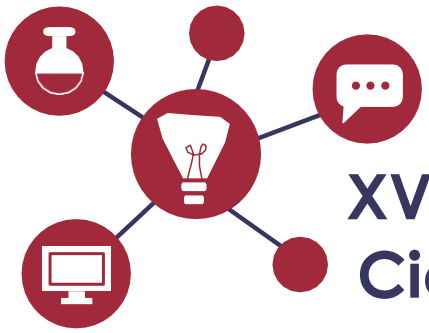
Investigação



XVI Encontro de Iniciação Científica da UNIFRAN

XVI Encontro de Iniciação Científica da UNIFRAN

Data: 17 e 18 de agosto de 2023
Horário: Dia 17 das 13h às 19h e dia 18 das 08h30 às 12h
Local: Universidade de Franca - UNIFRAN

Objetivos do Evento:

Proporcionar a interação dos estudantes de iniciação científica entre os diferentes campos científicos, com o objetivo de apresentar, discutir, trocar experiências e ampliar o conhecimento dentro da Instituição.

Homepage:

https://www.unifran.edu.br/pesquisa/iniciacao-cientifica-pibic-e-pibid/xvi-encontro-de-iniciacao-cientifica-da-unifran-2023/

ISSN 2177-4080

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PROGRAMAÇÃO XVI ENCONTRO DE INICIAÇÃO CIENTÍFICA DA UNIFRAN

Dia 17 de agosto de 2023:

10:00 – 12:00h: Reunião com o comitê externo de avaliadores do CNPq:

(Exclusivo para os membros da Comissão de Bolsas de Iniciação Científica da UNIFRAN)

12:00 – 13:30h – Intervalo para almoço

14:00h – Cerimônia de abertura oficial

Profa. Dra. Kátia Jorge Ciuffi (Reitora – UNIFRAN)

Prof. Dr. Élcio Rivelino Rodrigues (Pró-reitor de Graduação)

Profa. Dra. Regina Helena Pires (Presidente do Evento – PPG Promoção de Saúde/UNIFRAN)

14:15h – Palestra de abertura:

"A formação no Ensino Superior e a sociedade: diálogos pós pandemia"

Palestrante: Prof. Dr. Ricardo Alexandre Arcêncio (Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, SP).

15:30 – 16:00h – Coffee break

16:00 –18:30 Apresentação de trabalhos dos bolsistas de iniciação científica PIBIC-CNPq, PIBIC-EM e PIBIC-Institucional

19:00 – Palestra "A pós-graduação na Universidade de Franca"

Dia 18 de agosto de 2023:

8:00 – 10:00h – Apresentação oral de trabalhos iniciação científica bolsistas CNPq, Cruzeiro do Sul e PIBIC- EM.

11:00- 12h – Encerramento oficial

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Anais do XVI Encontro de Iniciação Científica da Unifran

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MINI-EXAMINATION OF MENTAL STATE AS AN INSTRUMENT OF COGNITIVE ASSESSMENT IN THE ELDERLY: AN INTEGRATIVE REVIEW

Ágata Carolyne de Castro Domingos[1]; Ana Paula Oliveira Borges[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: agatacastro724@gmail.com

Purpose: During aging changes are expected in cognitive skills but not impacting functional capacity. Cognitive screening is an important evaluative aspect that can direct attention to those with cognitive decline that expected from expected to the age and level of education of the individual. To analyze the relevance of the application of the Mini Mental State Examination in the cognitive screening of elderly people. **Methods:** The methodology was through an integrative review, with reference survey available in the Virtual Health Library in the Portuguese language. The descriptors used for the selection of articles were: “elderly”, “cognition” and “mental state and dementia tests”, combined with each other, in the Portuguese language, under the period 2018 and 2023. **Results:** The search resulted in seven Elegable articles for the construction of the present work, as they addressed the proposed theme. Based on the textual analysis of the selected studies, it was realized that the increase in cognitive decline is a worrying fact because it directly affects the well-being and health of these people and their families. Cognitive changes are often confused with something inherent in the natural process of aging thus delaying its diagnosis and treatment. The use of cognitive screening instruments such as Mini Mental State Examination can rapidly detect these changes so that monitoring early is performed. **Conclusion:** The Mini Mental State Examination is a relevant, objective, easy -to -apply, multiprofessional assessment test. Because it is a cognitive screening instrument, its results can direct more specialized conduct.

Keywords: elderly, cognition, mental state and dementia tests.

Approval CEPE: 5.792.659

Acknowledgments: CNPq, CAPES.

ISOLATION OF NATURAL DITERPENES FOR THE PRODUCTION OF SEMISSINTHETIC DERIVATIVES AND FUTURE BIOLOGICAL EVALUATIONS

Aluísio Antônio Reis Placidino [1], Julian Carlos da Silva Pavan[2], Vladimir Constantino Gomes Heleno[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: aluisioreis080@gmail.com

Purpose: The aim of this project is to produce semi-synthetic substances from natural diterpenes and to assess their biological activities. Natural diterpenes will be isolated from botanical sources and submitted to structural transformations and biological assays, mainly antiparasitary. **Methods:** The isolation methods were already developed during other research projects and are going to be applied to the Mikania glomerata extract and Copaifera langsdorffii oilresin to provide the natural diterpenes for this work. For the structural transformations there are going to be applied some esterification and amidation reactions already also extensively used for other research works in our group. **Results:** For the results, several semi-synthetic derivatives are expected, once those reactions are becoming well known by the students in our research group. Therefore, good results in biological assays are also expected.

Keywords: diterpenes, semi-synthetic derivatives, structural modification, biological activities.

Acknowledgments: FAPESP, CAPES and CNPq.

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CHARACTERISTICS OF MOTHERS BEING MONITORED AT THE PREMATURE ® CENTER

Amanda Cristina de Oliveira[1], Ariane Valadares Canuto[1], Isabela Tofolo [1], Marisa Afonso Andrade Brunherotti [1], Maysa Venturoso Gongora Buckeridge Serra [1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: oliveira.amandacristinade@gmail.com

Purpose: To identify mothers' characteristics who had preterm birth. **Methods:** This is a retrospective, analytical, cross-sectional study, developed at the Specialized Center for the Integral Development of Preterm Infants: Universo Prematuro®, in the University of Franca (UNIFRAN). We evaluated 30 mothers in care from May/2022 to April/2023 (protocol CEP: 65373122.8.0000.5495). Pregnancy and prenatal information were collected from Universo Prematuro® screening form. Data collected were gestation number weeks, prenatal consultations number, month of gestation when prenatal care started, pregnancy type, induced delivery, ruptured pouch and delivery type, categorized in a descriptive way. **Results:** Of the factors analyzed, mean gestation number weeks was 33.4±2.3, with an average of 8±4 prenatal consultations, in which 14 (47%) mothers had their first appointment in the first trimester. About pregnancy type 24 (80%) are single pregnancies and 6 (20%) are twins. About delivery 16 (53%) were not induced and 8 (26%) had ruptured pouch; 20 (67%) were vaginal delivery. **Conclusion:** The group of pregnant women from the Center is moderate prematurity and attends consultations number stipulated by Brazil's Health Ministry. The Women's Health Care Network in Pregnancy and Childbirth seeks gestational risk stratification and to ensure that women have right to pregnancy humanized care, right to safe birth and development infant recommended by the Sustainable Development Goals to reduce risks and maternal mortality rate.

Keywords: Mothers; Premature newborn; screening.

Approval CEPE/CEUA: 65373122.8.0000.5495

Acknowledgments: Cruzeiro do Sul, CNPq, CAPES.

EDUCATION FOR DIVERSITY IN SCHOOL PRACTICES: THE TEXTBOOK AND ITS ACTIVITIES

Amanda Cristina de Souza Morais[1], Luciana Carmona Garcia[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: amandacrisamores@gmail.com

Purpose: The aim of this study was to analyze the sense-making process in the didactic materials for Elementary Education focused on Reading and Text Production. **Methods:** In general, we seek to understand, through the analysis of multimodal excerpts from these statements, which are commonly presented as support in Elementary School I and/or II, the paths to accessing the meanings made available by the activities that make up the didactic materials we will have access to, whether from public or private schools. Specifically, our objectives are as follows: a) to understand how the sense effects constructed within these activities are associated with self-governance and governance of others within Brazilian society; b) to understand how didactic materials currently either maintain or break away from a single reading approach derived from a traditionalist model of education, which is based on an alleged transparent language. **Conclusion:** on one hand, the reading activities focus on an alleged autonomy of the student to find the answers to questions related to the text, but the repetition of the activity model diminishes creative work and critical thinking, as there is no diversity in the way the text is approached.

Keywords: reading, education, didactic material, meaning

Acknowledgments: FAPESP, CAPES and CNPq.

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EFFECT OF AGING ON DEGRADATION OF MICROPLASTIC BY UV IRRADIATION AND INTERACTIONS WITH ORGANIC POLLUTANTS IN AQUEOUS SOLUTION.

Ana Flávia Alves Pinto Cunha[1], Ana Carolina Bolela Bovo Candido[1], Bruno Andrade Fico[1], Felipe Breda Alves[1], Heber Eduardo Andrada[1], Júlia Gabriela Matos Vargas[1], Júlia Santana Reinaldi[1], Eduardo Ferreira Molina[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: afcunhauni@gmail.com

Purpose: The objective of the study was to evaluate the degradation of microplastics in the soil and their reaction in contact with different aqueous medium. **Methods:** The source of microplastic (polystyrene and polyethylene) were cut in small pieces and insert in a volume (40 mL) of aqueous medium: water, HCl solution (pH 2) and NaOH (pH 9). For soil as says, the microplastic samples were inserted in a mass of soil (500 g) and left to evaluate the possible degradation as a function of time. **Results:** The polyethylene not show any changes as a function of contact with all aqueous medium. However, polystyrene sample demonstrated an absorption of water. The effect of microplastic on soil is in progress. **Conclusion:** Until now, polystyrene and polyethylene did not change (degrade) over time when used simulated aqueous medium and soil. It suggested that is important reduce the microplastics in water sources (rivers/ocean) and also in soil for minimize the possible adverse effects of these species in environment.

Keywords: aquatic life, environmetal pollution, polymer.

Approval CEPE/CEUA: Not applied.

Acknowledgments: FAPESP, CAPES Finance Code 001 and CNPq.

AWARENESS OF POPULATION ABOUT CHAGAS´ DISIASES: DEVELOPMENT OF AN EDUCATIONAL LEAFLET

Ana Julia Garcia de Oliveira Moncef, Daiane Albino dos Santos[1], Nicoli Dias Oliveira[1], Lizandra Guidi Magalhães[1].

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: anajujumoncef@gmail.com

Purpose: The aim of this study was to create an educational leaflet to raise awareness among young people and children about Chagas´ Disease: its cause, symptoms and prophylaxis. **Methods:** The method used was through a website called Canvas for the creation of the educational leaflet,. tThe program was selected due to its ease of use knowing this through research., iIt was created in a way that has several options so that it can reach the target audience. iIn addition, we use the research and parasitology laboratory (LAPPA) for better observation and learning of life cycle of parasite, as well as obtaining knowledge through scientific articles and experiments made by the laboratory **Results:** The expected results in the educational leaflet are the awareness of population about Chagas´ Disease and its prophylaxis, whereas the results obtained within the laboratory are the increase in knowledge of treatment methods. **Conclusion:** This is just one among a burgeoning number of visual narratives, spreading awareness about Chagas´ Disease.

Keywords: awareness, Chagas´ Disease, educational leaflet.

Acknowledgments: FAPESP, CAPES, and CNPq.

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TURNING MECHANICALLY INTERLOCKED MOLECULES TO SIMULTANEOUS RECOGNIZE ANIONS AND CATIONS: A COMPUTATIONAL STUDY

Ana Lívia de Oliveira Andrade[1], Renato Pereira Orenha[1,2], Saulo Samuel Pereira Furtado[1], Alvaro Muñoz-Castro[3], Maurício Jeomar Piotrowski[4], Giovanni Finoto Caramori[2] and Renato Luis Tame Parreira[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Universidade Federal de Santa Catarina, UFSC, Florianópolis, Brazil, 88040-900

[3]Universidad San Sebastián, Santiago, USS, Chile , 8420524

[4] Universidade Federal de Pelotas, UFPel, Pelotas, Brazil, 96010-900

E-mail: analiviaoandrade@gmail.com

Purpose: The aim of the study is to investigate the potential of mechanically interlocked molecules (MIMs) to perform ionic recognition. **Methods:** The geometry optimization of the compounds investigated was realized by the Gaussian 16 (Revision A.03) software using the BLYP-D3(BJ)/Def2-TZVP theory level. The chemical bonds were investigated through of the energy decomposition analysis (EDA) method along with the natural orbitals for chemical valence (NOCV) methodology via ZORA-BLYP-D3(BJ)/TZ2P computational model using the Amsterdam Density Functional (ADF) software. **Results:** The chemical ambient furnished by MIMs is less favorable to interact with ions (Na+ cation and Cl- anion) in relation to unconstrained bonds that are provided by acyclic derivative structures, which sustenance more favorable electrostatic interactions and a less Pauli repulsive environment with the ion. On the other hand, MIMs are more suitable compounds to ionic sensing than cyclic molecules because offer a chemical environment that pertinently support more attractive bonds with ions concerning to Pauli repulsive ambience. **Conclusion:** Thus, MIMs demonstrate prospective structures to realize anion/ cation recognition.

Keywords: Mechanically Interlocked Molecules, Chemical Bond, Anionic Recognition, Chemical Bond.

Acknowledgments: FAPESP, CAPES and CNPq.

PHOTOGRAPHS OF CHRYSOPIDAE USING A STEREOSCOPE WITH HIGH RESOLUTION CAMERA FOR SPECIMEN IDENTIFICATION

Ana Luiza Ferreira de Souza, Wesley Bordinhon, Alessandra Marieli Vacari

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: analuizaferreirasouza27@gmail.com

Purpose: Aiming to help future biological control programs that use Chrysopidae as a control agent, this research aimed to know the diversity of specimens of Chrysopidae in coffee crops (Coffea arabica L.) in the region of Franca – SP. **Methods:** The studies were carried out in four areas of organic cultivation, shaded with (cedar and mahogany), species were also collected in a conventional coffee system in the region of Franca. These collections were conducted monthly from January 2022 to May 2023. The collected specimens were taken to Unifran's entomology laboratory and photographed using a stereoscope coupled to a professional 12-megapixel camera with a resolution of 4000x3000. The high-resolution photos taken of the predators collected until May 2023, in the four evaluated areas, were sent to taxonomist Dr. Prof. José Sosa Duque at the Federal Rural University of the Amazon for proper identification. **Results:** The following numbers of lacewings were collected in the areas: 1) 5 adults; In area 2) 1 adult; In area 3) 1 adult and in area 4) 9 adults. **Conclusion:** Considering all individuals collected, Chrysoperla externa was the most abundant species.

Keywords: Biological control; Natural enemy; Sustainable tactics; Photographs.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.

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PRODUCTION OF SEMI-SYNTHETIC DERIVATIVES OF NATURAL DITERPENES IN THE SEARCH FOR COMPOUNDS WITH ANTIPARASITIC AND ANTICANCER ACTIVITIES

Analuz da Silva Machado[1], Julian Carlos da Silva Pavan[1], Vladimir Constantino Gomes Heleno[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: analuzmachado42@gmail.com

Purpose: The aim of this study is to produce semi-synthetic substances from natural diterpenes and to assess their activities against parasites and against some cancer cell lines. **Methods:** The isolation of the kaurenoic acid from Mikania glomerata, was performed from the dichloromethane extract, which was suspended in 750ml of a mixture of Meoh/H_2O 9: 1 (V/V) and filtered. The soluble part was partitioned with hexane at 5 x 600 ml and in dichloromethane with 2x 500 ml. Afterwards, the hexane fraction was subjected to vacuum liquid chromatography (CLV), and the main fraction containing kaurenoic acid was submitted to classical chromatography column (CCC) successfully yielding the diterpene. This diterpene (0.050 g; 1 equivalent) and triphenylphosphine (0.177 g; 2 equivalents) were added in anhydrous dichloromethane (2.0 ml) in a 10 ml flask and the mixture was stirred for 5 minutes at room temperature. Then N-Bromo-succinimide (NBS) (0.150 g; 2.5 equivalents) was then added to the reaction, and the reaction mixture kept under stirring at room temperature for another 15 minutes. The reactions were monitored by CCDC, so that they can be completed, and the solvent removed by rotary evaporation. **Results:** The isolation process yielded considerable amounts of the natural diterpene at a high purity grade, estimated over 95%. The reactional procedure is now under analysis for product obtention confirmation. **Conclusion:** For a recently started research work, the results could be considered as good, due to the amount and purity of the natural product used as starting material in the transformations. Keywords: comic book, awareness, leishmaniasis, observation, prophylaxis.

Keywords: diterpenes, semi-synthetic derivatives, structural modification, anticancer activity, antiparasitary activity.

Acknowledgments: FAPESP, CAPES and CNPq.

INVESTIGATION OF SEROLOGICAL DIAGNOSIS BY MICRORNAS IN EPILEPSY

Andresa Videira Botton[1], Daniela Pretti da Cunha Tirapelli[2], Carlos Gilberto Carlotti Junior[2], Andressa Romualdo Rodrigues1[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]University of Sao Paulo, Ribeirao Preto, Brazil, 14048-900

E-mail: andresavbotton@gmail.com

Purpose: The aim os this study was to analyze the expression profile of microRNAs hsa-miR-145, hsa-miR-1183, hsa-miR-629, hsa-miR-1225-5p and hsa-miR-328 in the blood of patients with mesial temporal lobe epilepsy (MTLE) and investigate whether they can be used as diagnostic and prognostic biomarkers for epilepsy. **Patients and methods:** Blood samples will be collected from 20 patients with ELTM, 10 with good postoperative evolution (Engel I) and 10 with unsatisfactory postoperative evolution (Engel III and IV) and for control, 10 blood samples from healthy individuals will be used. The analysis of the expression of miRNAs will be done using the technique of quantitative real-time PCR (RQ-PCR). Statistical analysis will be performed using the Mann-Whitney test and the GraphPad Prism version 6.00 for Windows program will be used, with p values ≤ 0.05 being considered statistically significant. **Results:** It is expected that the microRNAs hsa-miR-145, hsa-miR-1183, hsa-miR-629, hsa-miR-1225-5p and hsa-miR-328 are hypoexpressed or overexpressed in the blood of patients with ELTM compared to control patients, suggesting a possible role for biomarkers, helping in the diagnosis and prognosis of MTLE. **Conclusion:** According to the probable results, the microRNAs analyzed may be potential circulating biomarkers for the diagnosis and prognosis of MTLE.

Keywords: MicroRNAs, Epilepsy, Biomarkers, Blood

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.

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IN VITRO EVALUATION OF THE LEISHMANICIDAL ACTIVITY OF CRUDE EXTRACTS OBTAINED FROM ASPIDOSPERMA PARVIFOLIUM

Angélica Cristina Coelho Brito, Marcos Gomide Tozatti, Daiane Albino dos Santos, Guilherme Cecilio Lima, Lizandra Guidi Magalhães, Wilson Roberto Cunha.

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Faculty of Pharmaceutical Sciences, University of São Paulo, Ribeirão Preto, Brazil, 14040-903

E-mail: angelcrbtt@gmail.com

Purpose: The objective of this study was to assess the *leishmanicidal* activity of crude extracts obtained from *Aspidosperma parvifolium (Apocynacae)*. **Methods:** Plant parts (leaves, bark, branches) were collected from a specimen located at Fazenda Monjolos in the city of Sacramento-MG. The collected parts were dried in a circulating air oven at 40ºC and pulverized using a knife mill. The material was then subjected to successive extractions with ethanol. The resulting crude extracts weighed 66.7g, 13.3g, 5.8g, respectively. To evaluate the *leishmanicidal* activities, the samples were tested in an in vitro assay against the promastigote forms of Leishmania (L.) amazonensis (MHOM/BR/PH8). **Results:** The most promising leishmanicidal activity was obtained with the extract obtained from the leaves, which exhibited an IC50 of 37.09 ug/mL after 48h of incubation. The bark and branch extracts showed IC50 values of 42.13 ug/mL (24h) and 41.42 ug/mL (24h), respectively. **Conclusion:** Based on the obtained results, further fractionation of the extracts will be conducted to isolate their individual chemical constituents.

Keywords: *Aspidosperma parvifolium, Leishmania, leishmanicidal* activity.

Approval CEPE/CEUA: 3830250919

Acknowledgments: CNPq, FAPESP and CAPES

POEMS AND DRAWINGS FOR CONSERVATION: 'EMBRACE THESE ANIMALS' IN BRAZIL

Anna Beatriz dos Santos Cassanta[1], Gabriela Nogueira Maggio[2], Danielle Dal Picolo Cerce[2], Marcela Aldrovani Rodrigues[2]

[1]ETEC Dr. Júlio Cardoso, Franca, Brazil, 14400-500

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: biacassanta@gmail.com

Purpose: The 'Embrace these Animals' booklet had as aim educates 5-6-year-old children about conserving endangered fauna in the Brazilian Savanna and Atlantic Forest. With drawings and poems, it fosters love and empathy for diverse wildlife. **Methods:** The creation process of the booklet 'Embrace these Animals' involved thorough research, utilizing the red lists of endangered animals from the Chico Mendes Institute for Biodiversity Conservation, to ensure accurate and reliable information about the threatened species residing in the Brazilian Savanna and Atlantic Forest. The drawings were meticulously crafted, aiming to capture the unique characteristics of each animal in a visually appealing and child-friendly manner. Special attention was given to detail, ensuring that the illustrations would engage and captivate the young readers. The poems were thoughtfully composed, using simple language and age-appropriate vocabulary. **Results:** The resulting booklet is a comprehensive collection spanning 28 pages, featuring 24 endangered species from the Brazilian Savanna and Atlantic Forest. **Conclusion:** Through the integration of drawings and poems, 'Embrace These Animals' nurtures a sense of awe, respect, and admiration for the natural world in children. Serving as a powerful educational tool, the booklet empowers young minds to become advocates for biodiversity and environmental conservation, thereby ensuring a sustainable future for these remarkable creatures and their habitats.

Keywords: environmental education, ESG-15, life on land, wildlife.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES and CNPq.

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INFLUENCE OF COPAIBA OIL ON THE PHYSICAL AND CHEMICAL PROPERTIES OF TYPE I COLLAGEN HYDROGEL FOR MEDICAL APPLICATIONS

Antonio Augusto Borges Sales[1], Jhuan Luiz Silva[1], Bruno Andrade Fico[1], Heber Eduardo Andrada[1], Sergio Ricardo Ambrosio[1], Eduardo Ferreira Molina[1], Marcela Aldrovani Rodrigues[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: antonio.as673@gmail.com

Purpose: This study aimed to develop a Type I collagen hydrogel incorporated with Copaiba oil for medical applications, particularly in cutaneous wound repair. **Methods:** The collagen hydrogel was produced in the animal science laboratory using bovine digital flexor tendon as the raw material and employing acid solubilization and salting-out procedures for collagen fiber extraction. Two different formulations were prepared with concentrations of 0.5% and 1% Copaiba oil. Additionally, a pure collagen hydrogel without the addition of Copaiba oil was used as a control. The macroscopic and physicochemical properties of the hydrogel were evaluated, including the zeta potential. **Results and Discussion:** Preliminary results indicated that the pure collagen hydrogel exhibited a negative zeta potential (-17.00) and was transparent, while the hydrogels mixed with Copaiba oil showed a milky color, emulsified appearance, and positive zeta potential (ranging from +11.46 to +15.87). The results show that the incorporation of Copaiba oil modified the physical and chemical properties of the collagen hydrogel. The milky color and emulsified appearance indicate the formation of a homogeneous mixture between Copaiba oil and the collagen hydrogel. Additionally, the positive zeta potential suggests the presence of positive electric charges on the surface of the hydrogel particles, possibly due to interactions with Copaiba oil. **Conclusion:** Our preliminary data highlight the influence of Copaiba oil on the formulation of collagen hydrogel. The next stage of this study will involve evaluating the mechanical properties, biocompatibility, and efficacy of the collagen hydrogel with Copaiba oil in cutaneous wound healing to validate its therapeutic potential.

Keywords: acid-soluble collagen, biomaterial, biopolymer.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES and CNPq.

ADAPTIVE GLOBAL MOTOR DOMAIN IN PRETERM CHILDREN: FOLLOW-UP VIA PREMATURE UNIVERSE® CENTER

Ariane Valadares Canuto[1], Amanda Cristina de Oliveira[1], Isabela Tofolo[1], Marisa Afonso Andrade Brunherotti[1], Maysa Venturoso Gongora Buckeridge Serra[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: arianevaladares@icloud.com

Purpose: To evaluate the motor global domain in preterm children. **Methods:** It consists in a case series, observational study, and developed in the integral preterm development specialized center: Premature Universe®, in the University of Franca (UNIFRAN). For the report, five participants were considered, with a gestational age average of 33.2±1.8 and a corrected age of three months at the moment of the evaluation: two twins (33,3%) and three (50%) girls. The Denver-II scale was applied to evaluate the motor global domain, the coordinated and interactive movement pattern of locomotion. According to the participants corrected age, the three months old are expected to present symmetric movements of the superior and inferior members, head elevation in ventral decubitus position, keep the head in 45º and then in 90º when the child is in ventral decubitus position and hold their head when seated; the evaluation took place in a controlled ambient, with the participant lying down in a mat and evaluated by a researcher. The data was categorized in the descriptive mode in percentage. **Results:** Only one (16,6%) participant, girl, presented risk of motor global domain delay, not completing the hold the head when seated task. **Conclusion:** Only one child of the motor vigilance group requires more attention to its stimulus. The repercussion of premature birth in the motor global domain is well known in the literature and the vigilance of a possible development delay must be recognized in the preterm child follow-up institutions.

Keywords: preterm child, infant development, medical screening

Approval CEPE/CEUA: 65373122.8.0000.5495

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THE CONSTRUCTION OF THE FEMALE ACTOR AND THE GENDER AND RACIAL VIOLENCE IN A SHORT STORY BY CONCEIÇÃO EVARISTO

Artur Luis da Silva[1], Vera Lucia Rodella Abriata[2],

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: arturluisdasilva20@gmail.com

Purpose: The aim of this study was to analyse the enunciator's strategies in the construction of the female actor's identity in the short story "Maria" by Conceição Evaristo. **Methods:** Based on the theoretical and methodological instruments of FrenchSemiotics we analysed this short story observing the states of soul of the female subject caused by the opression and violence she suffered. **Results:** The results of this research shows that the enunciator used strategies such as the irony in order to sensitize the enunciatee to violence against women in a social context in which such behavior became natural. **Conclusion:** The reading of a literary tale as a form of artistic manifestation contributed to the awareness of the reader about the lack of racial democracy in Brazil.

Keywords: French Semiotics, gender and race violence, short story.

Approval CEPE/CEUA: 003/14.

Acknowledgments: CNPq, Cruzeiro do Sul

EVALUATION OF SPIRITUALITY AMONG MEDICAL SCHOOL PROFESSORS

Bianca Beatriz Soares dos Reis[1], Ana Carolina Turco[1], Ariane Valadares Canuto[1], Laura da Silva Araújo[1], Sara Rodrigues de Freitas[2], Cynthia Kallás Bachur[2]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: biasoresreis@hotmail.com

Purpose: The scientific literature suggests the importance of spirituality for biopsychosocial-spiritual care in the practice of health care. **Methods:** This is a descriptive and cross-sectional study. The sample was by convenience, composed of professors of the medical course of UNIFRAN, with data collection in the same institution in the year 2022. Demographic data were collected to characterize the participants, data were collected: gender, age, marital status, religion and religiosity. To assess spirituality, the Spirituality Scale was used, composed of 5 items centered on two dimensions: one associated with belief and the other associated with hope and optimism. It presents 4 answer options, between "I do not agree" to "I totally agree", so the midpoint is 2.5. Values lower than this cutoff point correspond to low scores and values higher than high scores. **Results:** Among the 13 professors of the course that participated, 6 were men and 7 women with a mean age of 52 years. In all questions, the option "I totally agree" was the one that obtained the highest percentage. Here are the questions and percentages for each: 'My spiritual/religious beliefs give meaning to my life' 38.5%; 'My faith and beliefs give me strength in difficult times' 53.8%; 'I feel like my life has changed for the better' 61.5%; 'I learned to value the little things in life' 69.2%. **Conclusion:** The application of this instrument among the professors of the medical course showed that spirituality seems to positively influence the outlook towards the future and the ability to appreciate the small everyday joys.

Keywords: spirituality, teacher, health care.

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EVALUATION OF THE ANTIBACTERIAL ACTIVITY OF *Physalis angulata* EXTRACT AND FRACTIONS

Bianca Borges de Alencar[1], Wanderson Zuza Cosme[1], Matheus Henrique Francisco Dias[1], Camila Cristina Bacettti Medeiros[2], Rodrigo Sorrechia[2], Rosemeire, Cristina Linhari Rodrigues Pietro[2], Fabiano Guimarães Silva3, Wilson Roberto Cunha[1], Márcio Luís Andrade e Silva[1], Patrícia Mendonça Pauletti[1], Ana Helena Januário[1].

[1]University of Franca, UNIFRAN, Franca, Brazil.

[2]University of Araraquara, Estadual Paulista de Mesquita Filho- UNESP, Brazil.

[3]Federal Institute of Education, Science and Technology Goiano-Campus Rio Verde-GO, Brazil.

E-mail: bibiancab901@gmail.com

Purpose: *Physalis angulata* L. is a medicinal herb that belongs to the Solanaceae family. The genus Physalis is unique in the production of metabolites called vitanolides, which are highly oxidized and have several biological activities associated to them, including anticancer, anti-inflammatory, anti-parasitic, antimicrobial, antinociceptive, and antiviral activities. **Objective:** The purpose of the present work was to carry out a chemical study in the search for these vitasteroids and also to evaluate the antibacterial potential of this species. **Methods:** The crude extract (PA) of aerial parts (leaves and branches) was obtained by maceration in chloroform, providing the fractions PA-2B, PA-2C, PA_2D and PA-12C after a combination of normal phase and exclusion, following by flash chromatography using the Büchi® Chromatograph Pure C-850. The antibacterial activity of samples (5mg/mL) was evaluated by template model according to Clinical Laboratory and Standards Institute (CLSI) 44 -A2 against the bacteria *Staphylococcus aureus, S. epidermidis Escherichia coli and Candida albicans*. **Results:** Regarding the antibaterial assays, the largest inhibition halos (mm) were obtained against S. aureus being 10.21 for the PA extract and 15.24, 18.14 and 14.81 for the fractions PA-2B, PA-2C and PA-2D, respectively compared to 12.78 mm for positive control (Ampicillin 50 µg/mL). The PA-12C fraction showed in its 1H NMR spectrum signals that suggest the presence of vitasteroids along with a band at λmax = 230 nm in the UV spectrum of this fraction. **Conclusion:** Thus, the data obtained in the study so far added information about the extract and partial fractions of *P. angulata.*

Keywords: Antimicrobian activity, Camapu, Solanaceae.

Acknowledgments: CAPES, CNPq and FAPESP.

HISTOLOGICAL AND IMMUNOHISTOCHEMICAL EVALUATION OF ENDOMETRIAL PROLIFERATION IN MARES TREATED WITH UTERINE OZONE INSUFFLATION

Bianca de Souza Cintra[1], Marcela Aldrovani Rodrigues[1], Carlos Eduardo Fonseca Alves[2], Beatriz de Carvalho Abreu[1], Jair Camargo Ferreira[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]State University of São Paulo, UNESP, Botucatu, Brazil, 18609-085

E-mail: biancasouzacintra@icloud.com

Purpose: To evaluate by histology and immunohistochemistry, the effect of uterine insufflation with ozone (O3) on tissue proliferation in mares. **Methods:** Adult, cyclic and healthy endometrial mares were divided into two groups according to gas treatment (O3 and Control groups; n=9 mares/group). Mares in the O3 group had their uterus inflated with an O2-O3 gas mixture containing 42 λg O3 mL-1, and in the Control group with pure O2. The treatments were performed every three days for six days (D0, D3 and D6) via transcervical, with a silicone probe coupled to the sterile artificial insemination pipette and portable ozone generator model O&L 1.5. Fragments of endometrial tissue were collected through uterine biopsy immediately before the first treatment, and 24 hours after the last treatment (D0 and D7) and divided into two samples for histopathological and immunohistochemical analysis. **Results:** No histopathological changes associated with endometrial degeneration were detected, with an increase in the glandular area and glandular epithelial height in the O3 group compared to the Control group. Regarding tissue proliferation, there was a statistical increase in the expression of factor Ki-67, while the inflammatory cytokine TNF-λ remained constant in the Control and O3 groups between D0 and D7. In addition, there was no expression of apoptotic factors (Caspase 3 and Caspase 9). **Conclusion:** The findings demonstrate a positive effect of uterine insufflation with O3 on the proliferation of endometrial glands, without affecting their morphology.

Keywords: Endometrium, equine, insufflation, ozone, tissue proliferation

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GERIATRIC PUBLIC POLICIES IN THE MUNICIPALITY OF FRANCA STATE OF SÃO PAULO

Bruna Aguiar Alves[1], Iago Rodrigues Oliveira[1], Leticia Natália De Oliveira[1], Denis Cássio De Souza[1], Caroline Cristina Lourenço Vieira[1], Danilo Cândido Bulgo[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: aguiaralves0@gmail.com

Purpose: to verify, through documental analysis, the existing public policies and geriatric strategies in the city of Franca/SP. **Methods:** This is descriptive research, based on the theoretical reconstruction of a documentary basis. It was carried out from openly available data on public policies and strategies addressed to the population residing in that municipality. In addition, through the look of the Sustainable Development Goals (SDGs), which aimed to answer the following guiding question: "What public policies are protected to serve the population of the target municipality of the study?". **Results:** Franca is located in the northeast region of the State of São Paulo and has an estimated population of 38 thousand inhabitants aged 60 or older. The municipality has about 79 policies and strategies related to aging people. These findings support the goal of minimizing social inequalities advocated by the SDG, aiming to address areas such as food, security, leisure, education, health, social assistance, welcoming, sports, communication, popular participation, housing, tourism, inclusion and mental health. **Conclusion:** Many rights have been won by the elderly population in terms of public policy, but it is necessary to emphasize and recognize the progress made in implementing strategies aimed at this age group. Given the size of the municipality and the percentage of elderly people residing in this area, it is important for local governments to prioritize the creation of a more inclusive and supportive world. This will ensure that the elderly have access to opportunities for a better quality of life.

Keywords: Elderly Person, Public Policies, Territoriality.

Acknowledgments: CAPES and CNPq.

INFLUENCE OF COPPER NANOPARTICLE CONCENTRATION ON COFFEE RUST SEVERITY

Camaro C Alves, Fausto E M Oliveira, Eduardo Jose Nassar, Alessanda Marieli Vacari, Lucas A Rocha

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: camaroalves2809@gmail.com

Purpose: The objective of this experiment is to evaluate the effect of copper-based nanoparticle (CuNPs) concentration on the control and severity of coffee rust. (*Hemileia vastatrix*). **Methods:** For the evaluation, 225 coffee plants of the Catuai 99 cultivar were used, divided into five treatments with five repetitions, with each block consisting of nine plants. The control treatment (negative control) received water and Tween 80 (0.05%) application. The commercial product Cuprazol® 380H was also applied at a concentration of 2500 ppm as a positive control. The other treatments consisted of concentrations of 750, 2250, and 3750 ppm of the CuNPs solution. The evaluations were performed on four pairs of leaves from the middle part of each plant, assessing severity by counting the affected leaf area, considering infection levels from 0 to 50%. **Results:** he control treatment (water + Tween) showed an increase of 7.6% in the affected area, while the Cuprazol® 380H treatment showed a decrease of 3.2%. However, in the treatments using CuNPs nanoparticles at concentrations of 750, 2250, and 3750 ppm, a decrease in severity of 1.4%, 3.6%, and 4.2% was observed, respectively. **Conclusion:** The concentrations of 2250 and 3750 ppm of CuNPs provided better control of rust severity compared to the commercial product. This fact can be attributed to the size of the nanoparticles

Keywords: Catuai 99, severity, copper, sustainability in agriculture

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PEOPLE WITH DISABILITIES AND INCLUSIVE ARCHITECTURAL SPACES: SUBSIDIES FOR HEALTH PROMOTION THROUGH A DOCUMENTARY ANALYSIS

Caroline Cristina Lourenço Vieira[1], Bruna Aguiar Alves[1], Iago Rodrigues Oliveira[1], Leticia Natália De Oliveira[1], Denis Cássio De Souza[1], Danilo Cândido Bulgo[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: caroline.vieira@unifran.edu.br

Purpose: To verify, through document analysis, public policies and strategies for people with disabilities based on the architectural and inclusive concept existing in the city of Franca/SP. **Methods:** This is a research based on the theoretical reconstruction of a documentary base carried out with openly available data on public policies and strategies that involve the disabled population and the urban space in the referred territory from the perspective of the Sustainable Development Goals (SDGs) which enables the reduction of inequalities. As it is a review of documents of secondary origin, the study did not need to be evaluated by an ethics committee, regulated by Resolution 466/12. **Results:** When thinking about territoriality, there are actions aimed at the multidimensional sense of belonging of the subject with disability in a broad and safe way so that this population group continues to be active and protagonists in the most varied social pillars, including general mobilization regarding adaptation architecture and services, with the aim of promoting accessibility and inclusion. **Conclusion:** thinking about the extension of the municipality and the percentage of people with disabilities who live in the territory, it is evident that the local government seeks to list the construction of more inclusive, authentic and supportive spaces, where human and social rights are guaranteed mainly for those that at certain times in life they become more fragile and vulnerable, ensuring them the possibility of access and opportunities for a better quality of life, basing their structuring on the goals of the SDG.

Keywords: Architecture, People With Disabilities, Health Promotion.

Acknowledgments: CAPES and CNPq.

VOICE QUALITY AS A DIAGNOSIS: THE CASE OF INDIVIDUALS WITH COW'S MILK CONSUMPTION RESTRICTIONS

Daniela de Assis Dias Esbrolia, Maria Flávia Figueiredo

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: danidias17@outlook.com

Objective: The objective of the present study is to investigate the quality of the patient's voice as a source of diagnosis for intolerance or allergy to cow's milk and dairy products. **Methodology:** Research participants (men and women aged between 18 and 60) were recruited in Franca. The criterion for the inclusion of participants had the voice quality as a parameter. Individuals who had a nasal voice made up the experimental group, and those who did not show the same kind of voice were part of the control group. The participants were asked to make a recording and to respond a questionnaire. The recording was conducted by reading a pre-established list of words and phrases that primarily focused on oral phonological contexts. The questionnaire comprised questions about the participant's health condition, specifically in relation to the presence and frequency of symptoms resulting from milk and dairy product intolerance and/or allergy. Based on the collected data, a cross-analysis is being carried out between the type of voice quality presented and the answers obtained in the questionnaire. **Results:** The results of this confrontation will allow us to measure the degree of plausibility of the hypothesis tested in this study, that is, whether the voice quality (nasal voice) can serve as an indication of the presence of food intolerance. **Conclusion:** If this hypothesis is proven, we will be facing an unusual type of test (voice quality) that may contribute to the diagnosis of intolerance and/or food allergy in general.

Keywords: Voice quality; Nasality; Food intolerance; Food allergy; Cow milk.

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MORNING OF HEALTH - VIRTUAL REALITY IN A COMMUNITY CENTER: AN EXPERIENCE REPORT

Eduardo Junior Rodrigues Pereira[1], Rosimere de Paula Cosmo[1], Thamiris Gonçalves dos Santos[1], Carolina Honorato Leite[1], Julio Cesar Giroldo, Lilian Cristina Gomes do Nascimento[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: eduardo.junior.pessoal@gmail.com

Purpose: The present study aims to report the experience lived by university students participating in the Interdisciplinary Strategies in Gerontology Laboratory at Unifran during an event titled "Morning of Health" at a Community Center in the interior of São Paulo, with a practical workshop on virtual reality. **Methods:** Initially, academic students were gathered in a group for training on virtual reality tools such as 3D glasses. On the day of the event, a booth was set up for practical exhibition and interaction with the population. **Results:** The participants consisted of elderly individuals of both genders who regularly attended CITI along with their family members. Initially, they were able to experience a realistic simulation through the 3D glasses, where they could navigate through scenarios such as a roller coaster or a beach, expressing enthusiasm and excitement through body gestures and speech. At a secondary level, motor skills were stimulated collectively, allowing for exercise of the body and mind, as well as activation of receptors in the nervous system related to well-being. **Conclusion:** In the end, providing an enjoyable and creative experience that positively affected the health of the participants. In addition to the social inclusion of the population present, even though realistic simulation, it provided access to leisure environments that were previously inaccessible. It was also an enriching experience for the students, as they were able to interact with the public, understand their real needs, and visualize the relevance of strategic health promotion actions in aging.

Keywords: Virtual reality; Health promotion; Elderly; University.

Acknowledgments: FAPESP, CAPES and CNPq.

MAKING OF A PLAYFUL GAME TO RAISE AWARENESS OF THE CORRECT HYGENIZATION OF FOOD AND HANDS TO CONTROL HUMAN PARASITOSIS

Ester Helena Rodarte[1], João Guilherme Martins[1], Ricardo Andrade Furtado[2]

[1]Escola Técnica Aberta do Brasil Dr. Júlio Cardoso, Franca, Brazil, 14400-570

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: esterhelenarodarte2306@gmail.com

Introduction: In Brazil, a high percentage of diseases that affect humans are associated with poor water and sanitation quality. Purpose: To formulate a playful game that reinforces knowledge about the main Brazilian human parasitic diseases that can be combated by simple sanitary measures. **Methods:** To identify the main parasitic diseases in Brazil, a literature review about the diseases that affect humans are associated with poor water and sanitation quality was performed in appropriate search engines such as google scholar and pubmed. Considering the development of the game, the issues addressed, as the propositions of solutions were based on literature, internet and artificial intelligence. The information compiled in the game was expressed in the form of objective images and texts contained in game cards. The selected information was compared with the scientific literature. **Results:** After research and understanding of the theme, four games were selected as prototyping options, but in the end, we opted for a simpler and more dynamic game that generated interest in children. The development of the game "*Descomplique*" is based on the different types of prevention against human parasitosis, aiming at the knowledge and understanding about these diseases in a playful way. **Conclusion:** It is concluded the need to transmit to children and their families, in a creative, stimulating and didactic way, the importance of proper hand and food hygiene for the prevention of parasitosis.

Keywords: Integration; Parasitic diseases; Prevention.

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EVALUATION OF THE RISK OF FALLS IN ACTIVE ELDERLY PEOPLE IN A CONVENIENCE CENTER

Esther Gondim Silva[1], Rosimere de Paula Cosmo, Leticia Natália de Oliveira[1], Lilian Cristina Gomes do Nascimento[1], Ana Paula Oliveira Borges[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: fisioesthergondim@gmail.com

Purpose: The Time Up and Go (TUG) test is used as a predictor of the risk of falls for elderly people. It consists of getting up from a chair, walking at your usual pace for a distance of 3 meters, turning around 180 degrees and returning to your seat. Its outcome is measured by the measured time, and the longer the time for execution, the greater the risk of falling. the goal was assess the risk of falls in active elderly people from a convenience center. **Methods:** Data were collected through an individual interview, in addition to the TUG. The study included 24 men (mean age: 72.39±5.95) and 71 women (mean age: 70.54±5.18), active and with preserved mobility. The test is based on the following scores: up to 10 seconds (low risk of falls), between 11 and 20 seconds (low risk of falls but must be monitored), between 21 and 29 seconds (moderate risk of falls), greater than or equal to 30 seconds (high risk for falls). **Results:** The evaluated men performed an average displacement time of 10.62 seconds (±3.52) and women 10.07 seconds (±2.81). **Conclusion:** The TUG showed that the elderly people evaluated had a good commute time, but that follow-up should be carried out to prevent falls in this population. The TUG has a low cost and is easy to use, making it an excellent tool to include in the assessment of elderly people and guiding professionals involved in identifying risks and preventing falls.

Keywords: elderly, geriatric assessment, postural balance.

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Acknowledgments: CNPq, Cruzeiro do Sul.

VALIDATION OF AN AUDITORY SPEECH DETECTION AND RECOGNITION TEST WITH STANDARDIZED STIMULI IN CHILDREN

Evellyn Rodrigues Silva[1], Mônica Pires de Castro[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: evellynrodrigues.10@hotmail.com

Purpose: The purpose of this study is to validate the recorded/standardized version of the word recognition test (IPRFF) in typically developing children with normal hearing. **Methods:** This research employs an observational, prospective, cross-sectional, multicenter study design, which will be submitted to the Research Ethics Committee of the participating institutions, namely Hospital das Clínicas of the Faculty of Medicine of the University of São Paulo (HCRP/FMRP/USP) and University of Franca (UNIFRAN). Data collection will begin after obtaining study approval. A comprehensive literature review has already been conducted, focusing on articles that describe the validation and utilization of speech recognition protocols in audiological evaluations. Relevant articles were identified through searches in databases such as the Scientific Electronic Library Online (SciELO), the United States National Library of Medicine (PubMed), and the Virtual Health Library (VHL), using appropriate descriptors. **Results:** A total of six articles were selected, including two articles related to the development of speech materials for speech audiometric evaluations, and four articles comparing live voice speech recognition performance with recorded protocols. Among the four articles that utilized recorded speech tests, only two included child participants, aged between zero and two years and between ten and eleven years, respectively. These articles will provide valuable insights for the comparative analysis of the findings obtained during the practical data collection phase of this research. **Conclusion:** This study aims to validate the use of a standardized procedure for evaluating the IPRF through the Auditory Speech Detection and Recognition test in young children.

Keywords: child, auditory perception, validation, standardization.

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BODY AND SUBJECTIVATION IN TESTIMONIES OF TRANSSEXUAL SUBJECTS

Evelyn Toniato[1], Aline Fernandes de Azevedo Bocchi[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: evelyntoniato@hotmail.com

Purpose: We situate as the objective of the research the problematization of the body and the processes of subjectivation, in relation to ideological determinations related to genders; we're interested in studying how the body is meant in the sayings of transsexual subjects about their processes of gender reassignment and transition, if we think that such processes necessarily imply a crossing, sometimes violent and discriminatory, of the medical-scientific knowledge-power. **Methods:** Our analytical device was built with a view to a reflection on listening and witnessing, which supports the construction of an experimental corpus obtained by response materials to interviews conducted during field research; therefore, we worked with testimonies of people who call themselves transsexuals, living in Franca, collected through the interview technique. **Results:** Supported by theoretical reflections on the body and testimony in the fields of Discourse Analysis and Psychoanalysis, the analyses denounce the knowledge and powers that determine the relationship of trans subject with it's body, normalizing bodies and conducts based on pre-constructed ones that establish an analogy between sexual body and gender. This relationship is constitutive of the medical-scientific discourse and organizes a legal apparatus whose symbolic structures are based on sexual anatomy as ultimate evidence of gender identification. The testimonies analyzed allow us to consider them as gestures of resistance of these subjects to cisnormative and exclusionary meanings. **Conclusion:** It's expected to contribute to the discussion about the transsexual body and the processes of subjectivation in testimonies of violence, as a resource for the visibility of non-binary people.

Keywords: body; subjectivation; transsexuality; testimony.

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Acknowledgments: CNPq.

APPLICATION OF COPPER NANOPARTICLES FOR COFFEE RUST CONTROL

Fausto E M Oliveira, Camaro C Alves, Alessanda Marieli Vacari, Lucas A Rocha, Eduardo Jose Nassar

1University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: faustomarolli@hotmail.com

Purpose: The aim of this experiment was to assess the impact of different concentrations of copper-based nanoparticles (CuNPs) on the control of coffee rust (Hemileia vastatrix). **Methods:** For the evaluation, 225 coffee plants of the Catuai 99 cultivar were divided into five treatments, named TR1, TR2, TR3, TR4, and TR5, with each plot consisting of nine plants. The negative control treatment consisted of the application of water and Tween 80 (0.05%). As a positive control, the commercial product Cuprazol® 380H was applied at a concentration of 2500 ppm. The remaining treatments involved different concentrations (750, 2250, and 3750 ppm) of the CuNPs solution. The applications were carried out every 30 days, starting in February and ending in April, and were evaluated every 15 days, with specific reports. The applications were made using an electric backpack sprayer, Brudden SS-20B and the pump pressure was adjusted according to the standards used for rust application. **Results:** The work carried out shows excellent results, as there was no propagation of rust. **Conclusion:** The control was higher compared to the commercial product, and there was no clogging of nozzles. In addition, there was also excellent dilution in the base solution, making full use of all the product added to it.

Keywords: Coffee, incidence, copper nanoparticles, sustainable strategies.

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HISTORY OF FALLS IN ELDERLY PEOPLE AT A COMMUNITY CENTER

Gabriel Barbosa Monteiro[1], Cristian Ribeiro Gonçalves[1], Letícia Natália Oliveira[1], Danilo Candido Bulgo[1], Ana Paula Oliveira Borges[1], Lilian Cristina Gomes do Nascimento[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gabrielbmonteiro58@gmail.com

Introduction: Falls in the elderly represent a significant public health problem worldwide. These falls can result in serious injuries, decreased quality of life, and even death. It is necessary to identify risk factors, such as the history of falls, in order to guide the elderly in effective prevention strategies. **Purpose:** To assess the history of falls in elderly individuals attending a community center. **Methods:** A cross-sectional study was conducted with a sample of 367 elderly individuals attending a community center. They were asked about sociodemographic data and their history of falls in the past year. Results: The sample consisted mostly of females (53,1%) with a age range of 61-89 years. Recurrent falls were reported by 62 elderly individuals (16,9%), while 217(59,12%) did not experience any falls in the past year. **Conclusion:** The identification of the history of falls in the elderly, including providing guidance to participants about the increased risk of subsequent falls in those who have previously fallen, is of utmost importance. With appropriate interventions based on evidence, it is possible to significantly reduce the risk of falls and improve the quality of life of this rapidly growing population.

Keywords: elderly, health promotion, risk identification, falls.

Approval CEPE: 805.792.659

Acknowledgments: FAPESP, CAPES and CNPq.

ANALYSIS OF THE ANTIMICROBIAL ACTION OF MEDICINAL OILS CONTAINING CANNABINOIDS

Gabriela Barbosa Davanço[1], Cristiani Marissa Piacitelli Prado Ferreira[2], Bianca de Souza Cintra[2], Maria Anita Lemos Vasconcelos Ambrósio[2], Jair Camargo Ferreira[2]

[1]Escola Técnica Aberta do Brasil Dr. Júlio Cardoso, Franca, Brazil, 14400-570

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gabrieledavanco11@gmail.com

Introduction: Cannabinoids, such as Cannabidiol (CBD) and Tetrahydrocannabinol (THC), are substances that may relieve pain, lower inflammation and decrease anxiety. Also, some studies suggest their antimicrobial action. Purpose: To characterize the minimum inhibitory and bactericidal concentrations (MIC and MBC) of medicinal oils from cababinoids. **Methods:** Fungi (*Candida albicans*) and bacteria (*Staphylococcus aureus, Escherichia coli, Pseudomonas spp*.) were treated with medicinal oils containing 150mg CBD, 50mg THC/mL or 8,6 mg CBD associated with 11,4 mg THC/mL (CBD, THC and CBD+THC groups, respectively). Additionally, treatments using pure Oil and DMSO were considered negative and positive controls, respectively. The MIC and MBC of each treatment were determined using Agar dilution MIC and BHI MBC methodologies. For each treatment, nine serial dilutions were used with a concentration range being from 10 to 100%. Nine serial dilutions of DMSO treatments were used with concentration range being from 0.0115 to 5.9µg/mL. Each procedure was done in triplicate. Results: Similar to the negative control group, all medicinal oils containing cannabinoids (CBD, THC or CBD+THC) showed MIC and BMC values greater than 100%. **Conclusion:** The tested commercial formulations did not show antimicrobial properties. Medicinal oils with increased concentrations of CBD and THC are being formulated at this moment.

Keywords: Cannabidiol, *Candida albicans*, *Escherichia coli*., *Pseudomonas sp*., *Staphylococcus aureus*, Tetrahydrocannabinol.

Acknowledgments: CNPq, CAPES (finance code 001), ACOLHE (Associação de Cannabis Medicinal de Botucatu).

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AGREEMENT IN NOTTINGHAM HISTOLOGICAL GRADE SYSTEM FOR CANINE MAMMARY CARCINOMA: EVALUATING RELIABILITY AND REPRODUCIBILITY AMONG EVALUATORS WITH DIVERSE EXPERIENCE LEVELS

Gabriela Cunha Cândido[1], Danielle Dal Picolo Cerce[1], Maísa Barbosa de Almeida[1], Marcela Aldrovani Rodrigues[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gabriela.cunha1@hotmail.com

Purpose: The present study aims to assess the interobserver agreement in the grading of canine mammary carcinoma (CMC) using the Nottingham Histological Grade (NHG) system of Peña 2013. It involves evaluators with varying levels of experience to provide relevant information regarding the reliability and reproducibility of the technique, as well as its potential use by non-specialist generalist professionals in pathology. **Methods:** The retrospective study analyzed paraffin-embedded blocks of CMCs diagnosed at the Veterinary Hospital of the University of Franca between January 2013 and December 2021. Tumor grading was performed by three independent examiners with experience levels of one month, one year, and five years. The agreement among the examiners was assessed using Fleiss' kappa (κ) statistical test, and the accuracy of the grading was evaluated using receiver-operator characteristics (ROC) curves. **Results:** The results demonstrated that 58.82% of the CMCs were consistently graded by all three examiners. The calculated κ value was 0.417, indicating a moderate level of agreement among the examiners in tumor grading. ROC curves indicated that the less experienced examiners performed less satisfactorily compared to the most experienced examiners. **Conclusion:** The study revealed important variability in the interpretation of graded features of CMCs using the NHG system among examiners. This can negatively affect the involvement of generalist physicians or less experienced pathologists in tumor diagnosis. Given the crucial role of tumor grading in treatment decisions, an inaccurate classification can lead to inappropriate therapies.

Keywords: breast tumor, oncology, tumor prognostics.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES and CNPq.

MOLECULAR NETWORKING TO IDENTIFY TRITERPENES IN *Fridericia craterophora*

Gabriella de Oliveira Magrin[1], Osvaine Júnior Alvarenga Alves[1], Valéria Maria Melleiro Gimenez[1], Márcio Luís Andrade e Silva[1], Wilson Roberto Cunha[1], Ana Helena Januário[1], Patrícia Mendonça Pauletti[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gabimagrin05@gmail.com

Purpose: This study aims to investigate the phytochemical composition of *Fridericia craterophora* (DC.) L.G. Lohmann (Bignoniaceae). **Methods:** The leaves of the plant material (770 g) were dried and ground, and then extracted with ethanol, resulting in 68 g of crude extract. A portion of the ethanolic extract (40 g) was subjected to a liquid-liquid partition, with *n*-hexane, EtOAc, and *n*-butanol as solvents. The resulting phases were processed using a rotary evaporator, yielding the following fractions: hexane (12.5 g), EtOAc (11.3 g), n-butanol (12.1 g), and water (5.6 g). The EtOAc fraction was analyzed using UPLC-HRMS (Ultra-Performance Liquid Chromatography–High-Resolution Mass Spectrometry), and the Global Natural Products Social platform (GNPS) was utilized to analyze HRMS/MS data. Furthermore, the EtOAc fraction was subjected to Vacuum Liquid Chromatography (VLC) using a hexane-EtOAc gradient as the eluent, furnishing five fractions. Fraction 4 (784 mg) obtained from VLC was further purified by prep-TLC using a hexane-EtOAc (1:1, v/v) solvent system. **Results:** Through the molecular network analysis, triterpenes were identified in the analyzed sample and provisionally annotated as ursolic acid, and oleanolic acid, among others. **Conclusion:** The application of the molecular network approach enabled rapid identification of metabolic classes in plant material samples. Ongoing research is focused on isolating derivatives of ursolic acid.

Keywords: Bignoniacea, Fridericia craterophora, triterpene.

Acknowledgments: FAPESP, CAPES and CNPq.

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ENT-KAURENOIC ACID: EVALUATION OF IN VITRO ANTIMICROBIAL ACTIVITY AGAINST CARIOGENIC BACTERIA.

Geise Bueno Paiva[1], Vitória de Paula Silva[1], Maria Anita Lemos Vasconcelos Ambrósio[1], Rodrigo Cassio Sola Veneziani[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: geisebuenopaiva32@gmail.com

Purpose: The objective of this study was to evaluate the antimicrobial activity of ent-kaurenoic acid against a representative panel of bacteria related to caries disease (Streptococcus mutans, Streptococcus mitis, Streptococcus sanguinis, Streptococcus sobrinus, Lactobacillus casei, Streptococcus salivarius, and Enterococcus faecalis). **Methods:** The microdilution method in microplates was used to determine the Minimum Inhibitory Concentration (MIC) and the Minimum Bactericidal Concentration (MBC) employing chlorhexidine digluconate as positive control and resazurin as an indicator of bacterial growth. **Results:** All bacteria showed MICs ranging from 6.25 to 12.5 μg/mL, except for E. faecalis (400 μg/mL) against ent-kaurenoic acid. The MBC values were equal to the MICs, indicating that the bacteriostatic and bactericidal concentrations did not differ from each other. **Conclusion:** Based on the obtained results, it can be concluded that ent-kaurenoic acid exhibited promising results for the majority of the tested bacteria.

Keywords: ent-caurenoic acid, cariogenic bacteria, antimicrobial activity.

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.

VOICE QUALITY AS A DIAGNOSIS: THE CASE OF INDIVIDUALS WITH COW'S MILK CONSUMPTION RESTRICTIONS

Giovana Pereira Gobbo[1], Maria Flávia Figueiredo[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: giovanagobbo807@gmail.com

Objective: This project aims to evaluate the voice quality of certain individuals and based on this evaluation, seeks to bring a diagnosis to the allergy caused by the consumption of milk and its derivatives. **Method:** The work began with a series of lives performed on Instagram by Dr. Maria Flávia Figueiredo on the subject, when the researcher can perceive that there is a specific voice pattern that may be related to food allergy caused by milk and its derivatives. To verify this hypothesis, 20 participants from the region of Franca, SP were recruited. They were asked to make a recording with the reading of 15 words and 15 predetermined phrases. After this process, individuals should answer a questionnaire about the occurrence and frequency of 55 symptoms related to food intolerance. This data was collected and carried out as a comparative analysis between the audios and the answers given to the questionnaire. **Results:** These results will allow us to prove or not the pertinence of the aforementioned hypothesis, that voice quality can serve as a diagnosis for the discovery of food intolerance caused by the consumption of cow's milk and its derivatives. **Conclusion:** At the end of the project, if the hypothesis is proven, we will have scientific evidence that the diagnosis of food intolerance can be corroborated by analyzing the patient's voice quality.

Keywords: food allergy, voice, diagnosis, milk, symptoms.

Acknowledgments: CNPq.

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AVIFAUNA INVENTORY IN VALE DO CÉU RECANTO ECOLÓGICO: A VALUABLE RESOURCE FOR BIRDWATCHING AND TOURISM IN THE SERRA DA CANASTRA NATIONAL PARK REGION

Giovana Stefani Correa, Maria Eduarda Silva e Silva, Maísa Ziviani Alves, Marcela Aldrovani Rodrigues

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: jostefanicorrea@gmail.com

Purpose: This study aimed to inventory bird species in Vale do Céu Recanto Ecológico, Babilônia, Delfinópolis, MG. The main objective was to gather valuable avifauna information in the Serra da Canastra National Park region, particularly to benefit tourists and birdwatching enthusiasts. **Methods:** Over 18 months (January 2020 to September 2021), bird species in the study area were recorded using visual search methods and trap cameras. Ten trap locations with cameras were set up on tree trunks or poles at a height of 30 to 50 cm above the ground. These cameras were programmed to capture images continuously throughout the day. The sampling effort was calculated by multiplying the number of sampling points by the total collection days. The species accumulation curve was constructed using the Mao-tau estimator. **Results:** The study uncovered a diverse bird community in the surveyed area, consisting of 64 documented species. Among them, Crax *fasciolata* is internationally classified as vulnerable to extinction and regionally endangered. The analysis of the species accumulation curve indicates a continuous increase, suggesting that the sampling process has not yet reached a stable state. Most bird species in the study area exhibit omnivorous or insectivorous feeding habits. **Conclusion:** The study's inventory emphasizes the significance of promoting ecotourism with a specific focus on avian observation within the surveyed region. The diverse assemblage of species, specifically frugivorous taxa, provides a distinctive avenue for avid naturalists to gain insights into the ecological significance of local ecosystems.

Keywords: cerrado, life on land, SDG-15.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES and CNPq.

MENTAL HEALTH COMMUNITY GROUPS: OPERATIVE GROUPS, PROTAGONISM AND VALUING LIFE

Gustavo Barbosa Carvalho, Vitor Hugo Bordini, Cláudia Alexandra Bolela Silveira[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gustavobcarvalho18@outlook.com

Purpose: This research intends to analyze and articulate the concepts that constitute Community Mental Health Groups and highlight their position as a proficient strategy for the promotion of mental health. **Methods:** This is a bibliographic review while an exploratory-descriptive work. **Results:** Through the references raised it was observed that the dialectical structure proposed by operative groups, the protagonist present in this context relating to the construction of the person and the group process, as well as the posture that prioritizes the valuing of life through the person's relationship with their daily experiences and an attitude of availability to share them are formed as fundamental for learning within Community Mental Health Groups, the articulation of these concepts is essential to understand how the group works and the possible impact of it, allowing for the possibility to be extremely significant for the development of the individual as it opens space for a humanized look at oneself and others just as much as recognizing the relevance in life experiences. **Conclusion:** The Community Mental Health Groups are functional methodologies in the promotion of mental health and a direct contribution to psychological or psychiatric treatments produced outside the meetings, complementing and varying existing programs of mental health care.

Keywords: community group, psychology, mental health, valuing life, operative groups.

Acknowledgments: CNPq, Cruzeiro do Sul

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CARDIOVASCULAR, HEMODYNAMIC AND SERUM BIOCHEMICAL EVALUATION IN POLICE DOGS UNDERGOING NOSE AND PHYSICAL ENDURANCE TRAINING

Hellen Cristina Damas[1], Guilherme Barbosa da Costa[2], Daniel Paulino Junior[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]São Paulo State University, UNESP, Jaboticabal, Brazil, 14884-900

E-mail: hellen_damas@hotmail.com

Purpose: One of the main concernsduringphysicaltrainingisthe issue of cardiorespiratory and metabolic conditioning that may influence the animal's performance as well as its death. Evaluate the complete blood count, serum concentrations of lactate, glucose, urea, creatinine, alkaline phosphatase, aspartate aminotransferase and creatine kinase, as well as electrocardiographic and echocardiographic evaluations in police dogs of the Belgian shepherd breed of Malinois, submitted to physical and nose training. **Methods:** the facilities of the kennel of the military police of the 15 battalion of the city of Franca will be used, where blood samples will be collected from 6 dogs for analysis of the variables mentioned above. They will be regularly exercised 3 days a week where the evaluations will be done every other week for 3 consecutive months (June, July and August 2023). **Results:** It is expected with this research a previous identification of possible harmful/ harmful alterations in some physiological systems of police dogs, thus predicting their state of health and level of training.

Keywords: canine, heart, work, performance.

Approval CEPE/CEUA: will go through the June meeting

Acknowledgments: CAPES (finance code 001) and CNPq.

Cuspidaria spectrum: PRELIMINAR PHYTOCHEMISTRY STUDY.

Heloisa Garcia[1], Osvaine Júnior Alvarenga Alves[1], Valéria Maria Melleiro Gimenez[1], Márcio Luís Andrade e Silva[1], Wilson Roberto Cunha[1], Ana Helena Januário[1], Patrícia Mendonça Pauletti[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: heloisa753garcia@gmail.com

Purpose: The objective of this study was to obtain the crude ethanol extract and fractions from the leaves of *Cuspidaria spectrum* (Bignoniaceae). **Methods:** The leaves of *C. spectrum* were dried and milled, yielding 1.12 kg of material. Subsequently, the plant material was extracted with 5 L of ethanol using the maceration method. The resulting mixture was filtered and concentrated under reduced pressure, resulting in 59.1 g of crude extract. Next, the crude extract (22 g) was dissolved in a methanol-water mixture (8:2 v/v, 500 mL) and subjected to extraction with hexane and ethyl acetate. After removing the solvents, the process yielded the hexane fraction (4.5 g), EtOAc fraction (5.6 g), and hydromethanolic fraction (10.8 g). The fractions were then analyzed using thin-layer chromatography (TLC) and high-performance liquid chromatography (HPLC). **Results:** TLC and HPLC analyses revealed the presence of secondary metabolites, such as terpenes and phenolic compounds. **Conclusion:** The obtained fractions will be further subjected to chemical purification process and to bioassays.

Keywords: Bignoniaceae, Cuspidaria, phytochemistry.

Acknowledgments: FAPESP, CAPES and CNPq.

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SYNTHESIS AND CHARACTERIZATION OF HYBRID MICROSPHERES KAOLINITE/CHITOSAN/POLYVINYL ALCOHOL AND APPLICATIONS IN REMOVAL OF EMERGING CONTAMINANTS.

Hugo Fernando Meira dos Santos, Emerson H. de Faria

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: hugofernando3768@gmail.com

Purpose: Thisstudy aimsto develop effective adsorbent microspheresusingkaol, chitosan and polyvinyl alcohol (PVAL) testing with three specific pollutants: Tebuthiuron, Ibuprofen and Caffeine. **Methods:** The material were made of a suspension by combining 7g of kaol with 5% (v/v) acetic acid mixture, 2% (m/v) chitosan, and a 1.5% (m/v) PVAL solution, mechanically stirring (24 hours). Drying the gel, then groundying, and suspending in a 200 ml mixture of 1% (m/v) chitosan and 1.25% (m/v) PVAL. Vigorously stirring (24 hours), and dripping in 8% (m/v) NaOH solution, then drying and washing till neutral pH. Variations in PVAL and double layer were made as control. The characterization techniques were: X-ray diffraction, infrared absorption spectroscopy, UV-Visible Absorption Spectroscopy, thermal analysis, specific surface area determination using methylene the blue method, cation exchange capacity analysis, scanning electron microscopy and equilibrium/ adsorption kinetics. **Results:** Results indicated Kaol particles uniformly dispersed within the biopolymer matrix. X-ray diffraction revealed the characteristic peaks of Kaol, combinated with reduced intensity due to the incorporation of the biopolymers. Fourier-transform infrared spectroscopy demonstrated the hydroxyl groups (3600 cm-1) of Kaol interacted with amine groups of chitosan and hydroxyls of PVAL through hydrogen bonding. The maximum adsorption capacities were: tebuthiuron: 2.378 mg/g, caffeine: 1.345 mg/g, and ibuprofen: 1.227 mg/g. Double layer and PVAL showed highest adsorption. **Conclusion:** Results revealed low adsorption, but higher than pollutant concentrations found in real environments, which could show some possible material uses.

Keywords: Clay minerals; Adsorption; Emergent pollutants and Microspheres.

Acknowledgments: CAPES (finance code 001); CNPq(310151/2021-0) and FAPESP (process 2022/07773-4)

HEALTH PROMOTION ACTIONS IN A DAY CENTER FOR THE ELDERLY: EXPERIENCE REPORT

Iago Rodrigues Oliveira[1], Leticia Natália De Oliveira[1], Bruna Aguiar Alves[1], Denis Cássio De Souza[1], Caroline Cristina Lourenço Vieira[1], Danilo Cândido Bulgo[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: iagorodriguesoliveira10@gmail.com

Purpose: To report on the experience in promoting health actions in a geriatric Day Center located in the interior of São Paulo. **Methods:** This is a descriptive study, of the experience report type, with health strategies developed through essence in health promotion and education, thematic workshops, conversation circles and activities of a ludic-pedagogical nature to establish a reflective environment, constructive and shared, in order to enable the learning of the elderly participants. As it is an experience report, the study did not need to go through an ethics committee, regulated by Resolution 466/12 and given the ethical rigor of the data collected, personal identification will be preserved. **Results:** Ten meetings were held with the participation of forty elderly people, both sexes (25 women and 15 men), aged between 60 and 82 years. The proposed activities involved knowledge about the architecture and history of the city with the motivation of rescuing the feeling of socio-environmental belonging, therapeutic gardens, educational activities, dance therapy and virtual reality. The activities provided moments of fun, cognitive improvement, social interaction and understanding about self-care. **Conclusion:** From the vision and experiences, the professors and students realized they gained the level of socialization among the participants and the formation of supervised bonds in the biopsychosocial and humanized, thus aiming at increasing self-esteem and quality of life from the perspective of the concept of health promotion. Such activities were stimulated and directed to the elastic specificities on the demand arising from the human aging process.

Keywords: Active Aging, Health Promotion, Human Aging.

Acknowledgments: FAPESP, CAPES and CNPq.

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THE IMPACT OF THE COVID-19 PANDEMIC ON CANCER SCREENING TESTS IN BRAZIL: A COMPARATIVE STUDY OF BREAST, PROSTATE, AND CERVICAL CANCERS

Isabela Gontijo de Oliveira[1], Manuela Sanches Mandel[2], Luciana Holtz[3], André Santos[4], Marcus Vinicius Jardini Barbosa[1], Marcelo Ballaben Carloni[1], Otávio Augusto Câmara Clark[7]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Instituto Oncoguia, São Paulo, Brazil, 01424-001

[3]Cerner Enviza, Nova Iorque, EUA, 10038

E-mail: isabelagontijo@gmail.com

Purpose: To analyze the impact of COVID-19 pandemic on the number of screening and diagnostic cancer tests performed for prostate, breast and cervical cancer in the Brazilian population. **Methods:** this was a transversal analytical and quantitative study on the number of screening and diagnostic cancer tests performed in the public Brazilian health care system SUS (Sistema Único de Saúde). Data were collected from the DATASUS (online SUS database) during pre-pandemic (March/2019 to February/2020) and pandemic periods (March/2020 to February/2021). We obtained the number of tests performed monthly for each of the tests and compared the two periods. Descriptive statistics were employed and the monthly average number of tests performed in each period were compared using the T Student test. **Results:** Comparing the pre-pandemic levels with pandemic levels, we found that there was a 45.2% decrease in the number of Papanicolaou (PAP smear) tests (194,978 less exams per month, $p<0,00001$), 44.4% decrease in mammograms (142,015 less tests per month, $p<0,00001$), and a reduction of 24.4% in the number of prostate specific antigen (PSA) tests per month (minus 148,815 exams performed, $p<0.0012$). **Conclusion:** There was a statistically significant reduction in the number of screening/diagnostic mammograms, PAP smears and PSA performed during the pandemic period, compared to the period before COVID-19. This reduction may result in an increase in the number of cases diagnosed at an advanced stage, with grave consequences for the patients and for the sustainability of the healthcare system.

Keywords: COVID-19; Cancer Screening; Medical Oncology

Acknowledgments: CNPq, Instituto Oncoguia.

ADAPTATIVE FINE MOTO DOMAIN IN CHILDREN BORN PRETERM: FOLLOW-UP VIA THE PREMATURE UNIVERSE ® CENTER

Isabela Tofolo, Amanda Cristina de Oliveira, Ariane Valadares Canuto, Maysa Venturoso Gongora Buckeridge Serra, Marisa Afonso Andrade Brunherotti

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: isabelatofolo123@gmail.com

Purpose: To evaluate the adaptive fine motor domain in children born preterm. **Method:** This is a series of cases, observational and developed in the Specialized Center for the Integral Development of Preterm: Premature Universe®, located at the University of Franca (UNIFRAN) (protocol CEP:65373122.8.0000.5495). For the report, six participants were considered, with a mean gestational age of 33.2±1.8 and corrected age at the time of evaluation of three months: with two twins (33.3%) and three (50%) females. The Denver-II scale was applied to evaluate the adaptive fine motor domain, ability to perform hand and foot movements in a coordinated manner. According to the corrected age of the participants, the three months of life evaluate the movements of following with the eyes the midline, exceeding the midline, hold rattle and join hands; the evaluation was performed in a controlled environment, with the participant lying on a mat and evaluated by a researcher. The data were categorized in descriptive form in percentages. **Result:** All (100%) presented age-appropriate adaptive fine domain, achieving the milestones of fine motor development predicted for the correct age. **Conclusion:** All responded positively to the motor milestone stage. The dimension of the repercussions that prematurity generates for the lives of children and how it affects their development is of worldwide interest, in which early assessment and follow-up is recommended by the National Policy of Integral Attention to Children's Health na Sustainable Development Objectives (SDO 3).

Keywords: Technology; Premature Newborn; Child development.

Approval CEPE/CEUA: 65373122.8.0000.5495

Acknowledgments: CNPq, Cruzeiro do Sul

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CAPTURE AND IDENTIFICATION OF PHLEBOTOMINES (DIPTERA: PSYCHODIDAE) IN THE WINTER PERIOD OF 2022 IN THE ITAMBÉ CAVE, ALTINÓPOLIS, SÃO PAULO, BRAZIL

Isabelly Domenegueti Tondin[1], Francismar Barbosa de Oliveira[1], Gabriel Nunes de Oliveira[1], Gabriela Nogueira Maggio[1], Letícia Cristina Morelli[2], Marcela Aldrovani Rodrigues[1], Salvador Paganella Chaves Junior[2], Andrey José Andrade[2], Rafael Paranhos de Mendonça[1]

[1]University of Franca, UNIFRAN, Franca, São Paulo, Brazil, 14404-600

[2]Federal University of Paraná, UFPR, Curitiba, Paraná, Brazil, 80060-000

E-mail: isabellytondin@gmail.com

Purpose: In view of the increase in cases of visceral leishmaniasis in dogs in the state of São Paulo, the aim of this study was to capture and identify phlebotomine sandflies in gruta do Itambé (Altinópolis/SP). **Methods:** Between June and August of 2022, entomological captures were carried out with light traps "Center on Disease Control" (CDC), during three consecutive nights in the last week of each month, totaling three months. Ten traps were installed at strategic points, with distances of approximately 10 meters from each other, at 1.5 meters above the ground. Traps numbered 1 to 6 were positioned inside the grotto and traps 7 to 10 remained outside the grotto. After the collections, the sandflies were morphologically identified, relating the data with the collection points. **Results:** In the captures carried out, 220 specimens were identified (166 males - 75,45%; and 54 females - 24,55%). The specie *Lutzomyia longipalpis* was predominant, totaling 192 sandflies captured, which corresponded to 87,27%. The other species identified were *Lutzomyia itambe* (9,93%), *Brumptomyia avellari* (0,45%), *Evandromyia carmelinoi* (0,91%) and *Evandromyia edwardsi* (0,45%). Specimens were also captured which were only possible to identify the genus, including 2 specimens of *Lutzomyia* sp. (0,91%) and 2 *Brumptomyia* sp. (0,91%). **Conclusion:** It is concluded that these findings have a crucial role in public health, as there was a predominance of the species L. longipalpis, which is considered the main species related to the transmission of visceral leishmaniasis in dogs and humans in Brazil.

Keywords: Leishmania, cave environment, vector.

Acknowledgments: UNIFRAN and CAPES.

EFFECT OF CHLORHEXIDINE ON BIOFILMS OF *Candida parapsilosis*

Jacqueline Kerolen da Silva Dourado[1], Gilda M. B. Del Negro[2], Gil Benard[2], Regina Helena Pires[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Laboratory of Medical Mycology, Instituto de Medicina Tropical e Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil, 05403-000

E-mail: DouradoJackie@outlook.com

Purpose: This study aimed to investigate the impact of chlorhexidine (CLX) on the formation of persistent cells in *Candida parapsilosis* biofilms. **Methods:** In addition to C. *parapsilosis* ATCC 90028, five isolates of C. *parapsilosis* recovered from nosocomial environments were included in the study. These isolates were biofilm formers and resistant to fluconazole. The commercial CLX preparation was diluted in distilled water and sterilized using 0.22 µm filters. Biofilms were formed, and the minimum inhibitory concentration (MIC) and minimum fungicidal concentration (MFC) were determined using the broth microdilution technique. Cell viability was assessed using the agar plating method. **Results:** The results showed that biofilms exposed to CLX at 125 µg/mL had an MIC range of 2.44 to 9.76 µg/mL and an MFC range of 2.44 to 19.5 µg/mL. When biofilms were exposed to CLX at 2000 µg/mL (equivalent to 100 times the CFM), approximately 1% of the biofilm cells remained viable at CLX concentrations between 250 and 1000 µg/mL. These findings indicate the presence of a persistent cell phenotype in C. *parapsilosis* biofilms, as a small population of cells survived despite increasing concentrations of the antiseptic. **Conclusion:** Understanding the persistence of C. *parapsilosis* cells against CLX is crucial for comprehending the mechanisms of cross-infection between patients and healthcare workers, particularly through hand transmission. This knowledge can contribute to the development of effective strategies to prevent and control infections caused by C. *parapsilosis* in healthcare settings.

Keywords: chlorhexidine, persistes cells, hospital setting, sanitization procedures, C. *parapsilosis*.

Acknowledgments: FAPESP (grant 2022/07878-0), CNPq and Cruzeiro do Sul.

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IN VITRO EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF CRUDE BROWN PROPOLIS EXTRACT AGAINST CARIOGENIC BACTERIA

Jaqueline Dutra Oliveira[1], Maria Eduarda de Souza Cardoso[1], Maria Anita Lemos Vasconcelos Ambrosio[1], Rodrigo Cassio Sola Veneziani[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Paulista State University - UNESP Jaboticabal, Brazil, 14884-900

E-mail: jaquelinedutra421@gmail.com

Purpose: The aim of this study was to assess the antimicrobial potential of crude brown propolis extract against bacteria that are responsible for causing dental caries. **Methods:** Bacteria used in the assays were selected from the American Type Culture Collection (ATCC) and all belonged to the gram-positive category. The strains used in the study included *Streptococcus mutans* ATCC 25275, *Streptococcus mitis* ATCC 49456, *Streptococcus sanguinis* ATCC 10556, *Streptococcus sobrinus* ATCC 33478, *Lactobacillus casei* ATCC 11578, *Streptococcus salivarius* ATCC 25975, and *Enterococcus faecalis* ATCC 4082. The Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were determined using the microdilution method in microplates. Chlorhexidine digluconate was used as a positive control, and the growth of bacteria was monitored using resazurin as an indicator. **Results:** All bacteria exhibited Minimum Inhibitory Concentrations (MICs) within the range of 25.0 to 100.0 μg/mL, except for E. faecalis, which showed a MIC of 400 μg/mL against the crude brown propolis extract. The Minimum Bactericidal Concentrations (MBCs) were found to be equivalent to the MICs, indicating that the concentrations required for inhibiting bacterial growth and achieving bactericidal effects were not distinguishable from one another, except for *S. salivarius* (MIC = 200.0 μg/mL and MBC = 400.0 μg/mL). **Conclusion:** Based on the obtained results, it can be concluded that the crude extract exhibited high antimicrobial activity at the evaluated concentrations, except against *Streptococcus salivarius* and *Enterococcus faecalis* bacteria.

Keywords: Brown propolis, antimicrobial activity, dental caries.

Approval CEUA: not applied.

Acknowledgments: FAPESP, CAPES and CNPq.

EFFECT OF POLYHEXAMETHYLENE GUANIDINE HYDROCHLORIDE AS A MOUTHWASH: ANATOMOPATHOLOGICAL ANALYSIS OF THE DIGESTIVE SYSTEM

Jhenice Palmeira Gallina[1]*, Pâmela Rodrigues Reina Morena[1], Victória Marques Russo Ramos[1], Lucas de Freitas Pereira[1], Sérgio Ricardo Ambrósio[1], Renato Luis Tame Parreira[1], Denise Crispim Tavares[1], Rodrigo Cássio Sola Veneziani[1], Saulo Duarte Ozelin[1], Fernanda Gosuen Gonçalves Dias[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: jhenice.palmeirag@gmail.com

Purpose: To evaluate the effect of an oral topical solution containing the synthetic polymer polyhexamethylene guanidine hydrochloride (PHMGH) at 0.0625%, on the digestive system, through clinical and histopathological examination. **Methods:** Five rats were submitted to instillation of four drops of the polymer, daily, for 90 days consecutives, mimicking the use as a mouthwash (GPHMGH) and five control rats were not treated (GC). The animals were evaluated daily for alterations in the oral mucosa and tongue. After euthanasia, fragments of the oral mucosa, tongue, esophagus, stomach and intestine were collected, assuming possible ingestion of the tested product, for histological analysis of edema, ulceration, necrosis, hyperplasia, hemorrhage and mononuclear and polymorphonuclear inflammatory infiltrate, assigning intensity scores: 0 (absent), 1 (mild), 2 (moderate) or 3 (intense). **Results:** No rat showed clinical and macroscopic alterations in the digestive organs. Histological results were compared by parametric t-test. Regarding the edema, ulceration, necrosis, hyperplasia, hemorrhage and polymorphonuclear inflammatory infiltrate scores, no statistical difference was observed in the PHMGH compared to the CG. On the other hand, the mononuclear inflammatory infiltrate in the intestinal mucosa was significantly higher in GPHMGH, with a predominance of lymphocytes and plasmocytes and rare foci of macrophages. **Conclusion:** The polymer did not cause damage to the mouth or other organs of the digestive system, despite the presence of a mononuclear inflammatory infiltrate in the intestinal mucosa; thus, PHMGH becomes a promising and inexpensive option for the development of new oral antiseptic products, aimed at preventing oral diseases such as caries and periodontitis.

Keywords: oral hygiene, veterinary dentistry, synthetic polymer, safety test.

Approval CEUA: 8704160318.

Acknowledgments: University of Franca and CAPES.

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POTENTIAL BACTERICIDAL ACTION OF OZONE GAS AND LASERTHERAPY AGAINST THE ORAL MICROBIOTA OF CAPTIVE BIG CATS

João Marcos Acácio, Bianca de Souza Cintra, Viviani Silva Rodrigues, Renata Alves de Barros, Maria Anita Lemos Vasconcelos Ambrósio, Fernanda Gosuen Gonçalves Dias, Marcela Aldrovani Rodrigues, Daniel Paulino Junior, Jair Camargo Ferreira

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: joaojmej@hotmail.com

Introduction: Large wild cats are essential for the establishment of most ecosystems. In case of host-microorganism imbalance in wild cats, the oral microbiota can be a precursor of both local and systemic diseases. **Purpose:** To evaluate the antimicrobial action of ozone gas (O3) and low-level laser therapy (LT) against bacteria isolated from the oral cavity of captivity large felids. **Methods:** Microorganisms (*Enterococcus faecalis, Leifsonia aquática, Oerskovia sp*., *Serratia marcescens, Corynebacterium sp*., *Providencia pustigianii* e *P. rustigianii*) previously isolated from six captivity large felids (*Puma concolor*, *Panthera onca* and *Panthera leo*). Next, all cultures were submitted to one of four treatments: a) O2-O3 gas mixture (O3 group), b) low-intensity laser therapy (LT group), c) LT and O3 associated (LT-O3 group) and d) pure O2 (control group). In the O3 group, the culture plates were exposed to 30 μg O3 mL-1 during 2 min. The ozone-rich atmosphere was generated with the aid of a portable generator (Ozone & Life, São José, Brazil) coupled to a glass suction cup. In the LT group, bacteria were irradiated using an iodine laser with a light absorption wavelength of 660 nm and a final fluence of 80 J cm2 (Laserpulso, IBRAMED®, Amparo, Brazil). The procedures were performed in triplicate. **Results:** Independently of the bacteria, uncountable CFUs were detected 24 hours after the treatment. Conclusion: The results of the treatments did not demonstrate the bactericidal effect of the therapies.

Keywords: wildlife medicine, *Panthera leo*, *Panthera onca*, *Puma concolor*.

Approval CEPE/CEUA: 9615071020

Acknowledgments: CAPES (finance code 001), CNPq and Ozone&Life®.

INVESTIGATION OF THE ANTIMICROBIAL ACTION OF PHOTO-OZONE THERAPY AGAINST GRAM-POSITIVE BACTERIA Staphylococcus aureus

João Marcos Acácio, Viviani Silva Rodrigues, Bianca de Souza Cintra, Maria Anita Lemos Vasconcelos Ambrósio, Jair Camargo Ferreira

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: joaojmej@gmail.com

Introduction: Recently report described the germicidal action of photo-ozone therapy against canine and equine *Pythium insidiosum*. **Purpose:** To evaluate the antimicrobial action of photo-ozone therapy against Gram-positive bacteria Staphylococcus aureus. **Methods:** The bacteria were cultured in BHI medium. Next, the cultures were divided into four groups according to the treatment: i. O2-O3 gas mixture (O3 group), ii. low-intensity laser therapy (LT group), iii. LT and O3 associated (LT-O3 group) and iv. pure O2 (control group). In the O3 group, the culture plates were exposed to 48μg O3 mL-1 during 15 min. In the LT group, bacteria were irradiated using an iodine laser with a light absorption wavelength of 660 nm and a final fluence of 80 J cm2. Cultures from LT-O3 group were exposed to laser and O3 treatments in sequence. Control group exposed to O2 for 15 min. The treatments were performed on D0 and D2. After the second treatment, the bacteria were recultured in a new BHI medium for an additional 24 hours, in order to evaluate the bacterial growth. The procedures were performed in triplicate. **Results:** Independently of the experimental groups, uncountable UFCs have been detected 24 hours after the last treatment. **Conclusion:** Under the current conditions, photo-ozone therapy did not demonstrate antimicrobial activity against *S. aureus*. Currently, additional studies are being conducted to determine the optimal methodology for this therapy.

Keywords: Laser therapy, infections, ozone, bacterium

Acknowledgments: CNPq, CAPES (88887.674749/2022-00), Ozone & Life.

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RELATIONSHIP BETWEEN BODY MASS INDEX AND SPEED IN THE 3200M TEST AMONG AMATEUR RUNNERS

João Paulo Aguiar Albano, Daniel dos Santos[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: jp-albano@hotmail.com

Purpose: The aim of this study was to examine the relationship between Body Mass Index (BMI) and anaerobic threshold velocity in amateur runners from the interior of São Paulo during the 3200m test. **Methods:** Seven male athletes with an average training history of 17.11 ± 16.77 months, aged 30 ± 5.13 years, body mass of 69.37 ± 8.95 kg, and height of 1.76 ± 0.07 m were included in the study. BMI was calculated using the equation: BMI = body mass / height. The anaerobic speed threshold (AST) was determined by conducting the 3200m running test on an athletics track, using the equation: ATS = 493 - 22.78 x time in minutes. The test was conducted under environmental conditions of 25°C and 71% relative humidity. **Results:** The evaluation of BMI indicated that the athletes had an average BMI of 22.35 ± 1.91, with all participants falling within the eutrophic range. The average running speed in the 3200m test was 227.50 ± 21.15 m/minute. A moderate correlation was observed between BMI and LAN (-0.504). **Conclusion:** Based on the findings from this group of runners, it can be concluded that maintaining a body weight within the normal range resulted in higher speeds during the 3200-meter running test. This suggests that BMI could serve as a predictor of performance in races predominantly relying on aerobic metabolism.

Keywords: *running, body mass index, athletic performance*

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Acknowledgments: CNPq, Cruzeiro do Sul

DIGITAL TECHNOLOGIES AS A TOOL FOR SOCIAL INCLUSION

João Pedro Beretta Bueno[1], Luciano Aparecido Pereira Junior[1], Regina Célia de Souza Beretta[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: joaopedrobb2013@gmail.com

Purpose: To identify the use of digital technologies in the process of social inclusion of vulnerable populations. **Methods:** The proposed methodology was based on a dialectical, qualitative perspective, with a bibliographic and documentary survey, to identify research and successful experiences that prove how the use of digital technologies assists in the process of social inclusion. Ten articles from the last five years - 2019 to 2023 - were selected from the SciELO, Virtual Health Library, and Google Academic platforms, as well as data from the Brazilian government. **Results:** Connectivity constitutes the new need of the contemporary world, however, it accentuates the inequality between poor and rich, reaffirming social injustices. Regarding internet access, Brazil has 47 million non-users (26%), and the cell phone is the most used device by people (99%). It is worth pointing out that currently 20 million homes (28%) do not have Internet access in Brazil. Actions focused on the inclusive perspective, regarding the use of technology as a tool for inclusion, must attend to ethnic, cultural, and religious minorities; to socioeconomic differences, and to gender issues, favoring an attention to populations historically excluded and segregated in Brazilian society. The implementation of technological public policies, adapted to current times and to the process of digital accessibility, must be strengthened by prioritizing communication, employment, and income increase, especially in the poorest layers of the population. **Conclusion:** Finally, it is important to highlight that although digital technologies can be tools for inclusion, inaccessibility amplifies the existing technological inequality.

Keywords: *social vulnerability, social inequality, poverty.*

Acknowledgments: FAPESP, CAPES, CNPq.

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ATTRACTION TO HERBIVORE-INDUCED VOLATILES DETERMINE COFFEE PEST SELECTION BY *Chrysoperla externa*

Jonas Mendes Rodrigues Souza, Felipe Breda Alves, Vinicius de Oliveira Lima, Alessandra Marieli Vacari

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: jonasmendesrs97@hotmail.com

Purpose: To study the choice behavior of *Chrysoperla externa* (Neuroptera: Chrysopidae) opting between the coffee leaf miner *Leucoptera coffeella* (Lepidoptera: Lyonetiidae) or the red spider mite *Oligonychus ilicis* (Acari: Tetranychidae). **Methods:** The collected predators were brought to the laboratory, where they were selected and used to initiate reproduction, and subsequently, some individuals were referred to a specialist (taxonomist) for proper identification. In the laboratory, experiments were conducted with larvae of the predator *C. externa*, choosing between *L. coffeella larvae* or *O. ilicis adults*, at different pest densities on coffee plants. The choice of the predator was recorded using an olfactometer with a "Y"-shaped glass tube. **Results:** Only the third larval instar of *C. externa* showed a preference between *L. coffeella* larvae and O. ilicis adults, predominantly choosing seedlings with higher prey densities. Additionally, the predator species *C. externa* showed a preference for plants with high infestations, either of *L. coffeella larvae* or *O. ilicis* adults, when compared to non-infested plants. Thus, when coffee areas are infested by both pests, *C. externa larvae* can locate infested plants and consume these pests, contributing to their control. **Conclusion:** The results allowed determining that the infestation density of these pests, which can occur simultaneously in coffee plants during hot and dry seasons of the year, influences the choice behavior of the predator *C. externa*. This discovery is promising for increasing the effectiveness of this lacewing species when used in the field in the future.

Keywords: agroecological system, lacewings, coffee tree, biological control.

Approval CEPE/CEUA: 003/14.

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GENDER DIFFERENCES IN BULLYING PERPETRATION AND VICTIMIZATION AMONG STUDENTS: A LITERATURE INTEGRATIVE REVIEW

Júlia de Paula Colleti[1], Jorge Luiz da Silva[2]

[1]Angelo Scarabucci State School, Franca, Brazil, 14403-646

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: colletijulia@gmail.com

Purpose: Identify gender differences in bullying and cyberbullying perpetration and victimization among students. **Methods:** Integrative review enables analyzing various studies addressing a given subject. Six steps were taken when searching and selecting the studies: 1) establishing the topic and guiding question; 2) establishing inclusion and exclusion criteria; selecting information; 4) assessing; 5) interpreting; 6) presenting the review. VHL and SCIELO were consulted, crossing the following keywords: bullying, cyberbullying, sex, and gender. The search in the databases was performed in the field "title." The guiding question, established according to the PICo strategy, was: "Are there gender differences in bullying and cyberbullying perpetration and victimization among students?" Texts other than scientific articles and articles not written in Portuguese were excluded. **Results:** 93 papers were identified, 15 of which were duplicated, while 74 did not meet the inclusion criteria. Hence, the full texts of the four papers selected were read and comprised the integrative review. None of the papers addressed cyberbullying. Note that most bullies and victims were boys. Boys also bullied girls, but girls did not bully other girls. The girls practice verbal aggression more frequently. The girls would also ask school employees to help when another girl was being bullied. **Conclusion:** Schools must prevent bullying, especially among boys who more frequently perpetrate bullying and become victims.

Keywords: bullying; gender; cyberbullying; sex.

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INFLUENCE OF POLYETHER NATURE ON THE DRUG RELEASE BEHAVIOR OF POLYUREA MATRIX

Julia G. Vargas[1], Heber E. Andrada[1], Bruno A. Fico[1], Julia M. Paulino[1], Natália N. Silveira[1], Raquel A. dos Santos[1], Eduardo F. Molina[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: juliagabriela-vargas@hotmail.com

Purpose: In this work, by choosing the hydrophilicity of the polyetheramine based on PEO or PPO the amount of diclofenac drug released was evaluated. **Methods:** The formation of the final materials was controlled by sol-gel reactions between a polyether and a polyisocianate, then characterized by different techniques (FTIR, XRD, TGA). Moreover, the cytotoxicity of the material and the amount of drug released was studied. The swelling behavior (water uptake) of the PEO- and PPO-based polyurea membranes was studied gravimetrically. **Results:** The cytotoxicity results suggested thta the PEO matrix is biocompatible compared to PPO400, which showed lower cell viability. The swelling results indicate that for PEO membrane, the rapid increase of the swelling ratio during the 6 h of assay leading to 80%. On the other hand, PPO400 membrane showed a slower water uptake during the swelling. **Conclusion:** The membranes based on polyether PEO-PPO exhibiting sustained release profiles. Polyurea membranes showed potential applications as transdermal drug delivery systems. These membranes are advantageous owing to the low cost and simplicity of manufacture of the sol-gel synthesis.

Keywords: jeffamine, hydrophilicity, sustained release, diclofenac sodium.

Approval CEPE/CEUA: not applied.

Acknowledgments: FAPESP, CAPES and CNPq.

PREIMAGINAL DEVELOPMENT OF THE PREDATOR *Chrysoperla externa* (NEUROPTERA: CHRYSOPIDAE) ON SUGARCANE BORER, *Diatraea saccharalis* (LEPIDOPTERA: CRAMBIDAE)

Júlia Lara Nogueira[1], Guilherme Henrique Masson Montes[1], Josy Aparecida dos Santos Costa[1], Karla Silva de Queiroz[1], Pedro Sandoval dos Santos Ribeiro Cavallari[1], Felipe Breda Alves[1], Alessandra Marieli Vacari[1].

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: julialaranogueira@hotmail.com

Purpose: The sugarcane borer, Diatraea saccharalis (Lepidoptera: Crambidae) is one of the most significant pest species affecting the sugarcane crop in Brazil. Therefore, the objective of this study was to determine the preimaginal development and sinvestigate the predation behavior of the predator Chrysoperla externa (Neuroptera: Chrysopidae) when consuming D. saccharalis prey, The aim was to gather information to establish a new biological control program for sugarcane. **Methods:** The experiment began by collecting eggs that were up to 12 hours old, all on the same day. Every 2 hours, the eggs were, and newly hatched larvae were examined. Larval development stage and survival were recorded every 24 hours, and evaluations continued until the emergence of adults. For each treatment, 50 newly hatched chrysopids larvae were used, but only those that completed their development were included in the data analysis. **Results:** The preimaginal period was influenced by the consumption of different prey species, with a reduction of 2.4 days observed when the predator consumed A. kuehniella eggs. Additionally, preimaginal survival was also affected, as C. externa individuals exhibited a mortality rate of 57.5% when consuming D. saccharalis eggs. Predators that consumed newly hatched larvae of D. saccharalis failed to complete their preimaginal development, with a total mortality observed even before reaching the larval stage. **Conclusion:** The predator C. externa sucessfully consume and complete its life cycle with D. saccharalis eggs as prey, indicating the potential for initiating a biological control program in Brazil.

Keywords: Biological control, lacewing, sugarcane, sustainable strategies.

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SELECTIVITY OF SYNTHETIC CHEMICAL INSECTICIDES USED ON COFFEE CROP ON THE PREDATOR *Chrysoperla externa*

Kamila Gabrielly Ribeiro Alves[1], Felipe Breda Alves[1], Veronika Cristina da Silva Lundes[1], Maria Luiza dos Santos Martins[1], Pedro Sandoval dos Santos Ribeiro Cavallari[1], Alessandra Marieli Vacari[1]

[1]University of Franca, Av. Dr. Armando Salles, Oliveira, nº 201, Franca/SP

E-mail: kamila.gabrielly.ribeiro.alves@gmail.com

Purpose: In coffee crops there are several pests, such as mites and coffee leaf miner, *Leucoptera coffeella* (Lepidoptera: Lyonetiidae), however we have predators, such as the family Chrysopidae that are population regulators of these pests. The present research aimed to evaluate the susceptibility and selectivity of the predator *Chrysoperla externa* to synthetic chemical insecticides used in coffee crop. **Methods:** The volume of syrup used was 400 L/ha. The commercial products, active ingredients and doses used were: Nomolt® (Teflubenzurom - 0.5 L/ha), Hayate® (Cyclaniliprole - 0.6 L/ha), Sivanto Prime® (Flupyradifurone - 0.75 L/ha) and Trebon® (Ethophenproxy - 2.0/L ha). The experiment was conducted using an entirely randomized design with 50 replicates of the first and second stages (<24h of age), since each larvae is considered a replicate. Evaluations were performed every 24 h, noting the mortality until the adult stage. **Results:** The tested insecticides had an influence on the mortality of C. externa after exposure of first and second-stage larvae of the predator. The insecticides Nomolt®, Hayate®, Sivanto Prime® and Trebon® in the first instar were those that caused low pupal formation and adult emergence and high accumulated mortality. Except for Hayate® in the second stage, all other insecticides caused more than 50% mortality. **Conclusion:** The tested insecticides cannot be recommended for integrated pest management since they showed a high mortality percentage in their results.

Keywords: *lacewing, selectivity, biological control, insecticides, susceptibility.*

Acknowledgments: FAPESP (2019/18376-3), CAPES (finance code 001) and CNPq.

MENTAL HEALTH OF ELDERLY RESIDENTS IN A CITY IN SÃO PAULO

Kauan Cézar Souza Campo[1], Letícia Natália Oliveira[2], Danilo Candido Bulgo[2], Lilian Cristina Gomes do Nascimento[2]

[1]Escola Estadual Ângelo Scarabucci

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: ckauan759@gmail.com

Purpose: To examine the use of antidepressants by elderly residents in a city in the countryside of São Paulo, Brazil. **Methods:** This is quantitative, exploratory, cross-sectional field research. It was submitted and approved by the Research Ethics Committee on Human Beings (CEP) with the opinion number: 4,629,190. Regarding the selection of participants, individuals aged 60 or older, of both sexes, residing in a municipality in the countryside of São Paulo were included in the study. **Results:** A total of 381 elderly individuals participated in this research, with 177 (46.46%) males and 204 (53.54%) females, ranging in age from 60 to 99 years. Regarding medication use by the participants, it was found that 307 (80.58%) use at least one medication daily. Among the participants using medications, 72 (23.45%) reported daily use of antidepressants. **Conclusion:** Based on the results of the study, it is emphasized that depressive symptoms are frequently associated with the aging process. Therefore, there is a need for further research to identify risk factors, predictors, and types of treatment for depression.

Keywords: elderly, health promotion, antidepressive, mental health.

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FAKE NEWS AND DISINFORMATION ON SOCIAL MEDIA: THE CASE OF REPORTER PATRÍCIA CAMPOS MELLO

Lais Lazarini Martins, Assunção Cristovão

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: laislazarinimar@gmail.com

Purpose: The purpose of this article is to conduct a case study on the book "A Máquina do Ódio – Notas de uma Repórter sobre Fake News e Violência Digital" by journalist Patrícia Campos Mello. The theoretical foundation for this study is the concept of dialogism by Russian philosopher Mikhail Bakhtin, aiming to identify the connections between the book and the social and political context of our time, particularly in relation to the prevalence of social media, including within the realm of journalism. The book will be examined as a linguistic phenomenon, as an event that offers a new perspective on topics such as fakes news, disinformation, hate speech, and the specific context in which these phenomena occur, especially concerning women journalists. To support the analysis, we will utilize the document "The Chilling: Global trends in online violence against women journalists" produced by UNESCO in 2021, which explores the issue of violence against women journalists worldwide. **Methods:** The employed methods will involve a dialogical comparison between the narrative presented in the book and the contextual background of the depicted time, which was marked by intense political polarization amplified by the 2018 presidential campaign in Brazil. **Results:** Findings from the analyzed corpus indicate that hate speech against women journalists has gained traction and has become a common occurrence on social media platforms, drawing upon deeply ingrained prejudices against women, particularly misogyny and sexism.

Keywords: Violence against women, women journalists, social media, Dialogism, Bakhtinian thought.

Acknowledgments: CNPq, Cruzeiro do Sul

FUNGAL TRANSFORMATION OF DITERPENES OBTAINED FROM *Araucaria sp* BRAZILIAN BROWN PROPOLIS

Lavínia Cabral Lima[1], Mário Ferreira Conceição Santos[1], Jairo Kenupp Bastos[2], Victor Pena Ribeiro[1], Larissa Costa Oliveira[1], Rodrigo Cassio Sola Veneziani[1], Sérgio Ricardo Ambrósio[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil

E-mail: laviniacabrallima@gmail.com

Introduction: Microbial transformation is an interesting tool used to increase the variety of chemical structures to be applied in the search for novel bioactive compounds. **Materials and Methods:** In present work, the biotransformation of dihydro agathic acid isolated from Araucaria sp Brazilian brown propolis, were performed using submerged liquid culture of Cunninghamella echinulata. The microorganism was grown by a two-stage fermentation procedure. Substrate were added as a dimethylsulfoxide solution (0.1g/L) and incubated for 7 days. The cultures were filtered, and the aqueous layers were extracted with ethyl acetate to furnish the extract codified as AC. **Results:** Chemical and NMR studies of AC allowed us to isolate and to identify two hydroxylated derivatives. Both antimicrobial and antitumor activities of such compounds will be investigated by our research group.

Keywords: Própolis, diterpenos, biotransformação, *Cunninghamella*

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INTERSECTORALITY IN THE SCHOOL HEALTH PROGRAM: AN INTEGRATIVE LITERATURE REVIEW

Lincoln Roberto Alves Baião[1], Jorge Luiz da Silva[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: lincolnalves479@gmail.com

Purpose: To identify in the literature the characteristics of intersectoral collaboration between health and education in the School Health Program. **Methods:** Integrative literature review. The bibliographic search was conducted in the Virtual Health Library (VHL) and Scientific Electronic Library Online (SciELO) databases. The PICo strategy (P=Population or Problem; I=Phenomena of Interest; Co=Context) was used to establish the question guiding the bibliographic search: "What are the characteristics of intersectoral approach to health and education in the School Health Program?" Inclusion criteria were studies published in the format of a scientific article, written in English, Portuguese, or Spanish, specifically focusing on the topics of interest. In addition, the following keywords were used: "School Health Program" AND Intersectorality; "School Health Program" AND Intersectorality; and "School Health Program" AND Intersectoral Collaborations". **Results:** All studies reported intersectoral collaboration in the School Health Program with variations in its implementation. Strengths included strengthened relations between sectors; communication and dialogue; shared decision-making; and shared responsibility. Weaknesses were conflicts of interest between the sectors; problems reconciling calendars; representative turnover; many members; focus on decision-making; managers' decision-making; and sectors' bureaucracy. **Conclusion:** Such strengths and weaknesses can support reflections and strategies to improve intersectoral collaboration in the School Health Program.

Keywords: School Health Program, intersectoral collaboration, student health.

Acknowledgments: FAPESP, CAPES and CNPq.

ASSOCIATIONS BETWEEN BULLYING, CYBERBULLYING, AND DEPRESSION DURING ADOLESCENCE: AN INTEGRATIVE LITERATURE REVIEW

Lívia Gabriela Garcia Oliveira[1], Jorge Luiz da Silva[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: liviaggoliveira@hotmail.com

Purpose: Identify associations between participation in bullying and cyberbullying and depression during adolescence. **Method:** Integrative literature review. The bibliographic search was performed in CINAHL, Scopus, LILACS, PsycINFO, and SciELO, using the following descriptors: 1. bullying AND depression AND adolescent; 2. Cyberbullying AND depression AND adolescent. The PVO strategy (Population or Problem, Variables, and Outcomes) was used. Only articles published in the last five years (2018-2022) written in Portuguese, English, or Spanish were included; manuscripts other than scientific articles were discarded. **Results:** Eight out of 49 papers were identified and analysed. All the studies reported an association between participating in bullying or cyberbullying and depression. Four studies found an association between bullying victimization and depression, and two found a relationship between cyberbullying victimization and depression. All forms of aggression victims experienced (physical, verbal, and relational) were associated with depression. **Conclusion:** The results indicate that experiencing bullying or cyberbullying negatively impacts the students' mental health, considering all victims experienced depression. Hence, it is essential to prevent both phenomena in schools and consider the bullies' different experiences, an aspect not addressed by the studies included in this review.

Keywords: bullying; bullying; cyberbullying; depression; literature review.

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ONLINE VIOLENCE AGAINST WOMEN JOURNALISTS: AN ANALYSIS OF A UNESCO STUDY IN THE LIGHT OF BAKHTINIAN THOUGHT

Lorena Cristina Castanheiro da Silva, Assunção Cristóvão

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: lccastanheiro.tradutora@gmail.com

Purpose: The aim of this article was to analyze the document 'The Chilling: Global Trends in Online Violence Against Women Journalists', produced and released by UNESCO (United Nations Educational, Scientific and Cultural Organization), in 2021. **Methods:** For the analysis, the dialogic principle of the Russian philosopher Mikhail Bakhtin was used so that, through 28 guidelines suggested by the agency to combat violence against women journalists on networks, the Organization's dialogues and worldview on this theme. **Results:** The main results of the study, namely: the increase in violence and threats against female journalists in the social media environment; they started from the assumption that every utterance maintained dialogical relationships and interlocutors appointed by the Unesco document to deal with the phenomenon of modernity, namely: the presence of female journalists in social networks. **Conclusion:** The partial results show a direct interlocution of the guidelines suggested by the body with platforms, government and other institutions, but not directly with women journalists, perhaps because they are the focus of UNESCO research.

Keywords: online violence; female journalists; dialogism; Unesco; SOCIAL MEDIA.

Acknowledgments: CNPq, Cruzeiro do Sul

TELEMEDICINE IS A DIGITAL TECHNOLOGY IN SOCIAL INCLUSION

Luana Beatriz Vaz Ribeiro[1]; João Pedro Beretta Bueno[1]; Tamires Mota de Oliveira[1]; Regina Celia de Souza Beretta[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: luanabunifran@gmail.com

Purpose: to analyze whether telemedicine can be a tool for social inclusion. Telemedicine is the use of information and communication technologies for remote health care and became relevant in Brazil in the 2000s. Connectivity was intensified when the Primary Health Care Networks were created, offering medical assistance through digital devices, such as computers and smartphones, in basic health units, by offering pre-clinical care, assistance, consultation, monitoring and diagnosis. **Methods:** a bibliographical survey of the last five years was used, with a dialectical qualitative approach, using the descriptors telemedicine and social inclusion in the Scielo and BVS databases to search. **Results:** With the new coronavirus pandemic and isolation and distancing measures, digital technologies gained importance, challenging the materialization of the principles of universality, equity and integrality, of the SUS. As a result of social inequalities, structural unemployment and vulnerabilities, there are currently 86.6 million Brazilians who are unable to connect every day. **Conclusion:** The tool addresses the promotion of self-care, faster diagnosis and treatment, with early interventions, and improvement of patient autonomy and comprehensiveness of care. It makes access easier for people with disabilities and the elderly, and those who are geographically isolated or incarcerated. Telemedicine allows professionals to exchange information and experiences, breaking the physical distance, offering efficient and health-promoting interventions. In this perspective, telemedicine becomes a tool for social inclusion

Keywords: TICS, health, rights

Acknowledgments: FAPESP, CAPES and CNPq.

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POTENTIAL OF MICROEMULSIFIED GREEN PROPOLIS ON THERMAL NOCICEPTION IN ARTHRITIC ANIMALS

Luis Felipe Lamarca Ribeiro[1], João Guilherme Martins[1], Giulia Maria Gilda Campos[1], Priscyla Marcatto[2], Jairo Kenupp Bastos[2], Ricardo Furtado[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]University of São Paulo, USP, Ribeirão Preto, Brazil, 14040-902

E-mail: luisfelipelamarca@gmail.com

Purpose: Green propolis (PV) has shown promising potential in the treatment of inflammation disorders, as well as the presentation in the form of a microemulsion has shown promise in enhancing the effect of drugs. In this sense, we aimed to evaluate the thermal nociceptive activity of microemulsified green propolis (PVME) in arthritic animals. **Method:** Arthritis was induced with collagen type II in rats, with treatments PVME 3 mg/kg, PV 3 mg/kg, also including negative control, arthritic control and control desamethasone 1 mg/kg. The treatments with the samples were from the 21st to the 35th day, with data collected in the Hargreaves equipment on the 1st and 42nd days. **Results:** At the end of the tests, the positive control animals (arthritis) significantly differed from the negative ones, as well as the animals treated with desamethasone significantly differed from the positive ones, showing the efficiency of the test system. The group treated with PVME significantly differed from the positive control group, on the other hand the PV group, despite showing a small reduction, this was not significant. **Conclusion:** Thus, this work shows that the incorporation of green propolis in microemulsion significantly potentiates the effect of green propolis on the modulation of thermal nociception in arthritic animals, contributing to a better understanding of the action of the microemulsion of the standardized extract of Brazilian green propolis, providing thus its more effective use in future clinical and pharmaceutical applications.

Keywords: Green Propolis, artrite, nociception, nanomedicine

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THE CONSTRUCTION OF FEMALE IDENTITY IN AVON COMMERCIALS. A SEMIOTIC ANALYSIS

Luiz Eduardo Izaías Tomaz[1], Vera Lucia Rodella Abriata[2]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: dudutomaz.leit@gmail.com

Purpose: The aim of this research was to analyze two advertising texts of the Avon brand through the theoretical framework of French semiotics in order to reflect on how the identity of the black woman was constructed. **Methods:** Based on the generative path of meaning, we analyzed the content plan of the texts using elements of the fundamental, narrative and discursive levels, as well as the expression plan of each advertisement, in order to compare them. **Results:** The results showed that women are represented in a more diverse way, no longer being seen only as an object or property. **Conclusion:** We observed that women play social roles that were previously not seen in commercials for beauty products, which translated a stereotyped image of black women and are now concerned with being in tune with the struggle of black women in defense of their rights as citizens.

Keywords: French semiotics, advertising, black Woman.

Acknowledgments: Cruzeiro do Sul; CNPq.

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EVALUATION OF THE ANTI-MELANOMA ACTIVITY OF A RUTHENIUM COMPLEX IN RODENTS

Luiza Guedes Santos[1], Gabriela Fernandes[1], Arthur Barcelos Ribeiro[1], Matheus Reis Santos de Melo[1], Iara Silva Squarisi[1], Lucas Henrique Domingos da Silva[1], Monize Martins da Silva[2], Alzir Azevedo Batista[2], Denise Crispim Tavares[1]

[1]University of Franca, UNIFRAN, Franca, São Paulo, Brazil, 14404-600

[2]Chemistry Department, Federal University of São Carlos, UFSCar, São Carlos, São Paulo, Brazil, 13565-905

E-mail: luizags2013@hotmail.com

Purpose: The present study aimed to evaluate the antitumor activity of a ruthenium complex. **Methods:** The studied ruthenium complex presents 2-mercaptothiazoline as a ligand, being named RuMTZ. The evaluation of the compound antitumor potential was conducted in an allogeneic model of melanoma. For this purpose, murine melanoma cells, B16-F10, were transplanted into the back of male C56BL/6 mice. After the tumor reached approximately 100 mm3, which generally occurs after 12 days of the cell implantation, the animals received the treatment (5 mg/kg), subcutaneously injected at 1.0 cm from the tumor, once a day, for five consecutive days. Antitumor activity was evaluated by volume, weight and inhibition rate calculation of tumor growth. **Results:** Animals treated with RuMTZ showed a significant reduction in tumor weight when compared to those treated with DMSO vehicle. The percentage of tumor growth inhibition was equivalent to 94.90 %. **Conclusion:** In view of the data obtained, RuMTZ showed antitumor activity in an allogeneic model of melanoma.

Keywords: Melanoma; ruthenium complex, antitumor activity; anti-melanoma.

Approval CEPE/CEUA: 8761060220

Acknowledgments: PIBIC-CNPq, UNIFRAN, FAPESP and CAPES

ESTIMATION OF THE ASSOCIATION BETWEEN PREVALENCE OF HEPATITIS "E" AND INDICATORS OF ACCESS TO DRINKING WATER AND SANITATION

Manuela Sanches Mandel[1], Isabela Gontijo de Oliveira[1], Salvador Boccaletti Ramos[1], Marisa Brunherotti[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: manumandel@hotmail.com

Purpose: The Sustainable Development Goals (SDGs) list 17 goals and targets that must be addressed to solve global sustainable development problems. Goal Three (SDG3) aims to ensure healthy lives for all ages including ending epidemics of hepatitis and waterborne diseases. The environment in which the individual is inserted can influence the incidence of hepatitis. The objective of the present study was to verify if there was an association and its magnitude between the prevalence of hepatitis "E" and indicators of access to drinking water and sanitation. **Methods:** For this purpose, databases on the prevalence of hepatitis "E" and on indicators of access to drinking water and sanitation from the Institute for Health Metrics and Evaluation (IHME) were used. Pearson's linear correlation coefficient was estimated between the studied indicators. Through the results found, it was possible to verify the degree of association between the prevalence of hepatitis "E" and access to drinking water and sanitation. **Results:** This study analyzed the relationship between access to basic sanitation and clean water and hepatitis E in 188 countries. Regarding prevalence, the average among the 188 countries was 7841,186 and the median 964,000. A negative binomial regression was also performed, in which the relationship between DALY due to lack of drinking water, DALY due to lack of sanitation and HDI with Hepatitis E were significant if $p<0.05$. Thus, after performing the statistics, it was observed that in all cases there was a relationship ($p<0.05$). **Conclusion:** The results of the present study will provide important information for scientists and managers who will be able to help in the fulfillment of the SDGs. A direct relationship was observed between the prevalence of Hepatitis E with basic sanitation and treated water. In countries where there was no adequate water and sanitation treatment, a greater number of cases of the disease were observed.

Keywords: water, linear correlation, Hepatitis, environment, sanitation

Acknowledgments: CNPq.

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TITANOSILICATES OBTAINED BY THE SOL-GEL PROCESS APPLIED IN THE REMEDIATION OF EFFLUENTS CONTAINING ORGANIC POLLUTANTS

Marcos Damasceno Metidieri[1], Nayara de Andrade Rosa[1], Liziane Marçal[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: damascenomarcos00@gmail.com

Purpose: Titanosilicates are versatile materials widely used as adsorbents and photocatalysts to reduce pollution in aquatic environments. These materials play a crucial role in addressing environmental challenges by effectively absorbing and degrading pollutants. Research and development in this field not only contribute to the advancement of efficient pollution control technologies but also promote a cleaner and healthier environment for future generations. In this study, titanosilicate matrices were prepared using the sol-gel process, and the samples were characterized using X-ray diffractometry (XRD), infrared molecular absorption spectroscopy (FTIR), thermal analysis (TG/DTA), and scanning electron microscopy (SEM). **Methods:** In a beaker, 5.84 mL of ethyl alcohol, 0.9 mL of water, 1.3 mL of ACAC, 3.72 mL of titanium isopropoxide (IPTi), 2.79 mL of TEOS, and 0.25 mL of HCl or NH4OH were added under constant stirring. The synthesis mixtures were then placed in an oven and dried for 24 hours. Subsequently, they were macerated using an agate mortar to obtain a fine powder. The powders were calcined at 500°C or 900°C for 6 hours in a muffle furnace. **Results:** The results showed that the characterization techniques confirmed the formation of the titanosilicate matrix, but only the sample treated at 900°C exhibited relative crystallinity due to the presence of peaks corresponding to the anatase and rutile phases. **Conclusion:** The sol-gel methodology is a viable technique for producing new materials that have the potential to adsorb or degrade compounds with hydrophobic characteristics, such as oil, dyes, pharmaceuticals, pesticides, and others.

Keywords: Organic pollutants, titanium silicate, adsorption, photodegradation, sol-gel.

Acknowledgments: FAPESP, CAPES and CNPq.

EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF ABIETIC ACID, ONE OF THE MAJOR COMPOUNDS OF THE CRUDE EXTRACT OF BROWN PROPOLIS

Maria Eduarda de Souza Cardoso[1], Jaqueline Dutra Oliveira[1], Maria Anita Lemos Vasconcelos Ambrosio[1], Rodrigo Cassio Sola Veneziani[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: m.eduardanr8@gmail.com

Purpose: The aim of this study was to evaluate the antimicrobial activity of abietic acid, one of the major compounds of the crude extract of brown propolis, against cariogenic bacteria. **Methods:** The gram-positive bacteria used in the study were selected from the American Type Culture Collection (ATCC). The strains included *Streptococcus mutans* ATCC 25275, *Streptococcus mitis* ATCC 49456, *Streptococcus sanguinis* ATCC 10556, *Streptococcus sobrinus* ATCC 33478, *Lactobacillus casei* ATCC 11578, *Streptococcus salivarius* ATCC 25975, and *Enterococcus faecalis* ATCC 4082. The Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were determined using the microdilution method in microplates. Chlorhexidine digluconate served as the positive control, and the growth of bacteria was assessed using resazurin as an indicator (Sarker, S. D., Nahar, L., Kumarasamy, Y. (2007). "Microtitre plate-based antibacterial assay incorporating resazurin as an indicator of cell growth, and its application in the in vitro antibacterial screening of phytochemicals." Methods, 42(4), 321-324. https://doi.org/DOI10.1016/j.ymeth.2007.01.006). **Results:** All the tested bacteria exhibited Minimum Inhibitory Concentrations (MICs) ranging from 12.5 to 100.0 λg/mL against abietic acid. Notably, the Minimum Bactericidal Concentrations (MBCs) aligned with the MICs, indicating that the concentrations required to inhibit bacterial growth and achieve bactericidal effects were indistinguishable. **Conclusion:** Based on the obtained results, it can be concluded that the compound abietic acid demonstrated significant antimicrobial activity at the evaluated concentrations, highlighting its potencial as an effective antimicrobial agent.

Keywords: abietic acid, caries, antimicrobial activity, Brown propolis.

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COMPARATIVE ANALYSIS OF CELL DEATH INDUCED BY STANDARDIZED RED PROPOLIS EXTRACT IN MDA-MB-231 AND MCF-10A CELL LINES

Maria Eduarda Fontes Miranda[1], Karolinne Beloti Silva, Laisla Rodrigues Figueiredo, Loren Monielly Pires, Rodrigo Cássio Sola Veneziani, Jairo Kenupp Bastos, Sérgio Ricardo Ambrósio, Raquel Alves dos Santos.

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mariaeduardafontesm@gmail.com

Purpose: The aim of this study is to evaluate the cell death rate of the tumoral cell line MDA-MB-231 (chemoresistant phenotype) and the non-tumoral mammary gland cell line MCF-10A using standardized red propolis extract (SRPE). **Methods:** Cell death assay was performed using concentrations of 1.0 and 10 μg/mL of standardized red propolis extract for treatment. **Results:** The results regarding the MDA-MB-231 cell line were not considered significant compared to the negative control, as it showed a higher rate of death through necrosis rather than apoptosis. On the other hand, the MCF-10A cell line exhibited a high rate of death through apoptosis at all tested concentrations. **Conclusion:** This study concludes that the behavior of both cell lines differs in response to standardized red propolis extract. It is worth noting that the MCF-10A cell line is non-tumoral, while the MDA-MB-231 cell line is tumoral and exhibits a DNA repair difficulty due to a mutation in the *TP53* gene.

Keywords: breast cancer, red propolis, mammary gland

Acknowledgments: FAPESP, CAPES and CNPq.W

INVESTIGATING BODY IMAGE PERCEPTION IN PATIENTS DURING THE PREOPERATIVE PROCESS OF BARIATRIC SURGERY

Maria Eduarda Pereira Colanigo[1], Luiza Amaral Vilela[1], Marina Manochio-Pina[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mecolanigo.pereira@outlook.com.br

Purpose: Thisstudyaimstoanalyzetheperceptionofbodyimageinindividualsundergoing bariatric surgery. **Methods:** A cross-sectional, quantitative, and descriptive approach was employed. Data collection was conducted online and disseminated through social media. Individuals who met the inclusion criteria and considered themselves eligible to participate accessed a link to fill out the form using Google forms. The Silhouette Scale for Obesity Surgery (ESCO) was utilized to assess body image perception. After data collection, the gathered information underwent descriptive analysis, followed by the Spearman correlation test. **Results:** Among the participants, 93% were female. The self-reported mean body mass index (BMI) was 40.23 kg/m², while the self-perceived mean BMI was 49.33 kg/m², indicating an inaccurate perception of body image. Spearman correlation analysis examined the relationship between self-reported BMI and the ECAP and EAT-26 instruments, which evaluate the risk of eating disorders, as well as the relationship between self-perceived BMI and the same instruments. No statistically significant evidence indicating a risk for eating disorders was observed. However, the correlation analysis between self-reported BMI and self-perceived BMI was significant (***<.001), suggesting an inaccuracy in the body image perception of these individuals. **Conclusion:** The findings revealed that participants perceived themselves as slightly larger than their actual size, aligning with existing literature. The importance of a multidisciplinary team was emphasized as they play a crucial role in helping individuals develop a healthy relationship with their body image and improve overall prognosis.

Keywords: body image, bariatric surgery, obesity

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Acknowledgments: CAPES and CNPq.

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POTENTIAL OF MICROEMULSIFIED GREEN PROPOLIS ON PAW EDEME IN ARTHRITIC ANIMALS

Maria Eduarda Silva[1], Joao Guilherme Martins[1], Thaylla Maria Ferreira[1], Giulia Maria Gilda Campos[1], Silvio de Almeida Junior[2], Priscyla Marcatto3, Jairo Kenupp Bastos3, Ricardo Andrade Furtado[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]State University of Minas Gerais (UEMG), Passos. Brazil, 37902-114

[3]University of São Paulo, USP, Ribeirão Preto, Brazil, 14040-902

E-mail: mariaedusilva712@gmail.com

Purpose: Green propolis (PV) and microemulsion has shown promising potential in the treatment of inflammation disorders. Thus, the objective of this study is to evaluate the action of Brazilian green propolis microemulsion on paw edema in arthritic animals. **Methods:** Arthritis was induced with collagen type II in rats, with treatments PVME 3 mg/kg, PV 3 mg/kg, also including negative control, arthritic control and control desamethasone 1 mg/kg. The treatments with the samples were from the 21st to the 35th day, with data collected in the plethysmometer equipment on the 1st and 42nd days. **Results:** At the end of the tests, the positive control animals (arthritis) significantly differed from the negative ones, as well as the animals treated with desamethasone significantly differed from the positive ones, showing the efficiency of the test system. The group treated with PVME significantly differed from the positive control group, on the other hand the PV group, despite showing a small reduction, this was not significant. **Conclusion:** Thus, this work shows that the incorporation of green propolis in microemulsion significantly potentiates the effect of green propolis on the modulation of paw edeme in arthritic animals, contributing to a better understanding of the action of the microemulsion of the standardized extract of Brazilian green propolis, providing thus its more effective use in future clinical applications.

Keywords: Green Propolis, arthritis, inflammation, nanomedicine

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STUDIES OF ARTIFICIAL SHADING IN ORDER TO PROPOSE AN EFFICIENT DEVICE

Maria Fernanda Maia Barbosa[1], Marcos Henrique Parreira Mariano[1]

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: arq.mariambarbosa@gmail.com

Purpose: The developed study proposes to formulate a shading device based on solar geometry and other relevant insolation studies. The chosen place for this purpose is the parking lot of the University of Franca, UNIFRAN. **Methodology:** Therefore, a model was developed, in scale (1:100), of the shading devices and the spaces they would shade. By placing the models on the heliodon (a device that simulates, with a flashlight, the trajectory of the sun, depending on the orientation of the studied object), it was possible to visualize the shaded area of each of the 8 designed models. In addition to these tests, data search at the chosen location were also carried out, in order to better develop the shading elements. **Results:** Having applied the methodology, it was possible to measure the shaded area and understand that some shapes are more suitable for shading the chosen space. The circular shapes resulted in more elongated projections, while the square ones shaded more precisely, as they are rectangular spaces. **Conclusion:** With the processes presented above, it was possible to attest that certain devices are well suited to the proposed functions and that some others, however useful they may seem, do not have an interesting shading area. With the developed studies, it is intended to create a full-size prototype to be tested in the University of Franca's parking lot.

Keywords: shading, architecture and urbanism, efficient device

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LANGUAGE ACQUISITION AND DEVELOPMENT IN CHILDREN AGED 0 TO 2 EARS: Dialogues Between Bodily, Verbal, and Non-Verbal Language

Maria Julia Barbosa Oliveira[1], Monica Pire de Castro[1], Marilurdes Cruz Borges[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mariajuliabarbosaoliveira@gmail.com

Purpose: This research aims to study language acquisition and development in children aged 0 to 2 years, focusing on the interplay between verbal, non-verbal, and bodily language in dialogues. **Methods:** This bibliographic, descriptive, and cross-sectional research involved searches in Scielo, PubMed, and BVS databases using relevant descriptors. Articles addressing language development in early childhood were selected based on inclusion criteria in English, Spanish, and Portuguese. The theoretical framework drew upon the concepts of dialogue and responsible act from Mikhail Bakhtin's perspective. **Results:** Studies have shown that language acquisition in children begins in a very primitive way, initially through the involuntary movement of their bodies. These movements then become responsive to the stimuli of their interactions with others: family, objects, and space. Language develops as the child engages in dialogue and gains perceptions about their desires and the need to communicate them. There are several stages that children aged 0 to 2 experience, such as vocalization, babbling, understanding words, and verbalizing them. Throughout this process, they employ various mechanisms manifested through the use of bodily, non-verbal, and verbal language. **Conclusion:** The research demonstrates that biological, environmental, and cultural factors play a crucial role in the acquisition and development of a child's language. Therefore, when a child is exposed to a healthy environment, surrounded by appropriate stimuli and constant social interaction, the process of language acquisition and development becomes more effective. In such an environment, the child gains competence in utilizing all three modalities of language - bodily, non-verbal, and verbal - in a dialogic manner.

Keywords: language development, children, dialogue, responsible act, Bakhtin

Acknowledgments: CNPq, Cruzeiro do Sul

BIOINDICATORS USED IN THE DETECTION OF ORGANIC AND INORGANIC POLLUTANTS

Maria Luísa Gonçalves Aró[1], Liziane Marçal[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: maluzinha09aro@gmail.com, liziane.silva@unifran.edu.br

Purpose: The continuous increase in environmental degradation has also led to the search for methods to assess this degradation. Bioindicators are found at various levels of biological organization and provide complementary information necessary for the ecological risk analysis of an ecosystem. Currently, in the literature, there are different methods for evaluating environmental impacts that assist professionals in the field in identifying their causes. These tools are used to collect, analyze, compare, and organize qualitative and quantitative information resulting from a particular activity that modifies the environment. They also consider the techniques that will define the form and content of the information to be provided to the involved sectors. This work aims to conduct a revision of the main bioindicators of environmental pollutants and estimate their occurrence, detection limits, and other factors. The objective of this study was to conduct a revision of the main bioindicators of environmental pollutants and estimate their occurrence, detection limits, and other factors. **Methods:** A bibliographic revision on the topic addressed will be conducted using the main scientific databases, primarily through the CAPES Periodicals Portal. **Results:** After a literature review, the main bioindicators identified for organic pollutants include phytoplankton, zooplankton, benthic macroinvertebrates, fish, and aquatic plants. Phytoplankton, especially diatoms, can indicate the presence and impact of organic pollutants in water. Zooplankton, benthic macroinvertebrates, and fish are sensitive to the effects of organic pollutants, and changes in their health and behavior can serve as indicators. Aquatic plants, such as macrophytes, can also be used as bioindicators for organic pollutants. **Conclusion:** The combination of these bioindicators provides a comprehensive assessment of the presence and effects of organic pollutants in aquatic ecosystems.

Keywords: *Organic pollutants, bioindicators, aquatic plants, aquatic ecosystems*

Acknowledgments: FAPESP, CAPES and CNPq.

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READING IN HIGH SCHOOL: DISCURSIVE ANALISIS OF TEACHING PRACTICES

Maria Luiza Lombardi[1], Luciana Carmona Garcia[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: marialuizalombardi529@gmail.com

Purpose: The aim of this study was to understand how the effects of meanings constructed within these activities are articulated to the government of oneself and the other in the Brazilian society, and how, nowadays, the activities proposed at school for high school maintain or break with a single reading conception, arising from a traditionalist model of education, which is based on an idea of transparent language. **Methods:** The methodology of this study consists in clipping the chosen didactic material: High School Curriculum in Action seeking possible breaks and maintenance of the traditional approach to activities and text interpretation. **Results:** When analyzing the didactic material, it is visible that high school students do not have much incentive and stimulus to reading in schools, therefore, the difficulty of young people is notorious when asked to create hypotheses and interpret texts in order to build a response that in most cases, a single interpretation is imposed for a text, which ends up discouraging the student from actually interpreting and reading the text. **Conclusion:** we conclude that the clipping of the didactic material was analyzed and understood if the student is stimulated in the correct way to interpret the text instead of just finding what is explicit in the text that is offered as an object of study.

Keywords: reading, meaning, textbook, discursive studies based on Michel Foucault.

Acknowledgments: FAPESP, CAPES and CNPq.

MEDICINAL PLANTS MANUAL

Maria Paula Moreira Tahan[1], Ludmila Oliveira Proença[1], Alessandra Marieli Vacari[1], Ana Helena Januário[1], Fernanda Faleiros de Almeida Oliveira[1], Gilson Silverio da Silva[1], Patrícia Mendonça Pauletti[1], Márcio Luís Andrade e Silva[1].

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: paulatahan@hotmail.com

Purpose: This work aimed to create a manual presenting 10 species of medicinal plants cultivated in the medicinal garden of the project Implantation of Medicinal Plants Garden at the University of Franca - UNIFRAN, aiming to complement the activities around the cultivation of medicinal plants, of healthy eating habits and environmental education. **Methods:** The method used to develop this manual involved undergraduate students, seeking to encourage research and extension in the field of medicinal plants. Its content adds important and clarifying information, with simple and accessible language to the population on how to acquire medicinal plants, their recognition, their cultivation, collection, drying, storage, preparation and use in order to obtain the expected action. Obtaining such knowledge was done through scientific articles, websites and books. **Results:** All these experiments with plants had successes and failures, as plants were used inappropriately, not taking into account possible toxic effects. In addition to planting and collection being done improperly, which could lead to the extinction of the plant. Thus, the production of this manual, through studies and research, contributed to the effective and safe use of medicinal plants by the population. **Conclusion:** The history of the use of medicinal plants has shown that they are part of human evolution and were the first therapeutic resources used by people, combined with the fact that Brazil has great biodiversity and also has considerable social inequality, the opportunity to seeking a cure in a more economical way through the use of medicinal plants is essential. The format of a manual on medicinal plants, with its visual appeal and the way of reconciling the popular and the scientific, has a special function: it educates at the same time that it entertains, making this a pleasant and interesting reading.

Keywords: medicinal plants, garden, medicinal plants manual.

Acknowledgments: CAPES, CNPq, FAPESP and University of Franca.

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EVALUATION OF THE GENOTOXIC AND CHEMOPREVENTIVE POTENTIAL OF A STANDARDIZED RED PROPOLIS EXTRACT

Marília Vitória Franco da Silva[1], Tábata Rodrigues Esperandim[1], Arthur Barcelos Ribeiro[1], Iara Silva Squarisi[1], Letícia Teixeira Marcos de Souza[1], Marcela de Melo Junqueira[1], Sérgio Ricardo Ambrósio[1], Jairo Kenupp Bastos[2], Denise Crispim Tavares[1], Victor Pena Ribeiro[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Faculty of Pharmaceutical Sciences of Ribeirão Preto-USP, Ribeirão Preto, Brazil, 14040-903

E-mail: vitoriamarilia8@gmail.com

Purpose: The present study aimed to evaluate the genotoxicity of a standardized red propolis extract (SRPE) as well as its preventive potential against colon carcinogenesis. **Methods:** The extract used in the present study has Dalbergia ecastaphyllum as main botanical source, being rich in phenolic compounds. The possible genotoxicity of the SRPE was evaluated in mouse peripheral blood by micronucleus assay. The animals were orally treated with 500, 1,000 and 2,000 mg/kg of body weight (b.w.). The frequency of micronuclei was measured in polychromatic erythrocytes (PCE) and cytotoxicity was assessed by the ratio of PCE to normochromatic erythrocytes. The chemopreventive potential of SRPE was investigated using the aberrant crypt foci assay (ACF) in Wistar rats. Rodents were treated with different doses of SRPE (3, 6 and 12 mg/kg b.w.) in combination to the carcinogen 1,2-dimethylhydrazine (DMH, 40 mg/kg b.w.). Body weight, water consumption, and biochemical markers of hepatotoxicity (alanine aminotransferase) and nephrotoxicity (creatinine) were monitored to assess the systemic toxicity. **Results:** The data showed that animals treated with SRPE did not demonstrate genotoxic and cytotoxic effects. Rodents receiving 6 mg/kg b.w. of extract showed a significant reduction (41.57%) in ACF induced by DMH when compared to the group treated with the carcinogen alone. No significant differences were observed between treated and untreated animals with regard to weight gain, water consumption and serum biochemical levels. **Conclusion:** Under the experimental conditions used, SRPE did not show genotoxicity and revealed a preventive effect against colon carcinogenesis, with no signs of toxicity.

Keywords: Micronucleus test, aberrant crypt foci, propolis

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Acknowledgments: Unifran, PIBIC/CNPq, FAPESP and CAPES.

EVALUATION OF THE COMBINATION OF THE AN EXTRACT OF BRAZILIAN RED PROPOLIS RICH IN BENZOPHENONES COMPOUNDS WITH PRAZIQUANTEL IN THE MURINE MODEL OF SCHISTOSOMIASIS MANSONI.

Matheus Henrique Marques Zago[1], Ritieres Lovo Souza[1], Mariana Cintra Pagotti[1], Lucas Antonio de Lima Paula[1], Sérgio Ricardo Ambrósio[1], Jairo Kenupp Bastos[2], Rodrigo Cassio Sola Veneziani[1], Lizandra Guidi Magalhães[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]University of São Paulo, Ribeirão Preto, Brazil, 14040-900

E-mail: zago.matheus10@gmail.com

Purpose: The aim of this project is to evaluate the combination of praziquantel (PZQ) with an extract of brazilian red propolis extract rich in benzophenones compounds (BRPE) in the murine model of schistosomiasis mansoni. **Methods:** Mice of the Balb/c strain were infected with ± 80 cercariae and after 49 days post-infection the animals were treated orally with BRPE, PZQ alone or in combination. After 56 days post infection, the animals were euthanized and evaluated the worm burden reduction. **Results:** Among the treatment groups, the group of animals treated com BRPE and PZQ in combination at doses 100 mg/kg BRPE + 100 mg/kg PZQ showed 69.29% reduction in worm burden, followed by group treated in combination at doses 100 mg/kg BRPE + 200 mg/kg PZQ, with 68.42%. **Conclusion:** The combination between BRPE and PZQ showed a promising strategy of treatment for schistosomiasis.

Keywords: combination, praziquantel, red propolis, schistosomiasis

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THE POWER IN YOUR HANDS: THE CONSTRUCTION OF THE *ETHOS* OF DEAF PEOPLE IN MOVIE PARODY

Melissa Nogueira Muniz[1], Luana Ferraz [1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: melissa.nm2001@gmail.com

Purpose: Identify the ethe of deaf people as constituted in humorous speeches made available in a digital environment by members of the deaf community. **Methods:** The corpus of this project consists of a sample of three videos of film parodies, available on the Instagram profile of researcher and digital content producer Rafael Emil (@rafaelemil. The proposed research has an analytical bibliography and uses the inductive approach method in its analyses. For its realization, we first carried out a bibliographical survey on rhetoric, ethos, and rhetorical expedients that produce humorous effects and parodies, then selected the videos and proceeded with the analysis, aiming to identify the ethe configured in association with the expedients that trigger humor. **Results:** Our analyses point to irony as the main "mechanism" that triggers humor in the analyzed parodies. From the identification of this rhetorical expedient, we recognize the configuration of the ethos of an inferior subject, affected by contempt, shame, and social exclusion, and its subversion by activating the cunning script. Thus, we also perceive the reconstruction of the image of the deaf person, highlighted as a successful subject, protagonist, and, eventually, an agent of exclusion. **Conclusion:** The research results reaffirm irony as a relevant rhetorical device in the production of digital humor, since it promotes the (re)alignment of notions and the (re)construction of ethe in this environment. It is, therefore, an expedient that preserves the function of denouncing humorous discourses in contemporary epidictic genres, often in support of the demands of minority groups.

Keywords: ethos, deaf people, humor, Rafael Emil, parody.

Acknowledgments: CNPq.

REALISTIC SIMULATION-BASED TRAINING FOR BASIC LIFE SUPPORT AS A HIGH-QUALITY CONTINUING EDUCATION STRATEGY

Michaella de Paula Conceição Galdiano[1], Ariane Valadares Canuto[1], Leandro Gabriel Pizani[1], Daniela Marcelino[1], Letícia Natália Oliceira[1], Eduardo Guerra Barbosa Sandoval[1], Lilian Cristina Gomes do Nascimento[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: michaellagaldi@gmail.com

Purpose: Promote a realistic simulation in cardiac training among professionals from a nursery school. **Methodology:** The evaluation will be conducted through the administration of sociodemographic and health questionnaires, debriefing sessions on the Basic Life Support scenario, utilization of the "Observational Structured Assessment of Debriefing Tool" instrument, and a theoretical test based on the Basic Life Support course book. The aforementioned questionnaires will be given to employees of a daycare center and healthcare professionals in a long-term care institution, both affiliated with the same philanthropic organization. For healthcare participants, an additional checklist of practical skills for managing cardiac arrest will be included. Data collection will commence after obtaining approval from the Ethics and Human Research Committee and receiving signed Informed Consent Forms from the participants. **Results:** It is expected that through realistic simulation, the research participants will benefit from improved knowledge retention on the topic, enhanced development of clinical reasoning, and increased proficiency and accuracy in skills. **Conclusion:** It is essential to train professionals on the importance of primary care for victims of cardiac arrest and choking, to reduce unassisted out-of-hospital cardiac arrest mortality and make decisions in a controlled and safe environment.

Keywords: Theatre of the Oppressed, health, literature review.

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Acknowledgments: FAPESP, CAPES and CNPq.

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ASSESSMENT OF CYTOTOXIC ACTIVITY OF A RUTHENIUM COMPLEX IN MELANOMA CELLS

Mônica Garcia Leal Rodrigues[1], Katia Mara de Oliveira[2], Nádija Natalice[2], Arthur Barcelos Ribeiro[1], Matheus Reis Santos de Melo[1], Alzir Azevedo Batista[2], Denise Crispim Tavares[1], Nathália Oliveira Acésio[1,2]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Federal University of São Carlos, São Carlos, Brazil, 13565-905

E-mail: monicagarcialealrodrigues@gmail.com

Purpose: The aim of this study was to evaluate the cytotoxic activity of the [Ru(2mq)(dppen)2]PF6 complex (Ru3) against a melanoma cell line. **Method:** Cytotoxicity assessment was conducted using the Cell Proliferation Kit XTT (Roche Diagnostics) colorimetric assay following the manufacturer's instructions. For the experiments was used a human melanoma cell line (A-375) and the non-tumoral human keratinocyte cell line (HaCat). Cells were seeded in 96-well plates, and each well received a maximum of 100 µL of culture medium containing various concentrations of Ru3 ranging from 0.78 to 100 µM/mL. After a 24-hour incubation at 37°C, the culture medium was removed, and cells were washed with 100 µL of PBS to remove the treatments. Subsequently, 75 µL of XTT solubilized in culture medium was added to the wells and incubated for 17 hours. The absorbance of the samples was measured using a multi-well plate reader at a wavelength of 450 nm with a reference wavelength of 620 nm. The cytotoxic activity was evaluated by determining the 50% inhibition of cell line growth (IC_{50}). **Results:** The results showed that Ru3 exhibited an IC_{50} of 16.32 µM for HaCat and 3.45 µM for A-375. Furthermore, the Ru3 was twice as active as the cisplatin drug in the A-375 cell line. **Conclusion:** The Ru3 demonstrated selective effects, exhibiting higher cytotoxicity against the tumor cell line compared to the non-tumoral cell line.

Keywords: melanoma, ruthenium complex, cytotoxicity

Acknowledgments: CNPq, FAPESP and CAPES

BEING HEARD: ONE OF THE BIGGEST DIFFICULTIES IN A WOMAN'S LIFE

Mylena Cristina Ribeiro de Lima[1]; Denise Conceição Garcia Araujo[1]; Laura Aparecida Tristão[1]; Regina Celia de Souza Beretta[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mylenaribeiro97@hotmail.com

Purpose: Build listening spaces for women at the University. The Brazilian reality is marked by male supremacy and capitalism, which exploits workers, establishing relationships of domination and subordination. The violence suffered by women, the low salary levels and political participation, represent part of the discrimination and exploitation. **Methods:** dialectics was adopted in the analysis of the bibliographical survey of the last five years, using the descriptors inequalities and gender violence, on Google Escolar and Scielo platforms. Next, an interventional methodology of reality was sought, through the creation of a feminist collective at the university. **Results:** The submission of women originates from oppressive relationships built with partners, bosses and any man who is seen in the dispute for social space. Only at the beginning of the 20th century did reality begin to change. The struggle for rights has reaffirmed women as authors of their own history, improving their social, economic and political condition by expanding emancipatory and liberating opportunities. The feminist collective met monthly and became a space for sharing the difficulties experienced and debates that prioritized intersectionalities and diversities, for the awareness of gender, class, ethnicity, sexuality, which mark material and social life. **Conclusion:** According to the United Nations, equality and the affirmation of human rights can only be achieved by increasing the authority and power of women over the resources and decisions that affect their own lives. Among the Sustainable Development Goals to be achieved by 2030 is gender equality and women's empowerment, as indivisible rights.

Keywords: empowerment, rights and gender equality

Acknowledgments: CAPES and CNPq.

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SCREENING OF HUMAN PAPILOMA VIRUS AND MICRONUCLEUS FREQUENCY IN THE ORAL CAVITY OF A YOUNG POPULATION

Naiara Cristina da Silva Boaretto[1], Gabriela da Silva Delado[1], Natalia Nascimento Silveira[1], Vanessa Nylson Queiroz[1], Lilian Tedeschi Ramali[1], Raquel Alves dos Santos[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: naiarasboaretto@gmail.com

Purpose: This research project aims to evaluate the frequency of micronucleus and the relationship with the presence or absence of Human papilloma vírus (HPV) in the oral cavity of a young population. **Methods:** The methodology consisted of analyzing the presence of micronucleus using the micronucleus assay (MN) in buccal cells in the samples collected by exfoliative cytology in individuals aged 18 to 35 years. Polymerase Chain Reaction (PCR) was applied in DNA samples collected from oral cavity to detect the presence of HPV genomic copies. **Results:** The results showed a median of 2.2 MN/1000 cells analyzed. This data are in accordance with the current literature that this frequency of MN in non-exposed populations. No HPV DNA copy was found in the samples analyzed. **Conclusion:** The data suggest that the frequency of MN found is in accordance with other populations screened. The absence of HPV prevents the establishment of a relationship between HPV and MN in the oral cavity. New samples are being collected to increase the number of individuals analyzed and thus attempt to establish the relationship between the presence of HPV in the oral cavity and the frequency of detected MN.

Keywords: HPV, cancer, DNA damage.

Acknowledgments: FAPESP, CAPES, CNPq and Parents In Science.

ASSESSMENT OF THE GENOTOXICITY OF TAC48A AND TAC51B GUANIDINES IN THE CHO-K1 CELL LINE.

Naomi Nalini de Melo Taveira[1], Julia Mirian Paulino[1], Igor Dias Jurberg[3], Tales Antonio Camargo Goulart[3], Roberto Gomes de Souza Berlinck[2], Raquel Alves dos Santos[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Institute of Chemistry, University of São Paulo -USP, Brazil, 05508-000

[3]Institute of Chemistry, State University of Campinas, Campinas, Brazil, 13083-970

E-mail: naominalinitaveira@gmail.com

Purpose: This study aims to evaluate the genotoxic potential of the guanidine alkaloids TAC48A and TAC51B in the CHO-K1 cell line. **Methods:** The methodology consisted of initially determining cell viability using two methods, the XTT colorimetric assay at concentrations ranging from 7.8μM to 1000μM, and the automated Trypan Blue test at gradient concentrations from 25μM to 150μM. **Results:** In the XTT assay, both Guanidines, TAC48A and TAC51B, caused a significant reduction in cell viability rates of the CHO-K1 cell line at all concentrations ≥ 125μM ($p<0.0001$) when compared to the negative control. The IC50 values were determined to be 119.2 μM for TAC51B and 110.5 μM for TAC48A, respectively. In the Trypan Blue test, TAC51B significantly reduced cell viability at concentrations ≥ 50μM ($p<0.0001$) compared to the negative control, while TAC48A was cytotoxic at all tested concentrations. **Conclusions:** The results show that both Guanidines TAC51B and TAC48A exhibit cytotoxic activity against the CHO-K1 cell line. The next step will be to evaluate DNA damage at sub-cytotoxic concentrations in order to determine the potential genotoxic effects of these substances.

Keywords: Guanidines, DNA damage, Genotoxicity.

Acknowledgments: FAPESP, CAPES and CNPq.

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THE WORK CONDITIONS AND ILLNESSES OF SOCIAL WORKERS IN SUAS

Paola Sabrina Marcondes, Lana Aparecida de Freitas, Regina Célia de Souza Beretta, Viviane Cristina S. Vaz

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: paolamarconde@outlook.com

Introduction: The precariousness mediated by the capitalist mode of production has a significant impact on workers' health, in all dimensions of personal and professional life. Purpose: To discuss the working conditions and illness of social workers inserted in the unified social assistance system (SUAS). **Method:** The methodology used was qualitative research with a historical-dialectic materialist approach, with a bibliographic and documentary survey using Google Scholar and Scielo from 2016 to 2023 as a database, of articles published in Portuguese. **Results:** There is an ongoing process of attack on labor rights, with the deregulation and retraction of work, aggravation of the social issue with an increase in poverty, fragmented social policies. Consequently, the professional's work process is precarious. Social workers take on a leading role in facing inequality and poverty, with a double commitment, defending the rights of the population and defending their professional category, fighting and resisting precarious forms of work and wages. Therefore, the workers are more susceptible to illness, emotional problems, stress and burnout syndrome, among others. **Conclusion:** The attributions and skills of these workers are closely related to the daily life of social work, accompanied by their specificities such as workload, inadequate material and physical conditions, institutional limits of work, among others. The economic, political and social determinants directly affect the sociability and materiality of professional work, with repercussions on the physical and mental health of social workers.

Keywords: Social Work; illness; professional work.

Acknowledgments: CNPq, Unifran.

EVALUATION OF RED PROPOLIS EXTRACT AND RELATED COMPOUNDS AGAINST *Leishmania (Leishmania) amazonensis*

Paulo César Alves Felix[1], Ana Carolina Bolela Candido[1], Sérgio Ricardo Ambrósio[1], Jairo Kenupp Bastos[2], Rodrigo Cassio Sola Veneziani[1], Lizandra Guidi Magalhães[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]University of São Paulo, Ribeirão Preto, SP, Brazil, 14040-900

E-mail: paulofelix1010@gmail.com

Purpose: The aim of this study was to evaluate in vitro the leishmanicidal and cytotoxic potential of red propolis extract (EHRP) and related compounds. **Methods:** Parasites were obtained of infected mice after 60-70 days of infection and cultivated in RPMI 1640 medium. Dose–response relationships were established following exposure of promastigote or amastigote forms to EHRP and compounds in vitro after 24, 48 and 72 h. The leishmanicidal activity against promastigote and amastigote forms were determined by counted of live parasites in Neubauer camera or evaluated the number of amastigotes inside each infected cells, respectively using a light microscopy. The cytotoxicity was determined using the MTT assay. **Results:** The results demonstrated the effectiveness of all analyzed samples against the promastigote and amastigote forms of Leishmania (Leishmania) amazonensis, with IC50 values (50% Inhibitory Concentration) of 0.99 and 15.47 μg/mL for the EHRP against amastigote and promastigote forms at 48h and from 0.11 to 8.14 μM for the compounds, in amastigotes. The selectivity index demonstrated that the EHRP is 23 times more selective to amastigote when compared to mammalian cells. **Conclusion:** The results obtained in this study show the efficacy of EHRP in vitro against the parasites of L. (L.) amazonensis, as well as having biologically active and promising constituents against L. (L.) amazonensis.

Keywords: in vitro, leishmanicidal, red propolis.

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PREPARATION OF A TITHONIA DIVERSIFOLIA EXTRACT FOR APPLICATION AS FEED DETERRENT AGAINST LEUCOPTERA COFFEELLA ("BICHO MINEIRO" / "COFFEE LEAF MINER").

Rafael Rodrigues Amorim[1], Vinícius de Oliveira Lima[1], Alessandra Marieli Vacari[1], Rodrigo Cassio Sola Veneziani[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: rafa.guape2@hotmail.com

Purpose: to prepare a tagitinin C-rich extract from Tithonia diversifolia leaves (TRE). **Methods:** To obtain the extract from Tithonia diversifolia, 6 kg of fresh leaves from mature plants were used. The leaves underwent chemical maceration, where the plant material was immersed in 5 L of dichloromethane for a period of three minutes until the glandular trichomes disappeared (glandular trichomes act as reservoirs for sesquiterpene lactones for plant defense). **Results:** After the process, the solution was filtered using filter paper and dried in a vacuum rotary evaporator, resulting in 17,25 g of TRE. **Conclusion:** The next steps of the study include: To find an aqueous vehicle to disperse TRE for foliar application and to investigate the in vitro deterrent activity of TRE against Leucoptera coffeella ("Bicho mineiro" / "Coffee leaf miner").

Keywords: *Leucoptera coffeella, Tithonia diversifolia*, feed deterrent.

Approval CEPE/CEUA: not applyed.

Acknowledgments: FAPESP, CAPES and CNPq.

INFORMATIVE PRIMER ON THE NEW CLASSIFICATION OF FOODS FOR PATIENTS WITH EATING DISORDERS

Raissa Estefany de Souza [1], Amanda Santos Silva[1], Marina Garcia Manochio-Pina[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: raissaestefany2005@gmail.com

Purpose: To develop an informative booklet on the NEW classification of foods for patients of the Center for Studies and Care in Obesity and Eating Disorders (NEOTA) of Unifran. **Methods:** This research was conducted from August 2022 to May 2023, where a booklet was developed with information on the precepts of the Food Guide for the Brazilian population that uses the NEW classification of foods based on the degree of processing, dividing them into in natura, minimally processed, processed and ultra-processed foods. Subsequently, the ISBN registration will be carried out. **Results:** The booklet will be made available to NEOTA patients and their caregivers and in digital media of the service, which has existed since 2009. **Conclusion:** It is believed that quality information, through clear language content and appropriate illustrations, can contribute to knowledge and the possibility of a better relationship with food and quality of life. Digital media should be stimulated for a greater reach of education and health promotion interventions.

Keywords: Health promotion. Eating disorders and food intake. Feeding

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Acknowledgments: CAPES, CNPq

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VIRTUAL REALITY AND THE ELDERLY: AN EXPERIENCE REPORT ON A 'MORNING OF HEALTH' WITH OLDER ADULTS AND THEIR FAMILIES

Rosimere de Paula Cosmo[1], Daniela Marcelino[1], Denis Cássio Souza[1], Carolina Beatriz Honorato Leite[1], Danilo Cândido Bulgo[1], Lilian Cristina Gomes do Nascimento[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: rose1307paula@gmail.com

Purpose: By 2050, it is estimated that 2 billion individuals aged 60 or older will be living worldwide, mostly in developing countries. **Methods:** To present a case report of an initiative called "Health Morning" for elderly individuals at a community center and their family members. Case Report/Experience: This is a descriptive study, a report of an experience lived by members of the Interdisciplinary Strategies in Gerontology Laboratory at Unifran. To promote physical activity through the use of virtual reality goggles, students from scientific initiation programs, master's and doctoral students, and faculty members participated voluntarily. Professionals working at the community center and volunteers from other institutions in the city also collaborated, engaging in various activities such as relaxing massages, dance, and vital signs monitoring. **Results:** The use of virtual reality goggles for promoting the health of elderly individuals has been gaining increasing attention as an innovative and effective tool. This immersive technology offers a wide range of physical, mental, and emotional benefits for this population. **Conclusion:** Virtual reality goggles offer incredible potential to improve the health and well-being of elderly individuals. Therefore, it is of utmost importance to include this experience in professional training so that individuals can become aware of its benefits and learn to use the technique. By combining physical exercise, mental stimulation, and social connection, this technology can contribute to a better quality of life, helping the elderly stay active, engaged, and healthy.

Keywords: Virtual reality; Health promotion; Elderly; University.

Approval CEP: Not applicable

Acknowledgments: FAPESP, CAPES and CNPq.

VIOLENCE AGAINST BLACK WOMEN: STRUGGLES AND RESISTANCE

Sara Andrade Souza, Elza Cristina Borges da Silva, Regina Celia de Souza Beretta, Mylena Cristina Ribeiro de Lima, Viviane Cristina S. Vaz

University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: saraandradesouza@hotmail.com

Purpose: Studying how black women fight for gender and race equality. Gender and racial inequality are structural axes of social inequality in Brazil which, in turn, is a process of reproduction of poverty and social exclusion. Gender and racial violence are a result of cultural, colonial and patriarchal permanencies. These issues generated great struggles, resistance and confrontations that reverberate to the present day. The black women's movement has been contributing to the debate on the question of violence, strengthening methods of political participation and protagonism in the discussion of this issue. **Method:** This research makes use of a qualitative, bibliographical and documental approach, using Scielo database. **Results:** Racism has a structural component, rooted in Brazilian society. Black women still suffer the consequences that per passed generations, accrued from a westernized mindset and a culture that still perpetrates forms of objective and subjective violence. Data shows that in Brazil, 53,6% of women victims of violence are black. The unemployment rate for women is higher than for white men; the unemployment rate for black women is almost double that of white men. **Conclusion:** There have been great advances to protect women from gender-based violence, such as the Maria da Penha Law. However, racism provides the logical sense for the types of violence and inequality that shape contemporary life, therefore Brazil registers high rates of domestic violence, year after year, with femicide of black women.

Keywords: Black Women, Racism, Violence.

Acknowledgments: CNPq, Cruzeiro do Sul

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ASPECTS REGARDING LATE ADOPTION IN BRAZIL

Sophia Medeiros Rego[1], Beatriz dos Santos Souza[2], Maristela dos Santos Alves Martins3, Regina Célia Souza Beretta[4], Viviane Cristina S. Vaz[5]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: sophiafacebook@hotmail.com

Purpose: Late adoption refers to cases where the adoptee is over two years old. Many adopters prefer to adopt babies rather than older children or teenagers. The objective of this article is to generate knowledge about late adoptions and analyze the myths and prejudices surrounding this topic in Brazil. **Method:** The chosen methodological approach is qualitative research, specifically bibliographic research using books and articles. Data was collected through Google and Scielo, focusing Brazilian works from 1999 to 2022. The search terms used were “adoption” and “late adoption”. **Results:** In Brazil, the interest in late adoptions of children and teenagers is relatively recent. According to updated data from the National Council of Justice (2021), there were 1,104 children and teenagers above the age of 15 awaiting adoption, while 512 were under 3 years old and only 434 were between 3 and 6 years old. Between 2019 and October 2021, only 391 children between 3 and 6 years old were adopted, and only 352 older than 15 were adopted. **Conclusion:** It is crucial to adopt new approaches that challenge the myths and prejudices surrounding late adoptions. Society as a whole needs to be sensitized to the situation of children and teenagers who have experienced abandonment and violence, ensuring their constitutional right to comprehensive protection.

Keywords: Late adoption, children and teenagers, ECA and adoption.

Acknowledgments: CNPq, Cruzeiro do Sul

CYTOTOXICITY OF AMTAC-22, A SYNTHETIC SPIRO-ACRIDINE COMPOUND, IN MELANOMA AND BREAST CANCER CELL LINES

Stéfane D Julia Peixoto[1], Tábata Rodrigues Esperandim[1], Marcela de Melo Junqueira[1], Walclécio Lira[2], Ricardo Olímpio de Moura[2], Denise Crispim Tavares[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]State University of Paraíba, UEPB, Paraíba, Brazil, 58100-001

E-mail: stefane.peixoto1@icloud.com

Objective: This study aimed to evaluate the cytotoxic activity of AMTAC-22 in melanoma and breast cancer cell lines. **Methods:** The XTT colorimetric assay was used to assess cytotoxicity in six cell lines, being immortalized human keratinocyte (HaCaT, non-tumor), human melanoma (A-375), murine melanoma (B16-F10), human breast (MCF10A, non-tumor), breast cancer (MDA-MD-231) and murine breast cancer (E0771). Cells were treated with different concentrations of AMTAC-22 ranging from 1.87 to 240 µM. Negative (no treatment), solvent (dimethylsulfoxide, DMSO, 1%) and positive (25% DMSO) controls were included. The results were demonstrated by concentration that inhibits 50% of cell growth (IC_{50}) and the selectivity index (SI). **Results:** Regarding to melanoma cell lines, AMTAC-22 revealed greater cytotoxicity on human cells (IC_{50} = 3.3 µM) than on murine cells (IC_{50} = 25.4 µM). Furthermore, the compound was more cytotoxic for human melanoma cells than for non-tumor cells, HaCaT (IC_{50} = 14.0 µM), with SI equivalent to 4.24. The obtained results also showed the cytotoxicity of AMTAC-22 in breast cancer cells, with IC50 equal to 17.7 and 10.3 µM for the MDA-MD-231 and E0771 cell lines, respectively. There was no significant selectivity of AMTAC-22 for these cell lines, since the SI was 1.41 on average. **Conclusion:** AMTAC-22 has shown to be a promising antitumor agent, under the experimental conditions used.

Keywords: Cytotoxicity, XTT assay, antitumor compound.

Acknowledgments: FAPESP, CAPES and CNPq.

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ISOLATION AND STRUCTURAL MODIFICATION OF KAURENOIC ACID AIMING TO ASSESS THE ANTIPARASITARY POTENTIAL OF THE PREPARED DERIVATIVES

Tailaine Pereira da Silva[1], Julian Carlos da Silva Pavan[2], Vladimir Constantino Gomes Heleno[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: t.silva098@hotmail.com

Purpose: The aim of this work is to produce semi-synthetic substances from the natural diterpene kaurenoic acid and to assess the derivatives' activities against parasites such as Leishmania brasiliensis and Trypanosoma cruzi. **Methods:** The isolation of the kaurenoic acid from Mikania glomerata, used a portion of approximately 2.5 kg of grounded aerial parts of the plant. Then, dichloromethane was added and the mixture kept under ultrasound for 15 minutes, filtered and the solvent was removed. The procedure was performed three times, and 80 g of diclorometanic crude extract were obtained. This extract was suspended in 750ml of a mixture of Meoh/H_2O 9: 1 (V/V) and filtered. The soluble part was partitioned with hexane at 5 x 600 ml and in dichloromethane with 2x 500 ml. Afterwards, the hexane fraction was subjected to vacuum liquid chromatography (CLV), the mass incorporated in 60g of gel 60. ½ 60h). The main fraction containing kaurenoic acid was submitted to classical chromatography column (CCC) and the target diterpene (kaurenoic acid) was successfully obtained. **Results:** The isolation of kaurenoic acid from *M. glomerata* extract was successful, yielding considerable amounts of this starting material for the chemical transformations. The achieved purity of the kaurenoic acid sample is also adequate for biological assays and reactional studies. The transformation processes have just started end soon we expect to obtain our first derivatives. **Conclusion:** The results so far indicate that this project will certainly lead us to good final results, but it is only at the beginning.

Keywords: kaurenoic acid, semi-synthetic derivatives, amidation reactions, structural modification, antiparasitary activity.

Acknowledgments: FAPESP, CAPES and CNPq.

INFRACTIONAL ACTS IN BRAZIL: VULNERABILITIES AND SOCIAL UNPROTECTION

Talisson Roberto Bergamim[1], Luciano Aparecido Pereira Junior[1], Gilmar Antoniassi Júnior[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: talissonroberto02@hotmail.com

Purpose: The study aimed to understand the vulnerabilities, rights violations and social unprotection that affect adolescence and may be the origin of transgression. **Methods:** The approach used was qualitative, based on bibliographic and documentary research in the platforms Pepsic, SciELO, Redalyc and Google Acadêmico, and in Brazilian government websites and documents. Ten articles were selected, dated from 2018 to 2022, which were analyzed by means of content analysis, following the theoretical-methodological referential of historical-dialectical materialism. **Results:** The guarantee of rights for adolescents in socio-educational measures, the implementation of public policies for social protection and the construction of an intersectoral network, as proposed by the National System of Socio-Educational Care, are still current challenges. The research showed that the existing public policies do not fully meet the needs of adolescents under socio-educational measures, lacking a joint work that brings together family, territory, society, and the State. Still, the absence of an effective articulation in the application of the measures of closed and open environment compromises the functioning of the socioeducation in the country, in a period that it is necessary to face the scrapping of public policies experienced in recent years. **Conclusion:** It is important to seek improvements in this process, aiming at the equitable re-socialization of these adolescents, guaranteeing all their rights. And yet, to break through the existing gaps in the dialogue with the judiciary, in the confrontation with structural racism, in the absence of data and research on the theme, and in the overburdening of socioeducation professionals.

Keywords: adolescent, public policy, child and adolescent defense.

Acknowledgments: Cruzeiro do Sul, CAPES, CNPq.

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THE PRICE OF WORKERS' PROTAGONISM HEALTH, IN THE PANDEMIC

Tamires Mota de Oliveira[1], Laura Aparecida Tristão[1]; Luciano Aparecido Pereira Junior[1]; Regina Célia de Souza Beretta[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: tamiresmdoliveira@gmail.com

Purpose: To investigate the role played by health workers in 17 municipalities in São Paulo and the impacts on working conditions during the pandemic. **Methods:** Excerpt from quantitative and qualitative research, funded by FAPESP and approved by the Ethics Committee. The study sample consists of 162 health workers, aged 18 to 51 years or older. **Results:** In epidemic periods, health workers assume the leading role, exposing themselves to the risks of illness and death for the benefit of the population. In the pandemic, the exposure opened up the processes of precariousness, which already exist, such as the absence of social protection, weakening of labor ties, low wages, inadequate conditions and excessive working hours. **Conclusion:** Despite the intense dedication and effort, most receive a maximum of three minimum wages and experience situations of function deviation due to leave and retirement. Evidence denotes the devaluation of the worker, lack of investment in working conditions, exposure to contagion, extensive work routines, lack of personal protective equipment, frustration and impotence, anxiety and fear of contamination of family members, which corroborated to the exhaustion physical and mental. The lack of Career Plans, Positions and salaries discourages and alienates workers. One of the factors that contribute to the professionals' sense of belonging and permanence is to believe in the objective and meaning of their work, whether for their personal life or for the organization. In this sense, the Career Plan could contribute to worker motivation.

Keywords: Worker's health, consequences of the pandemic, professional satisfaction.

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Acknowledgments: FAPESP, CAPES and CNPq.

EXPLORING CHROMATIN REMODELING PATHWAYS IN CYCLOPHOSPHAMIDE-INDUCED RENAL NEPHROTOXICITY: INSIGHTS FROM RAT MODEL

Tayná Santos, André Luís Sampaio Fernandes, Marcela Aldrovani Rodrigues

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: taynasantos2504@gmail.com

Purpose: Oxazaphosphorine chemotherapeutics, such as cyclophosphamide, cause acute kidney injury (AKI) in cancer patients. Although the pathology of AKI is well-known, further research is needed to understand the association between renal cellular lesions, nuclear chromatin remodeling, and disease progression. This study aims to assess chromatin compaction in renal tubular cells of rats treated with a nephrotoxic dose of cyclophosphamide. **Methods:** Twenty-one adult male Wistar rats were divided into two groups. The treated group (n=12) received a single intraperitoneal dose of cyclophosphamide (150 mg/kg, Sigma-Aldrich), while the untreated group (n=9) received 0.9% NaCl. Euthanasia was performed on four rats from the treated group and three rats from the untreated group at 24, 48, and 72 hours. The kidneys were collected, fixed in buffered neutral formalin, processed for paraffin embedding, and stained using the Feulgen reaction. Chromatin analysis was conducted using the ImageJ® video image analysis system, assessing nuclear area, chromatin compaction status, DNA content, and textural contrast between compacted and less compacted chromatin regions. Statistical significance was determined at $P < 0.05$. **Results:** No significant differences were found between the groups during the 24-hour evaluation. However, at the 48-hour mark, the treated group showed a significant decrease in nuclear area and DNA content ($P < 0.05$), which became more pronounced at 72 hours. Furthermore, there was a reduction in chromatin compaction and an increase in chromatin textural contrast ($P < 0.05$) at the 72-hour time point. **Conclusion:** This study presents compelling evidence of cyclophosphamide-induced time-dependent chromatin remodeling in renal tubular cells of rats.

Keywords: DNA, nephropathy, oncology.

Approval CEPE/CEUA: 6168260121.

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COMPARISON BETWEEN THE CERVICAL VERTEBRAE OF MAN AND OF THE DOMESTIC ANIMALS

Thaissa Oliveira Faleiros[1]*, Vinícius Thomaz da Silva Almeida[2], Victória Marques Russo Ramos[2], Lucas de Freitas Pereira[2], Tais Harumi de Castro Sasahara[3], Luis Gustavo Gosuen Gonçalves Dias[4], Fernanda Gosuen Gonçalves Dias[2]

[1]High School Student - Professor Jorge Faleiros State School, Patrocínio Paulista, Brazil, 14415-000

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[3]University of São Paulo, USP, São Paulo, Brazil, 05508-220

[4]Faculty of Agrarian and Veterinary Sciences, UNESP, Jaboticabal, Brazil, 14884-900

E-mail: thaissaoliveirafaleiros@gmail.com

Purpose: Compare the cervical vertebrae of men, dogs, equines and cattle, highlighting similarities and differences in terms of quantity, function and format. **Methods:** Anatomical pieces from the Anatomy Laboratory of the University of Franca. **Results:** Humans have seven cervical vertebrae, just like the other species, which protect the spinal cord and support the neck, providing head movement. The first (atlas) and second (axis) cervical vertebrae are atypical in all species. The atlas contains the dorsal and ventral tubercle, and the transverse process is modified (wing of the atlas) with the alar and lateral vertebral foramen. The tooth fovea articulates with the odontoid process of the axis. Bovines don't have a transverse foramen and, in no species, does the spinous process appear in the atlas. The axis presented a rod-shaped odontoid process in dogs, concave in bovines and pointed in other species. The other vertebrae are typical, containing body (with vertebra head and vertebral fossa), arch (participates in the formation of the vertebral foramen), vertebral foramen (houses the spinal cord) and spinous, transverse (containing the transverse foramen) and cranial articular process and flow. In all species, the seventh vertebra is modified, presenting a long spinous process and reduction or absence of the transverse foramen; yet, in equines, the spinous process was detected only in this vertebra. The seventh cervical vertebra has a pair of caudal costal facets for articulation with the first pair of ribs. **Conclusion:** Morphological differences can be related to functional, evolutionary and postural aspects of the different species.

Keywords: comparative anatomy, atlas, axis, cervical, neck.

Approval CEUA: not applicable

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MODULATING EFFECT OF NANO-PARTICULATE RED PROPOLIS ON THERMAL SENSITIVITY

Thaylla Maria Ferreira[1], Heloisa Ubeda[1], João Guilherme Martins[1], Silvio de Almeida Junior[2], Priscylla Marcatto[3], Jairo Kenupp Bastos[3], Ricardo Andrade Furtado[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]State University of Minas Gerais (UEMG), Passos, Brazil, 37902-114

[3]University of São Paulo, USP, Ribeirão Preto, Brazil, 14040-902

E-mail: thayllaferreira01@hotmail.com

Purpose: Propolis is used in various parts of the world and has been the subject of studies both for its therapeutic properties, such as anti-inflammatory, antioxidant, antibacterial, antiviral, antifungal, antitumor, immunomodulatory, against respiratory tract disorders, antiulcer, and neuroprotective. In view of this, this work aims to evaluate the thermal sentivity in rats of red propolis in lipid nanostructure (CLN-PVB). **Methods:** Thermal sensitivity were evaluated by the Hargreaves test in rats at doses of 3, 1 and 0.5 mg/kg. Negative control and reference control (dexamethasone) were also included. Therefore, the animals were treated with a single dose. The measurement was performed at 0 (baseline) and 60 minutes after administration to analgesic measurement. In sequence, carrageenan was administered into plantar tissue and the nociception was mensurated after 60 minutes to anti-inflammatory activity. **Results:** The results show that thermal analgesia at doses of 1 and 3 mg/kg of CLN-PVB significantly increased the response time both in healthy animals and those with an installed inflammatory process. No differences were observed between the doses. **Conclusion:** Thus, it is observed that CLN-PVB at doses of 1 and 3 mg/kg had analgesia in thermal receptors. The animals showed improvement in the sensitivity in the two tested conditions. This work aims to contribute to a better understanding of the action of CLN-PVB, providing its more effective use in future clinical applications.

Keywords: thermal receptors, analgesia, red propolis.

Approval CEUA: 003/14.

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AGING IN THE WORLD AND IN BRAZIL

Tobias Feliciano Gomes da Silva; Daniel dos Santos[2]

[1]Angelo Scarabucci State School, Franca, Brazil, 14403-646

[2]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: tobiasfelicianogs@gmail.com

Purpose: The present study aimed to investigate the panorama of aging in Brazil and in the world. **Methods:** A literature review of the past 5 years was conducted using the following scientific databases: PubMed, Google Scholar, and data available on the websites of the World Health Organization (WHO) and Ministry of Health. The search included the keywords: elderly, aging, and health promotion. **Results:** After selecting relevant articles, this review highlighted 5 current studies on the global aging theme. The findings revealed that the global population of individuals aged 60 years and older is projected to reach approximately 1.4 billion by 2030, surpassing the number of children under 10 years old. In Brazil, according to projections by IBGE, the elderly population is expected to reach 41 million by 2030, accounting for 18% of the country's population. Developing countries are projected to experience more significant growth. **Conclusion:** This study demonstrates the accelerated pace of aging worldwide, underscoring the need to develop public policies, particularly in poor countries. Therefore, it is crucial to consider the implementation of comprehensive public policies that encompass a broader perspective on health promotion for the elderly population.

Keywords: aging, public policies, health promotion.

Acknowledgments: CAPES and CNPq.

INVESTIGATION OF THE MOLECULAR PATHWAYS INVOLVED IN THE ANTIMELANOMA ACTIVITY OF THE RUTHENIUM COMPLEX WITH 2-MERCAPTOTHIAZOLINE LIGAND

Uriel Rodrigues Landaeta[1], Matheus Reis Santos de Melo[1], Gabriela Fernandes[1]. Iara Silva Squarisi[1], Monize Martins da Silva[2], Alzir Azevedo Batista[2], Denise Crispim Tavares[1]

[1]University of Franca, UNIFRAN, Franca, São Paulo, Brazil, 14404-600

[2]Chemistry Department, Federal University of São Carlos, UFSCar, São Carlos, São Paulo, Brazil, 13565-905

E-mail: urielbadolati@hotmail.com

Objective: The present study evaluated the cell death pathway induced by the ruthenium complex with 2-mercaptothiazoline ligand (RuMTZ) through protein expression in melanoma cell lines. **Method:** The induction of DNA damage and apoptosis by the RuMTZ was evaluated by the analysis of γH2AX and cleaved caspase-3 proteins, respectively, using Western blot assay. Cell cultures were treated with complex at concentrations of 8.6 µM (A-375 - human melanoma) and 2.4 µM (B16-F10 – murine melanoma) for 24 hours The intensity, absolute area and relative percentage of area of band were determined using the ImageJ software. **Results:** RuMTZ treatment led to significantly increased expression levels of γH2AX and cleaved caspase 3 in human and murine melanoma cells. **Conclusion:** The results indicate that DNA damage, as well as apoptosis, are involved, at least in part, in RuMTZ-induced melanoma cell death. This ruthenium complex revealed promising anti-melanoma activity under the experimental conditions used.

Keywords: Cleaved caspase-3, γH2AX, 2-mercaptothiazoline, Western blot

Acknowledgments: PIBIC-CNPQ, FAPESP and CAPES

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IN VIVO SAFETY ANALYSIS OF SYNTHETIC POLYMER POLYHEXAMETHYLENE GUANIDINE HYDROCHLORIDE FOR USE AS MOUTHWASH

Victória Marques Russo Ramos [1]*, Lucas de Freitas Pereira[1], Sérgio Ricardo Ambrósio[1], Renato Luis Tame Parreira[1], Denise Crispim Tavares[1], Rodrigo Cássio Sola Veneziani[1], Saulo Duarte Ozelin1, Fernanda Gosuen Gonçalves Dias[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: victoriamrussoramos120@gmail.com

Purpose: To evaluate the in vivo safety of a topical solution containing the synthetic polymer polyhexamethylene guanidine hydrochloride (PHMGH) for preventive use against dental caries. **Methods:** Fifteen rats were distributed into three groups: GPHMGH (n=5, topical instillations of four drops of PHMGH at 0.0625%, daily, for 90 days consecutives, mimicking the use of the product as a mouthwash, GC (n=5, control without treatment) and GMMS (n=5, positive control for genotoxicity tests – 40 mg/kg of methylmethanesulfonate, intraperitoneal). The rats were daily evaluated for changes in the oral mucosa and tongue such as sensitivity, edema, ulcer, bleeding and necrosis, in addition to dysphagia, hyporexia or anorexia due to oral sensitivity or loss of taste, followed by weight loss. At the end of the experiment, to check for possible hepatotoxicity and nephrotoxicity of the polymer, the serum levels of alanine aminotransferase (ALT, U/L), aspartate aminotransferase (AST, U/L), urea (mg/dL) and creatinine (mg/dL) were measured, respectively. By microscopic analysis of the bone marrow, the toxigenicity for the polymer was evaluated by the micronucleus test. **Results:** No rodent showed oral and tongue alterations, not causing body weight loss. The other results were statistically compared by analysis of variance (ANOVA). The solution containing PHMGH showed no evidence of hepatotoxicity, nephrotoxicity or toxigenicity when compared to the GC. **Conclusion:** The polymer can be used as an active ingredient in new oral products, for use alone or in combination with those already established and, in addition to tooth decay, it can prevent other oral diseases such as periodontitis.

Keywords: oral diseases, kidney function, liver function, dentistry, toxicity.

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Acknowledgments: University of Franca, CNPq and CAPES.

PREPARATION OF SEPIOLITE-TiO2 NANOCOMPOSITES FOR CAFFEINE AND IBUPROFEN ADSORPTION AND PHOTODEGRADATION

Vinícius Fernandes de Lima[1], Nívia da Silva Custódio[1], Marcus Vinícius do Prado[1], Liziane Marçal Silva[1], Emerson Henrique de Faria[1], Katia Jorge Ciuffi[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: vinicius.ferlima15@gmail.com

Purpose: To use the sol-gel method to synthesize sepiolite-titanium nanocomposites that can both adsorb and degrade caffeine and ibuprofen in the nanocomposite, the TiO2 photodegradation properties should be optimized, while the high sepiolite porosity should favor adsorption. **Methods:** Sepiolite (5 g), ethanol (25 cm3), acetic acid (2.5 cm3), and Ti(IV) alkoxide (2.5 cm3) were mixed in a beaker at room temperature and stirred for 24 h. The suspension was washed with distilled water and centrifuged several times, to remove the un-anchored alkoxide and other reagents from the clay surface. The solid was dried at 100 ºC for 24 h and divided into four fractions: one fraction was not submitted to heat treatment; the other fractions were calcined at 200, 300, or 400 ºC for 24 h. Caffeine and ibuprofen degradation was carried out in a glass reactor under photoirradiation with a mercury vapor lamp. Adsorption tests were performed in the dark, in a beaker protected from ambient light. Both the caffeine degradation and adsorption kinetics were evaluated at 15, 30, 60, and 120 min and 24 h. To quantify the results, a UV-Vis spectrophotometer was used. **Results:** The preliminary results showed that the calcination temperature affected the photodegradation and adsorption capacity of the nanocomposites. The titanium oxide anatase structure, the allotropic form with the highest photocatalytic activity, was formed at 400 ºC. In fact, calcined materials decreased their adsorptive capacities as the temperature increased while the opposite occurred for degradation activity. The materials with 400°C presented the best degradation results in both drugs and can be associated with the crystalline phases present in the X-ray diffractograms of these materials. **Conclusion:** The prepared materials have potential use in caffeine and ibuprofen adsorption and photodegradation.

Keywords: caffeine, ibuprofen, clay, sol gel.

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EFFECT OF SANITIZERS ON BIOFILMS OF C. parapsilosis AND S. aureus

Vitor de Paula Castro[1], Danilo Yamamoto Thomaz[2], Kayro de Lima Vieira [2], Gilda M. B. Del Negro [2], Gil Benard [2], Regina Helena Pires[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Laboratory of Medical Mycology, Instituto de Medicina Tropical e Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil, 05403-000

E-mail: vitordepcastro@gmail.com

Purpose: This study examined the impact of sanitizers on fungal and mixed biofilms comprising bacteria and fungi. **Methods:** Thirty-eight Candida parapsilosis sensu stricto isolates were obtained from clinical samples and the nosocomial environment, alongside the Staphylococcus aureus ATCC 25923 strain. Hypochlorite and quaternary ammonium-based (QAC) sanitizers were applied at varying concentrations and exposure times. Single-species and mixed biofilms were cultivated in 96-well microtiter plates at 37°C for 48 hours, followed by exposure to the sanitizers. Colony forming units (CFU) per milliliter (mL) were determined using total agar plate count methodology, and reduction in cell count was expressed in logarithmic units. **Results:** Among seven tested formulations, only Lysol™, a QAC-based sanitizer constituted by Alkyl dimethyl benzyl ammonium chloride (ADBAC) 0.8% and Alkyl benzyl ammonium chloride (ABAC) 0.02%, proved effective against single-species and mixed biofilms of C. parapsilosis and S. aureus. The sanitizer reduced C. parapsilosis biofilm cells by 8.08 Log10 CFU/ml and S. aureus biofilm cells by 2.69 Log10 CFU/ml. In mixed biofilms, the reduction was 4.39 Log10 CFU/ml for fungus and 2.20 Log10 CFU/ml for bacteria, indicating increased resistance of the yeast to the sanitizer due to interaction. **Conclusion:** Mixed biofilm formation in hospitals can create an ecological niche that promotes pathogen survival despite routine sanitization. Thus, implementing effective sanitization practices, including regular cleaning with potent sanitizers, is crucial for preventing Candida/S. aureus biofilm formation in healthcare settings.

Keywords: sanitizer, fungi-bacteria biofilm, hospital setting, sanitization procedures.

Acknowledgments: CNPq and Cruzeiro do Sul.

PRESERVE HISTORICAL HERITAGE TO THE DETRIMENT OF URBAN DEVELOPMENT

Vítor Teixeira Marcos de Souza[1], Maria Fernanda Maia Barbosa[1], Rosemeire Lovo[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

[2]Laboratory of Medical Mycology, Instituto de Medicina Tropical e Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil, 05403-000

E-mail: vitorteixeira2004@hotmail.com

Purpose: The study aims to expose the problems related to the preservation of the historical heritage to the detriment to urban development in order to better understand the urban choices between the current and the past. **Methods:** With a theoretical approach, the guiding concepts were researched, with academic articles and the opinion of great worldwide architecture names, the chosen theme was dissected in the most diverse architectural and urbanistic aspects to expose the problem which was proposed. **Results:** With the theoretical research it was possible to glimpse each of the sides and their positive and negative aspects, reaching a proposal of balance between both realities. **Conclusion:** Thus, it is concluded that both the preservation of historical heritage and urban development are equally necessary for the good performance of the urban adjuncts, therefore, it is necessary the intervention of public authorities in this balance control, so neither side is disadvantaged.

Keywords: historical heritage, urban development, architecture and urbanism.

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EVALUATION OF THE IN VITRO ANTIMICROBIAL ACTIVITY OF GUACO FLUID EXTRACT AGAINST CARIOGENIC BACTERIA

Vitória de Paula Silva[1], Geise Bueno Paiva[1], Maria Anita Lemos Vasconcelos Ambrósio[1], Rodrigo Cassio Sola Veneziani[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: paulasilvavitoria@yahoo.com.br

Purpose: The present study aimed to evaluate the antimicrobial activity of guaco fluid extract (GFE) against bacteria that cause oral caries. **Methods:** The study utilized gram-positive bacteria obtained from the American Type Culture Collection (ATCC). The bacterial strains included Streptococcus mutans ATCC 25275, *Streptococcus mitis* ATCC 49456, *Streptococcus sanguinis* ATCC 10556, *Streptococcus sobrinus* ATCC 33478, *Lactobacillus casei* ATCC 11578, *Streptococcus salivarius* ATCC 25975, and *Enterococcus faecalis* ATCC 4082. The Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) values were determined using the microdilution method in microplates. As a positive control, chlorhexidine digluconate was employed, and the growth of bacteria was assessed using resazurin as an indicator (Sarker, S. D., Nahar, L., Kumarasamy, Y. (2007). Microtitre plate-based antibacterial assay incorporating resazurin as an indicator of cell growth, and its application in the in vitro antibacterial screening of phytochemicals. Methods, 42(4), 321-324. https://doi.org/DOI10.1016/j.ymeth.2007.01.006). **Results:** All the gram-positive bacteria tested demonstrated Minimum Inhibitory Concentrations (MICs) ranging from 31.25 to 1000.0 λg/mL. Moreover, the Minimum Bactericidal Concentrations (MBCs) aligned with the MICs, implying that the concentrations needed to inhibit bacterial growth and induce bactericidal effects were indistinguishable. **Conclusion:** Based on the results obtained, it can be concluded that the GFE showed significant results against the tested bacteria, except for L. casei and *E. faecalis*, which had results with low expressiveness.

Keywords: guaco fluid extract, antibacterial activity, oral caries.

Approval CEPE/CEUA: does not apply.

Acknowledgments: FAPESP, CAPES and CNPq.

LITERATURE IN BASIC EDUCATION: THE CONSTRUCTION OF THE CHARACTER IN DIALOGUE WITH AFRO-BRAZILIAN CULTURE

Vitória de Souza Guimarães[1], Camila de Araújo Beraldo Ludovice[1]

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: vitoriadesouzaguimaraes@gmail.com

Purpose: In children's literature, characters with an ethnic and cultural identification can generate in readers/children an identification with their own image. **Methods:** According to Bakhtin, narrative texts can also function as trainers of a conscience, that is, when reading a text, it is possible to come across characters, situations and memories that cause emotions, sensations and reflections in the reader's mind, enabling ethical and ethical reactions. aesthetics, from the perspective of the philosopher. There is also a standardization of literature in the classroom, characters princesses and princes with culturally rooted stereotypes, with European characteristics, without black characters, without curly hair, without the “reality” experienced every day by our children in the classroom and in the classroom. community life. For this reason and for so many other social, political, economic and cultural issues that are so rooted in our country and in Brazilian education, it is necessary to address this issue through research. Thus, our objective is to analyze the construction and dialogical constitution of a black character in the children's book "O Cabelo de Lelê", by Valéria Belém, and to verify how this character is constituted in the dialogue with Afro-Brazilian history and culture, what are the characteristics that predominate in the formation of this character and what effects of meaning they can generate for young readers at school age. **Results:** The research will be based on studies of the reflections and discoveries of Mikhail Bakhtin (1988, 2010) and scholars of literature and reader formation, such as: Aguiar and Martha (2006), Turchi and Silva (2006) and Candido (1986).

Keywords: children's literature; dialogues; Afro-Brazilian culture; education.

Acknowledgments: CNPq.

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SYNTHESIS AND CHARACTERIZATION OF A PHOTOCATALYTIC CERAMIC COATING: ENHANCING PHOTOCATALYTIC PROPERTIES FOR SUSTAINABLE APPLICATIONS

Yan P. Vedovato, Lorrana V. Barbosa, Liziane Marçal, Emerson H. de Faria

[1]University of Franca, UNIFRAN, Franca, Brazil, 14404-600

Grupo de Pesquisa em Materiais Lamelares Híbridos (GPMatLam)

E-mail: yan.pita185@gmail.com

Purpose: This study aimed to synthesize and characterize an innovative photocatalytic coating using the Sol-Gel method. Nontronite clay was chosen as a support material to immobilize titanium dioxide, a semiconductor. **Methods:** Nontronite clay was purified through dispersion and decantation to prepare it for the synthesis of the photocatalytic coating. Titanium (IV) isopropoxide was used as the semiconductor precursor, with ethanol as the solvent and acetic acid as the stabilizing agent. The nontronite clay, sourced from a non-commercial deposit in Bambuí-MG municipality (donated by FPF and ONF), was utilized as the support material to immobilize titanium dioxide. The ceramic material was produced from unpurified nontronite clay, and the photocatalytic coating was applied in five layers. Subsequently, the materials underwent various heat treatment temperatures. **Results:** The ceramic material calcined at 400°C exhibited the anatase phase, while the ceramic material at 700°C showed the rutile phase. In the photolysis test, terephthalic acid remained unchanged, indicated by the absence of the characteristic band at 425nm. Interestingly, the ceramic coated at 400°C demonstrated the most favorable hydroxylation profile in this reaction. **Conclusion:** XRD analysis and fluorescence spectroscopy confirmed the effective immobilization of the semiconductor in the clay, allowing the introduction of hydroxyl groups through heterogeneous photocatalysis. The presence of the anatase phase of titanium dioxide and the layered structure of the clay contributed to the superior hydroxylation profile observed in the ceramic material.

Keywords: Sol-Gel, nontronite, titanium dioxide, ceramic coating, heterogenous photocatalysis

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