPY - HEALTH EDUCATION IN A COMMUNITY GROUP

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Phytotherapy and the use of medicinal plants are widespread practices in developing countries, constituting a set of knowledge internalized in several users and transmitted orally for generations. However, such practices are carried out without professional guidance, resulting in the risk of intoxication, drug interaction and worsening in clinical conditions. According to data from the World Health Organization, approximately 80% of the population of developing countries use medicinal plants. Among the factors related to their use are the high costs of industrialized medicines, the lack of access of the population to medical and pharmaceutical care and the tendency to use products of natural origin. This work reports the experience carried out in a community group, which has the participation of approximately 10 users per meeting and occurs in an external place of the Basic Health Unit. The invitation to the meeting was held two weeks in advance, suggesting that participants who had plants with known therapeutic potential would take them for display. The activity was carried out in a dialogue circle format, in which users shared their knowledge, there were taught the correct extraction, preparation and storage techniques for

each type of raw material and there was general talk of contraindications and care in use. Information material was delivered, which contained some suggestions for preparation and use and the techniques that were taught. Teas were served for tasting brought by community health agents and questions were taken at the end of the meeting. The group participants were very active, shared their family "recipes" and their positive and negative experiences that allowed us to explore subjects such as the therapeutic potential of each plant, self-medication and intoxication by natural products. After this meeting, the demand for realization in another group of coexistence arose, evidencing the need and interest of the population in the theme, how it is a widely disseminated knowledge in our country I emphasize the need to teach mainly the techniques of preparation, if possible, conducting practical workshops with the population, valuing popular knowledge and giving support for the correct use of these potent means of healing.

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EVALUATION OF THE CLINICAL PHARMACY SERVICE OF A MEDIUM-SIZED HOSPITAL IN BELO HORIZONTE

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In the hospital environment, the pharmacist performs clinical activities aimed at minimizing prescription errors, ensuring proper use of medications, contributing to cost reduction and improving the quality of patient care. Among these, medication reconciliation is considered an important strategy. Considering that all medication errors are potentially preventable and that they can be reduced by improvements in systems and practices related to the use of medications, combining the clinical reasoning developed during the provision of the Comprehensive Medication Management Service to this activity can contribute to the standardization and optimization of clinical services in hospitals. In this way, the objective of this work was to evaluate the clinical pharmacy service of a medium-sized hospital in Belo Horizonte, more specifically, the activity of medication reconciliation, carried out in the inpatient unit. This is a retrospective, cross-sectional and descriptive study. The sample was for convenience and all reconciliations made by the pharmacist between January 2019 and July 2019 were included. A descriptive analysis of the data was performed. The medication reconciliation of 193 patients was evaluated, 106 (55.0%) women and 87 (45.0%) men, with a mean age of 72 years, ranging between 17 and 98 years. A total of 360 drug therapy problems (DTP) were

identified, with an average of 1.86 DTP per patient, ranging from 1 to 6 DTP per patient. The DTP were distributed as follows: 126 (42.7%) DTP 2 - need for medication; 56 (19.0%) DTP 6 - high dose; 36 (12.2%) DTP 1 - unnecessary medication; 33 (11.2%) DTP 4 - low dose; 18 (6.1%) DTP 5 - adverse reaction; 15 (5.1%) DTP 7 - non-adherence; and 11 (3.7%) DTP 3 - there is a more effective medication. Although the problems related to the indication were the most frequent, corresponding to 54.9% of the problems identified, it is worth mentioning the identification of other categories of DTP, specifically DTP 3 and DTP 5, which would not normally be identified with the performance of a traditional medication reconciliation process. The implementation of 193 (65.4%) interventions with the medical team to resolve the DTP was reported. Of these, 180 (93.3%) were accepted, 16 (16.9%) were not accepted. These results show the potential of a medication reconciliation service in improving the quality of health services, specifically with regard to the optimization of pharmacotherapy.

Ethics Committee approval protocol: CAAE: 34661320.1.0000.5097

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INITIAL RESULTS OF THE COMPREHENSIVE MEDICATION MANAGEMENT IN A RHEUMATOID ARTHRITIS OUTPATIENT CLINIC

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Comprehensive Medication Management (CMM) is a clinical service, centered on the patient, based on the theoretical-methodological framework of pharmaceutical care. This service is offered by a clinical pharmacist, trained specifically for this and who works collaboratively with other health professionals. During the CMM, the pharmacist seeks to meet the pharmacotherapeutic needs of the patients served, assessing whether the drugs used are necessary for their health problems, effective, safe and convenient. Thus, the main contribution of this professional when caring for patients is the identification, prevention and resolution of drug therapy problems (DTP), so that they achieve positive results with pharmacotherapy. In this context, the objective of this work is to present the initial results of the CMM service offered to patients with rheumatoid arthritis (RA) in an outpatient clinic of a public hospital in Belo Horizonte. RA is an autoimmune disease, with complex pharmacotherapy, patients, in general, have low rates of persistence with treatment, and therefore, can benefit greatly from the management of drug therapy. A retrospective analysis of the attendance of 51 patients followed from April 2018 to March 2020 was performed. The data were collected from the electronic documentation, in which consultations are recorded. In total, 99 consultations were carried out, with an average of 1.94 consultations per patient. The mean age of the patients was 63.32 years. The average comorbidity was 5.78 per

person. 282 DTP were identified, 18% referring to RA pharmacotherapy, while 82% were related to the treatment of other health problems. This result demonstrates how the offer of the CMM in an outpatient clinic focused on a medical specialty can contribute to an adequate approach to patients' comorbidities. It is noteworthy that patients with RA have many comorbidities and that their control is reinforced in the guidelines for the treatment of this disease. From the DTP identified, 29% were resolved directly with the patients, and 71% needed discussion with the medical team to be resolved. Their main causes were low dose (n=70;25%), need for additional therapy (n=48; 17%) and adverse drug reaction (n=45; 16%). Of the interventions carried out with the prescribers, 51% were accepted and 12% were not accepted. A total of 85 DTP identified are still under follow-up to assess the resolution. The CMM service enabled the identification and resolution of DTP present in patients' pharmacotherapy, with emphasis on those related to comorbidities, contributing to the expansion of care for RA patients offered by the outpatient team.

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THERAPEUTIC POTENTIAL OF AROMATHERAPY IN THE MANAGEMENT OF ANXIETY DISORDERS

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Anxiety is one of the most worrying health problems nowadays, with approximately 264 million people worldwide suffering from some kind of anxiety disorder. The conventional pharmacological treatments used in the fight against anxiety present in their majority intense adverse effects, tolerance and drug dependence. Several studies involving integrative and complementary practices have been conducted in search of safe and effective non-pharmacological therapeutic alternatives for the treatment of anxiety. Among these practices, Aromatherapy, therapeutic technique that aims to promote the physical, mental and emotional health of the individual by the use of essential oils from aromatic plants, have had their use significantly increased in recent years in treatments for reducing anxiety and improving quality of life. Therefore, this study aimed to investigate the application of Aromatherapy in the treatment of anxiety, using the literature review as a research methodology. Scielo, PubMed and Science Direct research platforms and descriptors “aromatherapy” and “Anxiety”, as well as “Essential oil” and “Anxiety”, were used. First, the evolution of the number of publications in the

last 20 years was evaluated. Then, considering the period from 2009 to 2019, 64 articles were selected using the inclusion and exclusion criteria, composing the sample to be analyzed in a more in-depth way. The results showed that the application of Aromatherapy alone to reduce anxiety was higher (73.4%) than when associated to some other technique (26.6%). When associated with some other technique, the massage was predominantly chosen. Regarding the routes of administration used, 67% of the studies used the inhalation route, 19% the topical route and 14% the oral route. In the analysis of the most used essential oils, 73.4% of the works used essential oils alone and 20.3% of the works opted for the combination of essential oils. The lavender essential oil was the most used, and 28 works used it alone and 12 in combination. Moreover, in articles that used Aromatherapy alone in the treatment of anxiety alone, this technique was considered effective and safe, with predominance of the oral route. Thus, the results obtained show the high and versatile potential of Aromatherapy application for individuals suffering from some type of anxiety disorder.

EVALUATION OF THE IMPACT OF THE ANTIMICROBIAL OPTIMIZATION PROGRAM IN THE CLINICAL PRESCRIPTION ON THE ADULT INTENSIVE CARE UNIT OF A PRIVATE HOSPITAL IN ASUNCIÓN PARAGUAY

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Rising increase of bacterial resistance related to inappropriate use of antimicrobials, in addition to lack of availability of effective antimicrobials to treat infections, prioritize to implement retaining strategies such as Programs of Antimicrobial Optimization (PROA) Adult Intensive Care Unit (ICU-A). These programs have shown to decrease consumption, antimicrobial cost, hospitalization days, nosocomial infections and adverse events achieving rational use of patients benefit and his environment. This study aimed to assess to evaluate the impact of the Program for the optimization of controlled antimicrobials in the clinical prescription, in the adult intensive care unit in the period from January to December 2017. A pharmacoepidemiological analytical observational study was carried out, based on the STROBE guideline. In this work was evaluated PROA impact in the prescription of controlled prophylactic antimicrobial treatments, empirical and targeted treatments, consumption, controlled antimicrobial costs, nosocomial infections, hospitalization days, from January 9 to December 31, 2016 (Phase I) and from January 9th to December 31st, 2016 (Phase II). The Mann-Whitney's U-test was used to compare consumption and cost of antimicrobials, clinical prescriptions, hospitalization days, and nosocomial infections. Adverse events observed were expressed in absolute frequency and

percentage. 137 and 104 clinical records were included in Phases I and II respectively. Significant decrease in DDD / 100beds was observed with ciprofloxacin ($p=0,0117$), meropenem ($p=0,0064$) and vancomycin ($p=0,0022$), also decreased imipenem and ceftazidime. The average of costs using controlled antimicrobials were significantly reduced ($p = 0,001$). Of the treatments administered in Phase II according to the PROA, the empirical ones were reduced, in the prophylactic ones there was a significant decrease ($p= 0,011$) and the directed treatments increased ($p = 0,001$). Rates of nosocomial infections and average hospitalization days were significantly reduced ($p=0,001$). Adverse events related to antimicrobials observed in Phase II were mainly interactions. Alteration of liver and renal function due to probable interaction between Piperacillin-Tazobactam and vancomycin, according to Medscape®, was recorded in the clinical records, which required constant monitoring and change of antimicrobial. The implementation of PROA was effective in promoting the rational use of antimicrobials, reducing consumption and clinical prescriptions of controlled antimicrobials.

Ethics Committee approval protocol: Committee of the Faculty of Chemical Sciences of the UNA (CEI 306/16).

BRAZIL COUNTS WITH ME: EXPERIENCE REPORT OF SUPERVISED CURRICULAR INTERNSHIP IN HOSPITAL PHARMACY DURING THE COVID-19 PANDEMIC SITUATION

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The strategic action "Brazil Counts With Me - Health professionals", coordinated by the Ministries of Health and Education of Brazil in 2020, was created to train professionals and students in the health field to act in the fight against the new coronavirus called SARS-CoV-2 (COVID-19). The measure aims to fight against COVID-19 pandemic with the exceptional and temporary support of students in the health area, working with the Unified Health System (SUS). The called professionals could choose to work in several fields of health attention, including ER unities and hospitalar sets. The aim of this study is a report the experience of an undergraduate Pharmacy student during the supervised curricular internship in hospital pharmacy in the setting of the COVID-19 pandemic. This report is a descriptive and observational experience, with a qualitative approach of during the supervised curricular internship at a hospital service in the State of Minas Gerais. The internship was developed in a hospital pharmacy unit and it covered the period from June to November, 2020, accomplishing 800h total, 40h/week. At first 2 months the practices were as shift scheme of 12/36h, from 12 to 00h, then practices were from 7 to 17h, Monday to Friday dedication. The internship was supervised by a pharmacy preceptor at hospital and by a pharmacy professor at university. The activities done included dispensing of medications (at central pharmacy unity, at satellite one, as well as at ER), drug management, procurement, drug selection and Pharmacy and Therapeutic Committees, creating and discussing standardized clinical pharmacy implementation guidelines, guidelines to implement pharmacovigilance and clinical

pharmacy. The appliance to this programm was motivated by wishes to be useful as professional to fight against de pandemic and to practice all the theoretical scope obtained at academy. At first there was a feeling of fear to contract the virus, although all the security equipment and routines given by the Hospital administration, but as the days came, the sensation of safety was installed. However, as work was been done, some colleagues were contaminated and so did myself. Overcoming failures and fears and anguishes lead by COVID-19 pandemic was necessary to personal struggling of an intern to be active and creative pharmacist at work to perform the role with excellence. It was possible to know the hospital pharmacy routine and reality as well the challenges of drug management. This experience showed the challenges that involve the profession resulting from the change in routine, changes in the work process, new protocols and the lack of inputs. However, it contributed to the formation of human skills, such as empathy, as well the opportunity of acquiring new professional skills. This experience led the possibility of consolidating professional identity and provided the opportunity to live experiences in the context of the pandemic: the supervised curricular internship favored personal and professional growth, mainly about work relationships; also permitted to percept that the COVID-19 outbreak has unearthed new opportunities for hospital pharmacists wich have played a key role during the COVID-19 pandemic, suggesting that a fully integrated team, with inter-sectoral and inter-professional collaboration is sine qua non condition to face crises and public health emergencies.

RECOMMENDATIONS FOR THE PREPARATION AND ADMINISTRATION OF DRUGS VIA ENTERAL CATHETER: A REVIEW OF THE LITERATURE

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Through a review of the literature, this work aimed to describe the recommendations for the preparation and administration of drugs via enteral catheter. For this, a review of the literature in the databases Pubmed and Lilacs was done, using descriptors and free terms referring to drugs, enteral nutrition and probe. Of the total of 1,486 articles, those that approached the appropriate techniques for the preparation and administration of drugs through the probe were selected, and 32 articles were analyzed. From these, techniques of preparation of different pharmaceutical forms for administration via the probe have been identified;

techniques for probe care before, during and after administration of probe medications and techniques for administering probe medications to assist health professionals at the time of performing these procedures. Thus, it was concluded that it is of great importance that the practices are pertinent to the clinical realities of the patients and based on the most recently documented protocols and guidelines, so that the evaluation of the indication, safety and effectiveness of the drugs to be used be accompanied by appropriate multi-professional monitoring.

DRUG ADMINISTRATION THROUGH FEEDING TUBES AMONG PATIENTS SUBMITTED TO OPERATIONS OF THE GASTROINTESTINAL TRACT AND ABDOMINAL WALL: PROFILE AND ASSOCIATED FACTORS

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Patients undergoing gastrointestinal tract operations are complex and often receive medications via enteral tubes (ET). In this context, the aim of this study was to analyze the profile of the limitations of drug administration through ET for medications that were prescribed to patients undergoing operations on the gastrointestinal tract and abdominal wall and associated factors. To this end, all electronic prescriptions of patients using enteral nutrition (EN) and in the postoperative period at a general university hospital were analyzed (05/01 to 12/05/2017). Medicines prescribed for administration through ET were identified and a literature review about limitations for its administration in this type of tube was performed. The prevalence of these limitations and associated factors was determined through univariate (Pearson's chi-square) and multivariate (logistic regression - 5% statistical significance level) analyzes. A total of 341 prescriptions from 40 patients were analyzed. A total of 725 drugs prescribed to be administration ET (44 different drugs) were identified. In the review, 33 articles

were retrieved for the construction of a database, which allowed the identification of 188 limitations regarding drug administration through ET. The prevalence of at least one limitation regarding drug administration via ET among the patients evaluated was 57.5% (n = 23), and it was positively associated with age equal to or greater than 60 years (OR 4.67; 95%CI 1.07-20.40). Due to the scarcity of references for medication administration through ET, this study is an important tool for pharmacotherapeutic care for patients using EN. The number of limitations identified was low, but its association with advanced age and the severity of the studied population reinforce the importance of prioritizing its management.

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DISPOSAL OF MEDICINES: ALTERNATIVES FOR REDUCTION AND REUSE

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The incorrect disposal of medicines causes several damages to the environment and to the health of the population, presenting itself as a relevant topic to be studied. Correct disposal can generate savings for public coffers when medicines that are still suitable for use, are reused in health centers, helping patients of the Unified Health System. The objective of this research was to identify alternatives aimed at reducing waste and encouraging the use of unused drugs, in order to reduce environmental contamination. This research is a bibliographic review. It was analyzed articles that described the disposal of drugs and the reuse of suitable drugs for human consumption. As a criterion for selecting of the articles that served to the reference for this research, the Medline, Lilacs, PubMed and SciELO databases were used. The following keywords were used in the Google Scholar search guide: correct disposal of medicines and disposal of drug residues. It was selected articles written in Portuguese, English and Spanish, published between 2009 and 2019. As inclusion criteria, works were selected whose abstracts talked about the disposal of medicines by the Brazilian and international population. 23 articles were found, in addition to laws and resolutions. Of these, 13 articles, 3 resolutions, 2 laws and 1 guide were chosen to serve as a theoretical basis for this research. Ten articles were excluded from this bibliographic review, which did not mention the disposal of medicines by the population, but were limited to the hospital. Based on the results of analyzed articles, aiming at the search for alternatives to reduce waste and stimulate the reuse of drugs, it is possible to conclude that, only

the city of Farroupilha/RS presented positive data on reverse logistics, with the reuse of medicines for the human consumption, which are distributed through a project called *Farmácia Solidare*, in addition to correctly collecting and disposing of expired and inappropriate medicines for use, generating savings for the municipality and preserving the environment, serving as a suggestion for reducing the problems generated by incorrect disposal in other cities. References were found that can serve as a theoretical basis for a population awareness program, as well as to support the work of professionals in the pharmaceutical field, in addition to laws and draft laws aimed at regulating reverse logistics, correct collection and disposal waste. It can be concluded, through this study, that the reduction of waste from environmental contamination and the encouragement to reuse, may be possible from population education programs, in addition to partnerships between public and private pharmacies in order to provide spaces for disposal or reuse of medications. As a practical result, after conducting the research, the *Farmácia Solidare* of Farroupilha/RS served as the basis for the creation of the *Farmácia Solidarissh*, in Canguçu/RS, which also distributes to the population, medicines from reverse logistics and collecting expired or adulterated medicines discarding it properly.

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REDUCING THE JUDICIALIZATION OF MEDICINES WITH THE AID TOOL SITUATIONAL STRATEGIC PLANNING

Cristiano Manetti da Cruz

Prefeitura Municipal de Canguçu

The judicialization of health in Brazil began in the 1980s with the AIDS Prevention Support Group in São Paulo and the Pela Vida Group in Rio de Janeiro as an alternative to access HIV/AIDS treatment, which was not provided free of charge by the government. Surveys point to an increase in judicial demand, leading municipalities to buy medicines that are not part of National List of Medicines (RENAME) or Municipal List of Medicines (REMUME). This work is justified by the high number of lawsuits against the municipality of Canguçu/RS requesting drugs that did not belong to REMUME. This work aims to present a comparison of expenses with legal proceedings against the municipality of Canguçu/RS before and after REMUME update, through the Situational Strategic Planning Tool (PES). This work followed the experience report method. The authors do not only place themselves as observers, but as proposers and members of the team that developed the intervention plan in the reality of the municipality's pharmaceutical assistance. The information was obtained through workshops on the construction of the Operative Plan (PO), bibliographic research and notes throughout the process. The update of REMUME in the municipality of Canguçu/RS was based on the experience of preparing a PO, an integral part of the PES, developed with the purpose of qualifying the assistance of the Municipal Pharmacy. PES, conceived by Chilean economist Carlos Matus, is a problem-oriented planning method and deals mainly with those that are poorly structured and complex, for which there is no normative solution or previously known in its

multiple dimensions: political, economic, social, cultural, etc. and in its multisectoriality. It is divided into four moments: Explanatory, related to the understanding of what is intended to be accomplished, of the opportunities and problems that will be faced; Normative, related to the entire planning process; Strategic, related to the feasibility of overcoming obstacles and reaching the goal; Tactical-operational, which corresponds to the decision-making process. In 2013, R \$ 63,552.70 was spent on legal proceedings; in 2014, R \$ 22,262.35; in 2015, R \$ 52,718.46. As a result, after updating REMUME in 2016, expenses were R \$ 4,375.33; in 2017, R \$ 5,668.25 and in 2018, R \$ 9,851.96. In addition, they returned to the public coffers, through research on the price of drugs requested by court order: in 2016, R \$ 9,797.32; in 2017, R \$ 57,305.05 and in 2018, R \$ 116,583.87. The number of court cases has decreased from 695 patients in 2015 to 454 in 2019 and the number of administrative cases granted is 156 patients. The amount that was no longer spent on lawsuits started to be invested in basic care. It is concluded that there was a reduction in the number of lawsuits and public spending, due to less judicialization of drugs. There is a greater satisfaction of the user in finding the medication available at the Municipal Pharmacy, without the need to seek legal proceedings, which is not immediate. It is expected that the REMUME update will continue to reduce the expenses of the Municipal Health Department and provide a more efficient service to the population.

EXISTENT EXPERIENCE IN THE DEPRESCRIPTION OF BENZODIAZEPINES AMONG USERS OF PRIMARY HEALTH CARE IN BELO HORIZONTE – MG

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Sleep is a human need and deprivation presents itself as a growing problem in today's urban society. Studies indicate that a good night of sleep is important for the physical, mental and emotional balance of individuals. The most recommended strategy for effective management of insomnia is with non-pharmacological methods. When pharmacological treatment is necessary, drugs of the benzodiazepine (BZDs) class are still prescribed for this purpose, although new drugs are prioritized for therapy in the latest consensus. In the first half of 2017, BZDs dispensed by the Venda Nova Regional summed up 1,031,472 units. The drug clonazepam represented 75% of the total volume dispensed and the found proportion of users who would have used BZDs for more than four months was approximately 70%. The objective of this work was to promote the improvement in the quality of sleep of the participants; evaluate dose reduction or discontinuation of treatment with BZDs after performing the activity; present complementary therapies such as non-pharmacological approaches to insomnia management and awareness of the consequences of the indiscriminate use of BZDs. The operative group was carried out in five Primary Care Units, through face-to-face meetings with oral presentations by professionals from the NASF (Support Center for Family Health) and teams from the ESF (Family Health Strategy), under the coordination of the local pharmacist. The themes were addressed in five meetings, the first four being weekly and the fifth held within 30 days. The main themes were: 1) Sleep and medication use; 2) Sleep hygiene and body relaxation; 3) Anxiety and Insomnia; Lian Gong; 4) Homeopathy and Use of medicinal plants to combat insomnia; 5) Closing of the group with

dynamics, moment for reporting experiences and motivation. In addition, at the meetings, resources were used to facilitate adherence to non-pharmacological approaches. From the list of users referenced by the ESF, questionnaires were applied to calculate the PSQI (Pittsburgh Sleep Quality Index) in two moments, the first before the group started and the second after the group ended. The initial and final scores were calculated from the data collected, allowing the assessment of improved quality of sleep and the survey of the participants' profile. In all, 31 questionnaires from assiduous participants were analyzed. In a first assessment, the mean PSQI score of the group was 13.5 ± 3.9 , which indicates that the group in general had sleep disturbance. When reassessing the group, the mean was 8.9 ± 3.9 . Of the 31 participants evaluated, 28 (90% of the total) showed improvement, whose average improvement in sleep quality was 35%, this result being statistically significant ($p < 0.005$) according to the paired t test. The best percentage of improvement was 67%. The average age of the group was 61 years, the majority were female (25 participants) and a total of 14 participants (50% of those who improved) reduced or abandoned the use of BZDs. The results found evidence of the prolonged use of BZDs by elderly users and suggest that non-pharmacological approaches were effective in improving the quality of sleep of the participants according to the evaluation by the PSQI. These findings indicate that the experiment was successful and the model is easily replicated in other units.

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PHARMACEUTICAL SERVICES PROVIDED IN PHARMACIES AND DRUGSTORES IN MARIANA AND OURO PRETO - MINAS GERAIS

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Pharmaceutical services are procedures performed in pharmacies and drugstores, with a focus on patient care. The clinical pharmaceutical services practiced in pharmacies and drugstores promote the rational use of medicines and improve the quality of life of users, by guaranteeing them an appropriately indicated, effective and safe pharmacotherapy. Thus, it is observed that pharmaceutical services have a great impact on the health of the population in which it operates, however, by Brazilian law there is no obligation to offer them. The aim of this study was to describe, characterize and verify pharmaceutical services provided in pharmacies and drugstores in Mariana and Ouro Preto, Minas Gerais. A cross-sectional descriptive study was carried out in 26 establishments in both cities. Among approximately 50 pharmacies and drugstores existing in these cities, a convenience sample was adopted and the selection of establishments in the centers and neighborhoods was made, aiming at a distance between them. Most of the pharmacists legally responsible for the pharmaceutical establishment are female (61.5%), are graduated from public institutions (53.8%), with graduation time over 10 years (80.8%). Most do not have postgraduate degrees (69.2%), but have attended refresher courses in the pharmaceutical field (69.2%) in the last 5 years. Most pharmacists have support to provide pharmaceutical services to the population (92.3%), but only 42.3% of pharmacists would like to extend the time

allocated to these activities. Among the pharmaceutical services provided in pharmaceutical establishments, blood pressure measurement (96.1%) and administration of injectable drugs (92.3%) are the most frequent. It was interesting to note the high frequency of clinical pharmaceutical services provided, such as pharmaceutical care (73.1%) and pharmacotherapeutic follow-up (46.1%), however only 57.7% of establishments carry out the registration of clinical services provided to patients. It was expected to observe a greater proportionality between these services, since they are dependent and groupable. When assessing knowledge about Pharmaceutical Care and Clinical Pharmacy, a low understanding of these concepts was observed and check the evidence of clinical pharmaceutical services provided, most do not have formal registration. In addition to this data, a procedure (ear washing) was detected that is not covered by law to be performed in pharmacies and drugstores. Through this study it was possible to observe that most establishments comply with Good Pharmaceutical Practices, but points out the need for professional updating of pharmacists from Mariana and Ouro Preto for the effective and efficient exercise of pharmaceutical care to individuals who need Clinical Pharmacy.

Ethics Committee approval protocol:
1888199419.4.0000.5150

EVALUATION OF THE EDUCATIONAL PHARMACEUTICAL INTERVENTION IN CONTACTS OF PATIENTS WHO HAVE COMPLETED THE TREATMENT OF LEPROSY, IN FAMILY HEALTH UNITS

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In Paraguay, the Family Health Units constitute an articulation of the National Leprosy Control Program, where pharmacists have opportunities to carry out interventions in leprosy patients and their contacts. The objective of this study was to evaluate an Educational Pharmaceutical Intervention in contacts of patients in five family health units of districts in the Central department in Paraguay. A quasi-experimental study was carried out. Outcomes to measure the effectivity of the Educational Pharmaceutical Intervention were knowledge about leprosy and its treatment, and quality of life indicators. Three personalized home interviews were carried out in 20 contacts in 2017, using validated instruments. After the Educational Pharmaceutical Intervention, knowledge about all aspect of the disease improved significantly disease's definition: $p = 0.001$; incubation period: $p < 0.00001$, transmission by prolonged contact with patients: $p = 0.0007$; contact evaluation: $p = 0.019$, frequency

to monitor new lesions: $p < 0.00001$; leprosy reactions $p = 0.00399$; cause of reactions: $p < 0.00001$; on treatment start of treatment: $p = 0.001$; free treatment: $p = 0.02$; post-treatment medical follow-up: $p = 0.02$; frequency of medical control: $p = 0.00038$; duration of follow-up: $p = 0.011$. Despite an increase in the scores of the different dimensions of quality of life (77.76 vs. 78.38, $p = 0.758$) was observed, the difference was not significant. The educational intervention improved the knowledge about the disease and the scores of the quality of life dimensions in the contacts, showing the importance of the pharmacist as a health agent.

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DIABETES TRACKING USING FINDRISC METHOD IN ALFENAS CITY

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In 2018, The Federal Pharmacy Council together with the Brazilian Diabetes Society developed a Diabetes tracking project, entitled: “Diabetes has no face, Take the Test”. The project was launched in a campaign using voluntary pharmacies throughout the Brazilian territory. The campaign consisted of applying a tool validated and developed in Finland - Findrisc (Finnish Diabetes Risk Score), by Professor Jaako Tuomillehto, in 2001. Findrisc is a questionnaire that evaluates abdominal circumference, BMI (Body Mass Index), lifestyle, degree of kinship with people with diabetes and the capillary blood glucose test, estimating the risk of the patient to develop diabetes mellitus in 10 years. The Ministry of Health estimates that 46% of the population may have diabetes or pre-diabetes and have not been diagnosed yet. Regarding the importance of the tracking, the extension program Pharmaceutical Care Center of Unifal (“NAFAU”), through its pharmaceutical office located at The Medicine Distribution Center in Alfenas, participated in the

campaign from November 2018 to January 2019. There were 64 patients interviewed, being patients between 18 and 40 years old (48.43%), aged between 40 and 60 years old (43.75%), and only 7.8% older than 60 years. Among these, 20.31% had a low risk of developing type 2 diabetes (1 out of 100 patients), 37.5% had a slightly moderate risk (1 out of 25 patients), 18% had a moderate risk (1 out of 6 patients), 17.18% are at high risk (1 in 3 patients) and 6.25% are at very high risk (1 in 2 patients). Each patient was instructed on their risk of developing diabetes and the importance of changing their life habits and when necessary, they were referred to a doctor and for pharmacotherapy follow-up. The work allowed academics to apply theoretical knowledge in clinical practice and to patients, to be aware of the risk of having diabetes mellitus.

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EXPANDING THE KNOWLEDGE IN HEALTH -SOCIAL MEDIA FOCUSED ON COVID-19

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Modernity and the facilities that social media have allowed for a greater connection between people and the world. It is noticeable the strength and importance that these media have and how we need to take advantage of that strength to disseminate reliable information. In view of the pandemic of the new Coronavirus (Sars-CoV-2), which caused COVID-19, there was a rapid spread of untrue and incomplete information about this new disease. Information is one of the main means of prevention against SARS-CoV-2. Thus, there was a need to disseminate reliable information, based on scientific information, with the ability to reach the population. The Ampliando Saberes em Saúde (ASS) project aims to meet the need for the production of educational scientific content about COVID-19 to be disseminated on the main social media, informing the population about COVID-19 through Facebook and Instagram with a simplified and accessible language, with scientific basis. The project is developed in 4 stages, divided as follows: 1- research on subjects that are on social media or television networks and need to be explained, 2- bibliographic review on scientific database on the selected topic, 3- preparation of material (folders and videos) and review by the supervising professor and 4- posting and dissemination on the

project's social networks, weekly. The social network Instagram is the main focus of the project. In this media, the project had a reach of 432 followers in 6 months, with 96 posts. The public of the ASS page on Instagram is composed mainly of followers from Ouro Preto (25%) and Belo Horizonte (17%), other followers are in São Paulo (4.3%) and Conselheiro Lafaiete (3.6%). The predominant age group is 18 to 34 years old (79%) and the public is predominantly female (69%). Each story reaches an average of 60 people. The post with the highest audience received 333 views. Weekly impressions exceeded 1000 views. In addition, on Facebook, the project page reached 83 likes and 89 followers. With this project it was possible to disseminate accessible and scientifically based information about COVID-19 to the population. With the use of digital platforms, it was possible to reach followers in several cities in the country, a fact that would not be possible with a project carried out in person. Even in a time of pandemic, the ASS project achieved its main objective, which is the health education of the population, and it is hoped that the content produced can raise awareness among the population and ease the circulation of the virus in our society.

COMPREHENSIVE MEDICATION MANAGEMENT: AN ANALYSIS OF PHARMACEUTICAL SERVICE INDICATORS

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Comprehensive medication management (CMM) is a clinical service based on the theoretical-methodological framework of pharmaceutical care that helps individuals using medicines to achieve their treatment goals. However, several barriers hinder its implementation and sustainability; thus, strategies based on the science of implementation to operationalize and develop the CMM service are increasingly used. However, to the best of our knowledge, there is no literature description of the most suitable CMM service indicators. This review aims to describe the indicators used to assess the CMM service found in the literature. A literature review was carried out by consulting the MEDLINE, Cochrane, and Lilacs databases. To perform the searches, the following strategy of combining descriptors, their inter terms and free terms was used: ("Medication therapy management (MTM)" OR "Pharmaceutical services") AND ("Implementation Science" OR "Health plan implementation") AND ("Quality Assurance", "Health Care" OR "Quality improvement" OR "Quality Indicators, Health Care"). For the presentation of the results, the simplified categorization proposed by Donabedian was used: structure, processes, and results. Fourteen studies were included containing the description of services with different levels of maturity. The indicator that stands out most in structure is the number of employees available to perform the service. Another important aspect is the monetary costs involved in offering the service, such as materials used in the service and collaborators' salaries. In addition, marketing strategies are essential to attract potential users of the CMM service. Regarding the processes, the

most common indicators were related to patient selection/evaluation and identification of Drug Therapy Problems (DTP). Another essential aspect is productivity, which can be measured by the duration of consultations, number of consultations per day, the capacity for patient attendance/day, and the waiting time to be attended. Such parameters influence the number of people served and its impact on the patient's life and the health system. Measuring the impact of the service on the patient's life, the achievement of therapeutic objectives, the number of resolved DTPs, as well as clinical and laboratory parameters can be used as indicators. Concerning the service itself, patient and/or doctors' satisfaction, type of interventions, the number of accepted interventions and absenteeism can be measured. As to the impact of the service on the health system, one can observe the reduction in hospitalizations and emergency services, besides cost reduction, return on financial investment and income generation. It is noteworthy that most authors cited the documentation as an important evaluation criterion, but objective parameters were not listed to evaluate it. The search for uniform parameters and greater clarity in the CMM service indicators is essential to allow comparability among the clinical, economic, and humanistic results of the services, contributing to improving their quality. Therefore, this review reinforces the relevance of sharing the processes and metrics used to achieve the best results with the CMM service. It is imperative to develop more studies that explore the standardization of indicators for this service.

TEACHING EXPERIENCE REPORT: USE OF THE ONLINE FORUM AS A LEARNING TOOL ON THE RATIONAL USE OF MEDICINES

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The establishment of the global emergency situation due to the pandemic of the new coronavirus led to the suspension of classes of 14.000 students from 51 classroom courses at the Universidade Federal de Ouro Preto, in the beginning of March 2020. Due to the need for social isolation, the Special Academic Period (SAP) has become an alternative that enables students to take courses remotely, among them Pharmacology III offered in the fourth year of the Pharmacy course. To maintain the quality of the teaching-learning process, it is necessary to use tools that enable the active participation of students and teachers, with the Forum being a virtual environment that allows this dynamic. In view of the relevance of the rational use of medicines (RUM), it was proposed to the 24 students enrolled to discuss the topic in a forum. The purpose of the report was to analyze the Forum tool as an environment for discussion on relevant topics. Using the Moodle platform, a Forum was created to discuss RUM. This theme was previously presented to students in a synchronous class, with the presentation of concepts and methodology recommended by the World Health Organization (WHO) and Pan American Health Organization (PAHO) for the selection of drugs and treatments based on effectiveness, safety and comfort. The discussion in the forum was guided by the following question: “Based on the knowledge of the entire drug chain, from the production of the raw

material to the use and monitoring of the patient who uses it, and based mainly on the knowledge of pharmacology in favor of URM, what are your potential contributions as a pharmacist? Also use practical examples.” The contributions made by the students and the comments made by the teacher were made available to the other participants of the Forum, which ended with 53 comments. Among the 53 contributions made by students and teachers, 17 bibliographical references were cited by 12 students. From the analysis of the discussion in the Forum, the terms most frequently addressed by students were selected: “costs” (in 12 contributions), “adverse reactions” (in 13 contributions), “safety” (10 times), “drug interactions” (9 times), “dispensation” (8 times), “orientation” (15 times), “dosage” (9 times), “pharmaceutical care” (4 times), “multidisciplinary team” (5 times), “self-medication” (4 times), “polypharmacy” (5 times) and terms related to the drug production chain (in 6 contributions). The virtual environment proved to be effective for discussing relevant topics, with contributions from all students, based on good quality scientific articles. It is concluded that the Forum tool proved to be efficient as a learning space, being able to extend beyond the SAP, since it is a democratic space, which allows the active construction of knowledge by the student, while the teacher exercises the function of guide, mediate and encourage this collective construction.

HEALTH EDUCATION PROGRAM FOR PATIENTS WITH TYPE 2 DIABETES MELLITUS ATTENDED BY THE UNIQUE HEALTH SYSTEM

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Diabetes Mellitus (DM) is a chronic disease, considered by many researchers as one of the most serious public health problems today. Before this reality, education for self-management of the disease must be seen as fundamental to offer the patient knowledge, attitudes and skills necessary for effective care with the disease and for changing behaviors, especially in the management of drug therapy. It is in this context that the importance of the pharmacist's role in the pharmacotherapeutic follow-up of diabetic patients is perceived. The aim of this study was to assess the impact of health education on patients with DM2 who are users of the Unique Health System. A randomized controlled clinical trial was conducted, lasting six months, in Sabará, Minas Gerais. 100 individuals enrolled in the Hiperdia Program, aged ≥ 18 years and glycated hemoglobin (A1C) $\geq 7\%$, were invited to participate in the study. These volunteers were randomized to receive only usual health care or usual health care and pharmaceutical intervention. The health education and pharmacotherapeutic

follow-up project was carried out through individual monthly consultations to collect information, identify problems related to the use of medicines (PRM) and educate volunteers to resolve PRM. The primary end point was the A1C level and the secondary end points were the number of PRM. Seventy-three (73%) volunteers completed the study. In the control group, the most common PRMs were adherence (56.5%), effectiveness (34.8%) and safety (8.7%). The same pattern of PRM was observed in the intervention, adherence (65%), effectiveness (32.5%) and safety (2.5%) group. In the intervention group, compared to the control group, there was a significant reduction in A1C levels ($8,68\% \pm 1,61$ vs. $10,69\% \pm 1,56$ $p = 0,001$). It was possible to certify that health education was effective in reducing the A1C levels of SUS users with type 2 diabetes mellitus.

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CLINICAL IMPACT OF A COMPREHENSIVE MEDICATION MANAGEMENT SERVICE IN PRIMARY HEALTH CARE TO OLDER ADULTS

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The aging process, when combined with the presence of diseases, can increase functional dependence and change the safety and effectiveness of the pharmacotherapy. Therefore, the use of medications in the older adults presents specific demands. Thus, care for geriatric patients is challenging and medication management aimed at this group of patients is necessary. In this scenario, the comprehensive medication management (CMM) service is particularly relevant, since it is a clinical service aimed at optimizing pharmacotherapy and achieving good therapeutic results by using the theoretical methodological framework of pharmaceutical care. Primary Health Care (PHC) is an important scenario to implement CMM service, as it is the main gateway to the Brazilian Unified Health System. In this perspective, this study aimed to evaluate the clinical results of CMM services to older adults in the Brazilian PHC setting. To this end, a quasi-experimental longitudinal study with a single group of patients was developed. The investigated population comprised all older adults followed in the CMM services offered in the PHC setting of three cities (Belo Horizonte, Lagoa Santa and Betim – Minas Gerais) that had attended to at least two CMM consultations (n=508). The clinical impact was evaluated through the clinical parameters of the most frequent health problems among the older patients, which was hypertension, diabetes and dislipidemia (systolic blood pressure – SBP; diastolic blood pressure – DBP; glycated hemoglobin - HbA1c; Low density lipoprotein cholesterol - LDLc; and Total Cholesterol - CT).

The clinical parameters were comparing before and after CMM services were offered by using t test (for normal distributed variables) or signed rank test (for nonparametric variables). For HbA1c, the initial mean was higher than the final (8.0 ± 0.3 vs 7.5 ± 0.3 ; $p = 0.012$); the same occurred for LDLc (122.5 ± 5.8 vs 110.0 ± 4.8 ; $p = 0.008$), SBP (132.1 ± 1.1 vs 127.9 ± 1.0 ; $p = 0.001$) and DBP (80.2 ± 0.7 vs. 78.0 ± 0.6 ; $p = 0.004$). There was no statistically significant difference for CT (200.9 ± 6.7 versus 192.3 ± 5.6 ; $p = 0.080$). With regard to the analysis of the clinical impact of the service in question, a statistically significant decrease was found between the initial and final means of HbA1c, LDL, SBP and DBP, there was no statistically significant difference for total cholesterol. These data demonstrate the positive evolution of clinical parameters for the most prevalent chronic diseases when patients receive CMM services in the primary health-care setting. This fact shows the positive clinical impact of this service. However, studies that present this service to the older people are incipient. The research team hopes that this research will enable the institutionalization of CMM services for the older adults, becoming a reference for practice, teaching and research in CMM in Brazil.

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MEDICATION ERRORS IN BRAZIL A LITERATURE REVIEW

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Medication errors (ME) comprise one of the most common incidents among the causes of harm to patients at different health systems. They can prolong hospital stay, burden the health system, and decrease the quality of care. In the early 2000s, the first Brazilian studies focusing on ME were carried out. During these two decades, several pieces of research have been developed on this theme in Brazil. Given this, the present review aims to bring together studies that described the frequency and nature of ME and the notification process for medication errors in Brazil. A literature review was carried out by consulting the MEDLINE (PubMed), LILACS, and SciELO databases. The search strategy prepared for this review was: ("Medication Errors" [Title / Abstract] OR "prescribing errors" [Title / Abstract] OR "prescription errors" OR "dispensing errors" [Title / Abstract] OR "administration errors" [Title / Abstract] OR "Transcribing errors" [Title / Abstract] OR "Medicine preparation error" [Title / Abstract] OR "Monitoring error" [Title / Abstract]) AND (Brazil). Twenty-seven studies covered the theme of the present review, eleven of which addressed medication errors in general, and the others specifically focused on prescription errors (n = 8), dispensing errors (n = 1) and administration errors (n = 7). Among the included studies, two were developed in primary care, the others, in the hospital environment. When taking into consideration the findings regarding prescription

errors, it is noted that the omission of important information for the proper use of medications and the use of abbreviations can lead to the occurrence of errors and imply serious risks to patient safety. Moreover, only one assessed dispensing errors, with the most frequent errors being "underdose" and "overdose". Regarding administration errors, it was observed that the most frequent subtypes of errors were omission, dose, schedule, and administration technique. It is important to note that one of the studies found that the daily presence of a pharmacist in the wards was associated with a lower frequency of omission errors in a statistically significant way. Another essential aspect of preventing ME, especially in the preparation and administration of medications, refers to interruptions during activities in medication systems. It is necessary to promote measures capable of reducing interruptions in professionals' workplaces causally linked to the medication process. Considering that ME occur due to multifactorial causes, several strategies to prevent them are essential to promote patient safety and the quality of care provided. Among the prevention strategies punctuated in the studies, pharmaceutical interventions carried out after detecting potential prescription errors stand out. Above all, in the context of care transition, when pharmacists perform drug reconciliation to guarantee the transfer of complete and correct information about the drugs in use.

CLINICAL OUTCOMES OF PHARMACEUTICAL SERVICES OFFERED TO PEOPLE LIVING WITH HIV: A LITERATURE REVIEW

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Although antiretroviral therapy (ART) has an impact on improving the life expectancy of people living with HIV (PLHIV), some factors can hinder the continuity of treatment, such as the complexity of pharmacotherapy, drug interactions, adverse effects, therapeutic failures and non-adherence. In addition, PLHIV may present other health problems that are not related to HIV and that require medication use, which enhances pharmacotherapy's complexity. Taking this into consideration, clinical pharmaceutical services have the potential to improve health outcomes and optimize the pharmacotherapy of PLHIV. The present review aims to describe the pharmaceutical clinical services offered to PLHIV. An integrative literature review was carried out by consulting the MEDLINE, and Lilacs databases using combinations of the following keywords: "HIV", "Pharmaceutical Services", "Medication Therapy Management", "Pharmaceutical Care". A total of 354 articles were identified, and 23 of those were included in this review after sequential assessment of titles and abstracts, and full text by two researchers.

Among the selected studies, 2 described medication reconciliation services and pharmacotherapy review; 8 described health condition management services; 4 described health education services; and 9 described pharmacotherapeutic follow-up. Through this review, it was possible to observe that the pharmacists who offered these services promoted better adherence to ART, the identification and resolution of drugs-related problems, and carried out health education interventions. Four pharmacotherapeutic follow-up studies showed positive impact on clinical parameters of viral load of HIV and CD4 T lymphocytes counting of PLHIV. Therefore, even though there was a low number of studies identified on this review, many of them showed that pharmaceutical services have potential to improve clinical outcomes in this population, with emphasis on the pharmacotherapeutic follow-up services. However, more studies are still needed to robustly assess the clinical, humanistic and economic impact of these services.

DISCRIMINATION IN THE CONTEXT OF COMPREHENSIVE MEDICATION MANAGEMENT SERVICES: HOW CAN PREJUDICE OF RACE AND GENDER AFFECT PATIENT CARE?

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Comprehensive Medication Management (CMM) is a service that involves a face-to-face relationship with the patient and therefore requires the pharmacist to perform humanistic skills such as the ability to communicate and understand the socio-cultural context in which the patient lives. In this scenario, the development of what we call “Socio-critical literacy” is fundamental, in that the pharmacist must be able to identify and assess the impact of issues related to gender and race on people's lives. Thus, the objective of this research is to identify the forces and elements necessary to develop this skill through an auto-ethnographic study of a clinical pharmacist who is black woman with patient care experience for the last 16 years. A systematic literature review is currently being conducted. Preliminary results show that racism combined with sexism provide a very harmful health care environment for black women, who receive late and negligent treatment of their needs. Some women complain about the inhumane treatment they received from health professionals. This leads to negative repercussions for the progress of CMM services, with greater complexity in pharmacotherapy, recurrence of untreated conditions and low dose. In the work environment, other professional roles also have shown poor treatment quality offered to black women, which have caused strong indignation among the other professionals upon a clear and unfair treatment coming from a white health care

provider. Regarding teamwork, it has been evident that the interactions between professionals are interrupted by asymmetric power relations. Healthcare professionals working outside the Family Health Team are less valued, which is accentuated when these professionals are black and women. This unevenness situation among these professionals prevents a rich discussion of clinical cases, hindering the implementation of interventions in all forms, which includes interventions to resolve drug-related problems. The difficulty in engaging in a dialogue where all voices are heard is a major obstacle to the dynamics of the work process in primary health care and it needs interventions. However, an environment familiarized to hierarchical interprofessional relationships prevents progress, especially when managers are used to a dynamic where everyone speaks, but only a few are really heard. This silencing logic can also be evidenced in the classroom, where the spaces for discussing clinical cases are spaces for disputes and not for critical learning. It is hoped that with the introduction of the new pharmacy curriculum, issues such as racism and sexism will stimulate a more critical education in the classroom. Moreover, a new type of education might improve interprofessional relationships based on mutual respect and a more humane and effective professional-patient relationships regardless of any form of prejudice.

POTENTIALLY INAPPROPRIATE MEDICATIONS USE AND POLYPHARMACY IN ELDERLY PATIENTS ATTENDED BY A PHARMACY SCHOOL

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The increase in longevity brought important changes in the population's morbidity profile. The predominance of chronic noncommunicable diseases in geriatrics makes the prescription of medicines increasingly extensive and complex. These aspects, added to the specific physiological changes of the aging process, predispose the elderly people to an increased risk of problems related to pharmacotherapy. One of the most important factors that influences the therapy complexity is the high prevalence of polypharmacy, which can lead to a higher incidence of adverse events and the prescription of Potentially Inappropriate Medications (PIMs). The aim of this study was to describe the profile of medicines used by the elderly attended at the Pharmacy School of the Federal University of Ouro Preto (UFOP), with a focus on patient safety. This is a cross-sectional descriptive study carried out at a University Pharmacy linked to a primary health care unit of the Brazilian National Health System (*Sistema Único de Saúde* -SUS). Data collection occurred from September 09 to December 09, 2019. The data were obtained through personal files and prescriptions of patients, aged 65 years or over, and residing in

Ouro Preto, Minas Gerais state/Brazil. The medicines were classified according to the Anatomical Therapeutic and Chemical Classification, and those considered PIMs for the elderly were identified according to the Beers Criterion, 2019. During the study period, the 161 elderly registered at the Pharmacy School consumed 671 medicines, an average of 4.1 per elderly. The most used were the cardiovascular medicines (60.1%). Polypharmacy was found in 40.3% of the elderly and PIMs were identified in 24.2% of patients. It was also observed that the majority of PIMs were found in the prescriptions of elderly people submitted to polypharmacy. Understanding the factors associated with polypharmacy and the prescription of inappropriate medications in the context of primary health care is essential for the implementation of strategies aimed at safer medicines use by the elderly.

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PHARMACISTS ROLE IN PATIENT SAFETY: EVALUATION OF DISPENSING ERRORS IN A MICROREGIONAL HOSPITAL

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The medication process in hospitals is highly complex, which can create circumstances that lead to errors. Patient safety, understood as reducing the risk of unnecessary harm associated with care, has been considered a priority attribute of the quality of health systems worldwide. Understanding the medication use processes in hospitals and the determinants of these errors are essential strategies to conduct actions aimed at their prevention, and, consequently, to qualify health care. Thus, the objective of the present study was to analyze the dispensing errors identified by the pharmacy of a micro-regional hospital. This is a cross-sectional study carried out in a medium-sized micro-regional hospital (118 beds) of Minas Gerais state/Brazil, from July 2019 to June 2020. Dispensing error was defined as a discrepancy between the order in the prescription and compliance with this by the pharmacy when dispensing medicines to the hospital's inpatient units. Data were collected at the time of the medicines dispensation to the nursing team and tabulated in a Microsoft Excel® spreadsheet. Dispensing errors were classified considering the list of standardized medicines and the current hospital dispensing norms during the study period. There were identified 380 dispensing errors in the 19,655 assembled prescriptions, an error rate of 1.9%. September 2019 and February 2020

presented the highest rates (3.6% per month). A high prevalence of errors was identified in women (n=165; 53.4%) and in the elderly with 65 years or older (n=140; 36.9%). The most prevalent dispensing errors was the omission of dose (number of doses dispensed less than prescribed) and/or omission of medicine (n=165, 42.8%). A total of 101 drugs were enrolled with dispensing errors. Regarding the therapeutic groups, antibacterial for systemic use (n=38, 12.6%), blood substitutes and perfusion solutions (n=37, 12.3%) and antithrombotic (n=34, 11.3%) were the main medicines involved with errors. Taking into account the hospital sector, the prescription from medical clinic presented the highest dispensing errors rates (n = 115; 30.3%). Dispensing errors are frequent in the hospital environment and the goal of every pharmacist is to minimize them. Implementation of barriers and actions to reduce the occurrence of flaws in the medication system has a fundamental role in ensuring patient safety.

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COVID-19: A HEALTH EDUCATION PROGRAM FOR COMMUNITY HEALTH AGENTS AND ENDEMIC FIGHT AGENTS IN OURO PRETO-MG

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COVID-19 is a disease caused by the new coronavirus, SARS-CoV-2. The spread of the virus began in the city of Wuhan in China in December 2019 and in early 2020 the disease spread to several countries, being characterized in March 2020 as a pandemic. The COVID-19 pandemic required a major change in habits from human society. The main ways of preventing contamination by SARS-COV-2 require behaviors that have hitherto been little cultivated, such as social distance and strict hygiene measures. Therefore, an educational process is necessary to raise public awareness of the importance of these measures. Community Health Agents (CHA's) and Endemic Combat Agents (CHA's) as members of the family health team in direct and closest contact with the population, in this experience of the COVID-19 pandemic have become extremely important and relevance; this for its role in the identification, reporting and handling of suspected and confirmed cases. In this context, this work aims to contribute to the education of ACSs and ACEs on Covid-19, so that they can assist in educating the population about the disease and in tracking and monitoring cases in the municipality of Ouro Preto. For this, a partnership was established with the Health Secretariat of Ouro Preto and the project was approved by the UFOP Research Ethics Committee. The training started in September 2020 and is expected to end in December 2020, the stages were divided into three main themes: general aspects of COVID-19 and its prevention, tracking and monitoring and treatment and vaccine development for COVID-19. Due to the need for social isolation, distance

learning is being carried out through the Ufop Open Platform, made available by the Distance Education Center (CEAD) at UFOP, where study materials (video classes, videos and folders) are posted weekly. and instruments for evaluating the course development (questionnaires). Of the 131 invited professionals, 35 never accessed the teaching platform adopted for the training. In relation to professionals who never accessed the platform 12 are ACE (54.54%) and 23 (19.32) are ACS. The initial period for completing the course was 8 weeks. Within this period, 35 professionals finished the course on the scheduled date, totaling 35.96% of the professionals who started the course. The second deadline for payment is scheduled for December 2020. In view of the seriousness of the COVID-19 pandemic, measures that can help control the spread of the disease are essential and health education is one of them. Although these health education actions cannot take place in person due to the prevention of the disease itself, the available technologies allow us to carry out the entire course remotely. Thus, it is concluded that health education using the distance education system is an effective and viable strategy to train health professionals to combat and control various diseases, such as when facing COVID-19, a public health problem that causes social and economic difficulties.

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IMPORTANCE OF THE DIABETIC PATIENT'S SELF-CARE MANAGEMENT DURING THE COVID-19 PANDEMIC: AN EXPERIENCE REPORT

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In late 2019, the Chinese city of Wuhan, Hubei province, reported a new pneumonia caused by the new SARS-CoV-2 coronavirus that spread across the country and the world in the form of a COVID-19 disease pandemic. Patients with chronic non-communicable diseases (NCDs) are known to be more susceptible to COVID-19. From the first reports of the disease in Wuhan, a high frequency of diabetic individuals was observed among hospitalized patients with severe illness. The complex interaction between COVID-19, Diabetes Mellitus (DM) and the effects of related therapies has been widely studied. It is known that in people with this pathology, especially those with uncontrolled glycemia, the immune system and humoral immunity are compromised. The treatment of DM involves multiple factors, including control of blood glucose and associated complications, as well as the use of medication appropriate to each type. To achieve the therapeutic success of DM, there is a need for self-care actions performed by the patient, including the practice of physical activities, the adoption of an eating plan, as well as the control and monitoring of blood glucose. The present study aimed to assist diabetic patients in the city of Ouro Preto, Minas Gerais, to cope with the COVID-19 pandemic, since patients without glycemic control are more likely to have complications when they contract the new coronavirus, which characterized as a risk group for the disease. In view of the current pandemic scenario, as well as the WHO guidelines for restricting social interaction and agglomerations, as a way of preventing contagion, the actions to perform this project were carried out remotely. Booklets and videos were produced for diabetic patients registered in Primary Health Care (PHC) in the city with the support of Basic Health Units

(BHUs). These materials were sent, through Whatsapp® groups, to diabetics and Community Health Agents (CHA), which expanded the access of the materials to the target patients, due to their close contact with the communities. Additionally, they were also published on Instagram® of a partner extension project, *Ampliando os Saberes em Saúde* (ASS_UFOP_projeto de extensão), from May to September 2020. The topics were related to the importance of regular physical activity, healthy eating, glycemic control and monitoring and increased expiration date of prescriptions. With attention focused on the most vulnerable population in the face of this pandemic, it is expected that with health education carried out with patients, the numbers of serious cases that require hospitalization can be minimized. In view of the importance of preventive measures and that not all the population has access to quality information, this work contributes to improving the community's level of knowledge about effective measures to maintain health and quality of life in this delicate moment of the COVID-19 pandemic. Then, it is concluded that studies with diabetic patients are relevant to outline strategies or develop health education programs for their better quality of life and damage control. Multiprofessional work, using technological tools, can be fundamental for this moment that we are living.

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EFFECTIVENESS OF PHYTOTHERAPY IN INSOMNIA TREATMENT IN THE OLDER ADULTS A SYSTEMATIC REVIEW

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Insomnia is a prevalent sleep disorder with a negative impact on the health and daily activities of the older people population. Benzodiazepines are used routinely for insomnia treatment in the older adults, but their prolonged use can compromise memory and cognition. An alternative to insomnia treatment is the use of herbal medicines. Besides, it is essential to highlight that aging has consequences for developing physiological changes that can lead to pharmacokinetics and pharmacodynamic changes in the older adults pharmacotherapy. In parallel, the older adults do not have a good representation in clinical trials, and the effectiveness of pharmacotherapy applied to this group is challenging to make a scientific inference. This systematic review evaluated the effectiveness of herbal medicines in insomnia treatment in the older adults. The databases Medline (PubMed), Cochrane Library, PsycINFO and Lilacs were consulted, beyond the search in gray and manual literature. The terms used in the strategic search included disturbances of the initiation and maintenance of the older people's sleep, phytotherapy, plant extracts, teas, medicinal plants and herbal medicines. Three hundred and four publications were identified. Two studies were included; one evaluated the use of sour cherry juice (SCJ) and the other the chamomile extract. Regarding the techniques used in the studies, the intervention occurred through a randomized, placebo-controlled, double-blind study for sour cherry juice and a controlled randomized, single-blind study for chamomile extract. Patients' behavior and reports were observed over a few days concerning the state of sleep and

wakefulness to assess the intervention's effectiveness. It was observed that the use of SCJ was associated with a significant reduction in the severity of insomnia and the sequence after the sleep onset. The results suggest that the use of SCJ has modest beneficial effects on sleep in older people with insomnia. However, it is essential to note that this study had limitations in terms of the number of participants (n = 43) and post-intervention follow-up time. The treatment group with chamomile capsules (200 mg) used two capsules per 24 hours for 28 consecutive days. Sleep quality was assessed through interviewing the participants using the PSQI instrument at four-time points, namely immediately before the intervention (T1), two weeks after the beginning of the intervention (T2), immediately after the completion of the intervention (T3), and two weeks after the completion of the intervention (T4). At T1 and T2, between-group differences regarding the mean score of PSQI were not statistically significant, while at T3 and T4, those differences were statistically significant (P = 0.007 and 0.002, respectively). So, the authors concluded that chamomile extract could significantly improve sleep quality among the older people. Thus, it can be used as a safe modality for promoting older people's sleep. Therefore, the present review found that the use of SCJ and chamomile extract contributed to improving the quality of sleep among the older adults. Nevertheless, there is a need for further studies to ascertain the effectiveness of phytotherapy in insomnia treatment in the older people.

THE LASATER CLINICAL JUDGMENT RUBRIC-BV AND EVALUATORS' TRAINING AND STANDARDIZATION FOR CLINICAL PHARMACY USES

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The Lasater Clinical Judgment Rubric (LCJR) instrument evaluates health student's clinical skills. Although it has demonstrated strong reliability and validity, there is little evidence on whether the scores are influenced by evaluators' subjectivity. To describe a method of evaluators' standardization in the use of the LCJR-Brazilian Version (BR). Following a descriptive design, multicenter clinical judgment data was collected from pharmacy students in their final graduation year. The three evaluators subject to the standardization method underwent four steps. 1: evaluators selected according to the established criteria. 2: online meeting to confirm the clarity and relevance of the instrument's items. 3: a form was developed comprising script's objective information according to the eight JCJR-BR dimensions (marked with exemplary, accomplished, developing, and beginning performance) and sent to ten experts, who independently assessed the form concerning the organization, objectivity, clarity, legibility and content understanding. 4: five simulation videos were sent to the three evaluators for a triple-blind and independent rating of students' performance; a second online meeting allowed for evaluators to discuss scores and disagreements, setting the norms for clinical judgment. Results were statistically compared, mainly through the Cronbach's alpha coefficient. The evaluators'

rated equally the students' performance concerning seven of the JCJR-BR dimensions i.e. "Focused observation", "Prioritizing data", "Recognizing deviations", "Information seeking", "Making sense of data", "Being skillful" and "Clear communication", thus matching in 100% their use of "exemplary", "accomplished" or "beginning" marks. The "Confident calm" dimension obtained also the "developing" mark. The Cronbach alpha of each dimension varied between 0.879 and 0.933, indicating high internal consistency. The LCJR-BR can be adapted to assess the clinical judgment of pharmacy undergraduates. The evaluators' standardization method was successful in reaching a high level of evaluators' agreement, confirming the reliable application of the instrument in a pharmacy practice setting.

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PREPARATION AND ADMINISTRATION OF PROTON PUMP INHIBITORS VIA ENTERAL TUBE: A LITERATURE REVIEW

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The administration of medication via feeding tubes is frequent in daily clinical practice, despite presenting several challenges in terms of the procedure in general and, specifically, for some classes of drugs, such as proton pump inhibitors. In the literature, the use of this class of drugs through feeding tubes is considered complex and questionable. In this context, the present study aims to provide recommendations for the preparation and administration of proton pump inhibitors via enteral tube. A literature review was performed in the Pubmed and Lilacs databases, using descriptors and free terms referring to proton pump inhibitors, enteral nutrition and feeding tubes. Of the total of 1,583 articles retrieved, those that addressed the techniques chosen for the preparation and administration of proton pump inhibitors via enteral tube were selected, with 25 articles being selected. *In vitro* and *in vivo* studies that describe the technical, pharmacokinetic and clinical limitations in the preparation and administration of this class of

drugs were found. Many procedures for preparing and administering proton pump inhibitors were described in the study, including the solubilization of proton pump inhibitors using sodium bicarbonate solution or acidic juices. The parenteral route has also been suggested as an alternative route of administration for this class in some studies. However, most of the studies emphasized that for the selection of the best administration procedures, the reality of each institution and the patient's clinical profile must be taken into consideration. Therefore, this review compiled relevant technical information on the administration of proton pump inhibitors via feeding tube, in order to assist healthcare professionals in the selection of an appropriate of proton pump inhibitors for the institution and preferable route for the administration. On the other hand, it is important to point out the divergences and fragility found in the reviewed literature, which shows the challenges and gaps in this field of knowledge.

CLINICAL JUDGING'S COMPETENCES OF PHARMACY STUDENTS: MULTICENTRIC STUDY IN BRAZILIAN FEDERAL UNIVERSITIES

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The high level of clinical judgment's proficiency at the end of Pharmacy education could represent a good improvement on Health Care Systems. To analyze the clinical judgment competence levels of pharmacy students in their final year of graduation. This multicenter, descriptive study with 110 pharmacy students from five federal universities, one from each Brazilian administrative region, assessed the competence of clinical judgment in a simulated high-fidelity scenario developed with best practices. The five different simulated patients were trained and standardized to complain of signs/symptoms of mild allergic rhinitis. Students received learning objectives and clinical protocols 7 days before the simulation. The role-plays were recorded and the evaluation carried out after standardization of the evaluators, using the instrument Lasater Clinical Judgment (LCJ). Each performance was evaluated by two different evaluators and a third one analyzed the discrepancies. The analysis consisted of descriptive statistics with estimates of proportions and percentiles. Most of students' clinical judgment performances were scored as 'beginner' (21.0%) or 'under development' (60.0%). The 'accomplished' (17.0%) and 'exemplary' (2.0%) levels are enough to do a professional task, but the minor part of students

had these scores. Considering the LCJ prevails the developing level for the dimensions 'Focused observation', 'Prioritizing data', 'Recognizing deviations', 'Information search' and 'Clear communication' (from 41.0 to 62.0%). The 'Making sense of data' dimension was classified as beginning level to 46.0%. The 'Calm confident manner' was accomplished level for 45.0% of students. The exemplary level was associated to 'Being skillful' (50.0%). The students had some difficulties in achieving a good level of clinical judgment skills to perform patient care. The evaluation of undergraduate curricula and of teaching methods is necessary to indicate ways to improve the performance level at least to 'accomplished' before the students join in the pharmacy profession.

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EDUCATIONAL APPROACHES TO SEXUALITY AND THERAPEUTICS FOR WOMEN'S HEALTH

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A recent study showed the lack of knowledge among university students of UFOP about methods of prevention of Sexually Transmitted Infections (STIs) or pregnancy and it seems that the university has not played its role as a source of information and guidance on this relevant topic for future health professionals, requiring assessments and restructuring on this matter. The objective was to produce material containing accurate, specific and attractive information on relevant and current topics on women's health in various formats. All the information was obtained on primary and secondary scientific information sources and the assembly of the products was carried out in clear and objective language in the following subjects: intimate hygiene, the use of contraceptives, prevention/ recognition of STIs and complementary therapy of Premenstrual syndrome (PMS), among others. There were made and posted 42 products on Facebook, reaching a total reach of 23,773 people in 189 days, according to the own website statistics. Hashtags

about the content of the products were defined and each post was identified. The application has mechanisms and algorithms to detect the audience engagement reached and this report was used in the present study. The purpose of the didactic material produced was to link the words with the reality, in order to help the reader to reflect, enabling the development of his imagination and his ability to establish analogies, instilling the information propagated in his reality and behavior in sexual relations. The number of views and the reach that the publications had demonstrate that the products were well accepted by the target audience. The university is the most suitable space for the development of the systematization of knowledge/ learning, and the innovative and educational material produced subsidize a better knowledge, not only of biological issues, but also of aspects related to the sexuality, empowerment and autonomy of women. These aspects are fundamental in the training of young health professionals that aim the care of people.

TELE-PHARMACEUTICAL CARE FOR PEOPLE WITH ASTHMA AND COPD DURING THE PANDEMIC

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Telepharmacy consists of the provision of pharmaceutical services remotely, through the use of telecommunications and other technologies. Telepharmacy has the potential to improve health outcomes and reduce drug-related problems. The additional advantages of telepharmacy include cost-benefit, enabling access to the pharmaceutical counseling service, the possibility of reaching people in remote locations and in health conditions that limit mobility. Considering this new paradigm of offering pharmaceutical care, as well as the current pandemic situation caused by the corona virus disease 2019 (COVID-19), on May 5, 2020, it was launched by the Government of the State of Rio Grande do Sul, in the Coordination of the Pharmaceutical Assistance Policy, Pharmaceutical Care implementation service, CUIDAR + and its first service: Tele-pharmaceutical Care. The objective of this study was to report the experience related to the implementation of tele-pharmaceutical care in people with asthma and chronic obstructive pulmonary disease COPD. Feasibility studies are being carried out about Tele-pharmaceutical Care in users who use asthma and COPD drugs at the State community pharmacy, in the State of Rio Grande do Sul. Nineteen diagnostic meetings were held remotely with regional teams to deepen questions about structure, processes and expected results. In addition, for the 497 municipalities, questionnaires were sent to investigate issues related to the available resources, necessary training and services already carried out. Based on the diagnosis, it was possible to know the realities of the municipalities and list the priorities. to and

improve the intervention to be offered to the population. The implementation process follows the stages of diagnosis of the situation, as described above, training related to pharmaceutical care with simulations of care for pharmacists, dialogues to raise awareness about pharmaceutical care for managers and mentoring to monitor implementation. As barriers in the implementation of pharmaceutical care, raised in the diagnosis, were the difficulty of accessing health units in rural areas and due the social isolation caused by the New Coronavirus. In view of these issues, a Tele-Pharmaceutical Care service was necessary and designed. The first step was to structure training through a virtual learning platform, working on the main points needed to perform the service, such as asthma and COPD pathophysiology, medications used, pharmaceutical consultation and a person-centered clinical method. The intervention consists of receiving information about the understanding of the disease, pathophysiology, as well as the review of pharmacotherapy, assessment of adherence and investigation of symptoms related to COVID. A therapeutic plan will be built with the patient. The person's needs will be researched, doubts will be solved and depending on the control of the disease he will have a return in 3 months. This return will work with non-pharmacological measures, triggers and crisis management. In the third consultation, the points worked so far are reviewed, as well as the plan agreed with the user. To assess the impact of the Telepharmaceutical care service, a clinical trial is being carried out, evaluating clinical, humanistic and economic outcomes.

PERFORMANCE OF THE PHARMACEUTICAL RESIDENT DURING THE PANDEMIC OF THE NEW CORONAVIRUS

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The pandemic of the new coronavirus reached more than 44,055,863 people worldwide, of which 5,353,656 in Brazil. For the integral care of the patient, it was therefore necessary to reorganize pharmaceutical care, considering specific therapeutic resources for care for Covid-19 in Primary Health Care (PHC), as well as regular-use insums/medications in PHC and develop actions that ensure access to medicine and care in the current context. As a way of coping with the pandemic, the Ministry of Health created the strategic action "O Brasil Conta Comigo", which aims to expand the workforce in the Brazilian Health System (SUS), ensuring the best care to the Brazilian population and support professionals working on the front line, recognizing the importance of the resident professional at this time. The Multiprofessional Residency in Health has as guiding principles: expanded conception of health; education, service and community integration; articulation teaching, service and management; integral, interdisciplinary and multiprofessional training; and encouraging training and teamwork. In the program in which I work we represent eight professional categories and have as our field of action PHC where we compose an Expanded Family Health Center (NASF). This paper reports the experience of a pharmaceutical resident during the pandemic of the new coronavirus. This period brought with it a mischaracterization of the NASF's work, with the cancellation of consultations and group activities.

The pharmaceutical professional played an essential role in the management and optimization of the use of personal protective equipment (PPE), which were scarce at first, associating them with educational activities with the basic health unit team, in addition to guiding disinfection and antisepsis. Careful and intensive inventory management work was required due to the imminent risk of shortages in addition to the reorganization of the pharmacy service flow. The pharmaceutical care remained focused on users in insulin therapy, through, initially, remote and gradual monitoring, face-to-face care. Residency activities became remote, with classes and meetings between residents and online teachers and with tutorials about patient safety, mental health and other topics necessary to subsidize the practice of the health professional at this time. Experiencing the residence at this very difficult time was a complex and enriching experience, thanks to him I had the opportunity to rethink my work processes and build a better relationship with the health unit team, who began to understand my work as a pharmacist better and to value myself more as a professional.

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DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF COMPREHENSIVE MEDICATION MANAGEMENT SERVICES IN GERIATRIC PATIENTS

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Population aging is already a reality, causing an increasing demand for specialized care, including Long Term Care Institutions (LTCF). Institutionalized elderly are more fragile and require special care due to pathophysiological changes and the prevalence of polypharmacy, which predispose to Drug Related Problems (DRPs). This is a quasi-experimental study of an integrated program for qualifying the use of medicines in four stages, which also determines the pharmacoepidemiological situation and assesses the clinical impact of the implementation of Comprehensive Medication Management (CMM) service in a private LTCF in Belo Horizonte. Four initiatives were implemented in the program: I) readjustment of the medication distribution system; II) analysis of prescriptions to identify potential DRP (PDRPs); III) provision of Comprehensive Medication Management (CMM); IV) evaluation of clinical results. In step I, the collective distribution system was replaced by the unit dose. Stage II: prescriptions for the elderly were evaluated, identifying PDRPs: use of potentially inappropriate medications (PIM - Beers 2019); drug interactions (DI); and pharmacotherapeutic omissions (PO - START

tool). In step III, indicators were described (real DRP - RDRP; number of interventions; number of consultations). In step IV, the impact from the readjustment of the distribution system in the institution was evaluated and the clinical parameters were compared before and after the CMM (t test). Mean age = 82.4 years was identified; most women (82.3%) and use of 11.9 medications / elderly. 180 PDRPs (26 PIM; 144 DI; 10 PO) were identified. 121 CMM consultations were carried out, 76 pharmaceutical interventions (87% accepted) and 96 RDRP identified (76% resolved). There was a statistically significant difference between the initial and final means of minimum SBP (112.4 ± 3.7 versus 95.0 ± 3.4 ; $p = 0.004$), maximum SBP (132.3 ± 4.2 versus $118.8 \pm 6, 1$; $p = 0.049$), minimum DBP (75.9 ± 5.7 versus 62.8 ± 1.1 ; $p = 0.017$) and maximum DBP (92.9 ± 4.5 versus 77.2 ± 2.7 ; $p = 0.006$). For the parameters HbA1c, LDLc, HDLc and Triglycerides, the differences were not statistically significant. The program demonstrated a positive impact on the health of the elderly showing the effectiveness and viability of its implementation in LTCFs.