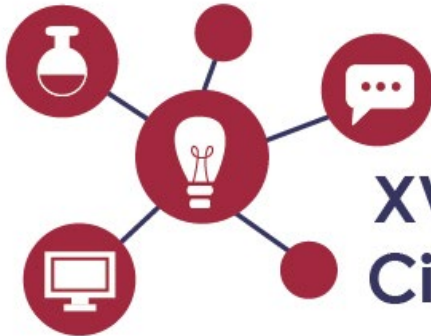




Investigação



XV Encontro de Iniciação Científica da UNIFRAN

Data: 01 e 02 de setembro de 2022

Horário: Dia 01 das 14h às 21h e dia 02 das 8h às 12h

Local: Anfiteatro Central da UNIFRAN e Bloco Lilás.

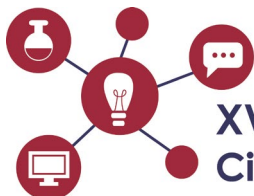
Objetivos do Evento:

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.

Foi também objetivo desse evento proporcionar maior integração entre alunos de graduação de toda a UNIFRAN com as pesquisas realizadas nesta instituição.

Homepage:

<https://xvencontroicunifran.wordpress.com/>



XV Encontro de Iniciação Científica da UNIFRAN

COMISSÃO ORGANIZADORA

Presidente do evento:

Prof. Dr. Vladimir Constantino Gomes Heleno (PPG Ciências - UNIFRAN)

Membros:

Profa. Dra. Alessandra Marieli Vacari (PPGs Ciência Animal e Ciências - UNIFRAN)

Profa. Dra. Dora Lúcia Carrara Moreti (Coordenadora do Curso de Biomedicina - UNIFRAN)

Profa. Dra. Luana Ferraz (PPGs Linguística - UNIFRAN)

Prof. Dr. Lucas Alonso Rocha (PPG Ciências - UNIFRAN)

Profa. Dra. Regina Helena Pires (PPG Promoção de Saúde - UNIFRAN)

Prof. Dr. Ricardo Andrade Furtado (PPG Ciência Animal - UNIFRAN)

Profa. Dra. Marilurdes Cruz Borges (PPGs Linguística e Promoção de Saúde - UNIFRAN)

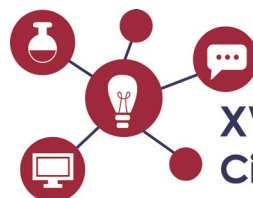
Bruno Andrade Fico (secretaria de pós-graduação - UNIFRAN)

COMITÊ DE AVALIAÇÃO EXTERNA DO CNPQ

Membros:

Prof. Dr. Antonio Gilberto Ferreira (Departamento de Química, Universidade Federal de São Carlos, São Carlos, SP)

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



COMITÊ INSTITUCIONAL DE BOLSAS PIBIC/PIBIC-EM/PIBITI

Representante Institucional:

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

Coordenador PIBIC e PIBITI:

Prof. Dr. Eduardo José Nassar (PPG Ciências - UNIFRAN)

Coordenador PIBIC-EM:

Prof. Dr. Daniel dos Santos (PPG Promoção de Saúde – UNIFRAN)

Membros:

Profa. Dra. Marcela Aldrovani Rodrigues (PPG Ciência Animal – UNIFRAN)

Profa. Dra. Marisa Afonso Andrade Brunherotti (PPG Promoção de Saúde – UNIFRAN)

Profa. Dra. Luciana Carmona Garcia Manzano (PPG Linguística – UNIFRAN)

Profa. Dra. Raquel Alves dos Santos (PPGs Ciências e Promoção de Saúde – UNIFRAN)

Profa. Dra. Camila de Araujo Beraldo Ludovice (PPG Linguística – UNIFRAN)

Prof. Dr. Rodrigo Cássio Sola Veneziani (PPG Ciências - UNIFRAN)

Prof. Dr. Salvador Boccaletti Ramos (PPG Promoção de Saúde – UNIFRAN)

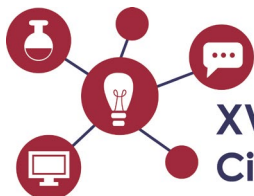
Prof. Dr. Vladimir Constantino Gomes Heleno (PPG Ciências - UNIFRAN)

Prof. Dr. Sérgio Ricardo Ambrósio (PPG Ciências - UNIFRAN)

Apoio:

Universidade de Franca (UNIFRAN)

Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)



XV Encontro de Iniciação Científica da UNIFRAN

PROGRAMAÇÃO XV ENCONTRO DE INICIAÇÃO CIENTÍFICA DA UNIFRAN

Dia 01 de setembro de 2022:

10:00 - 11:30h: - Reunião com o comitê externo de avaliadores do CNPq

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

11:30 - 13:00h - Intervalo para almoço

13:00h - Credenciamento e fixação dos pôsteres

14:00h - Cerimônia de abertura oficial:

Sr. Bruno Szarf (Representante da Diretoria - Grupo Cruzeiro do Sul)

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

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

Prof. Dr. Vladimir Constantino Gomes Heleno (Presidente do Evento - PPG Ciências/UNIFRAN)

14:30h - Palestra de abertura:

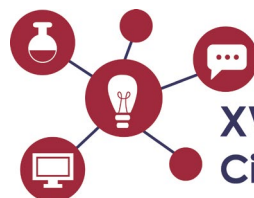
“O Cenário Geral da Pesquisa e Iniciação Científica no Brasil”

Palestrante: Sr. Rodrigo Capelato (Diretor Executivo e de Assuntos Econômicos do SEMESP).

15:30 - 16:00h - Coffee Break e Confraternização dos Participantes

16:00 - 19:30h - Apresentação de trabalhos dos bolsistas de iniciação científica PIBIC-CNPq, PIBIC-EM e PIBIC-Institucional

19:30h - Palestra e Mesa Redonda: Pesquisa e Iniciação Científica



XV Encontro de Iniciação Científica da UNIFRAN

Participantes:

Profa. Dra. Luciana Carmona Garcia Manzano (Coordenadora do PPG Linguística - UNIFRAN)

Profa. Dra. Marisa Afonso Andrade Brunherotti (Coordenadora do PPG Promoção de Saúde - UNIFRAN)

Prof. Dr. Ricardo Andrade Furtado (Representante do PPG Ciência Animal - UNIFRAN)

Prof. Dr. Rodrigo Cássio Sola Veneziani (Vice-Coodenador do PPG Ciências - UNIFRAN)

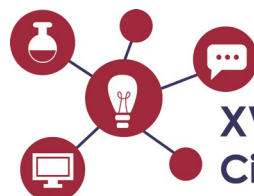
Mediador:

Prof. Dr. Vladimir Constantino Gomes Heleno (Presidente do Evento)

Dia 02 de setembro de 2022:

8:00 - 10:30h - Apresentações orais de trabalhos iniciação científica - Bolsistas PIBIC.

10:30h - Divulgação dos trabalhos premiados e Encerramento oficial

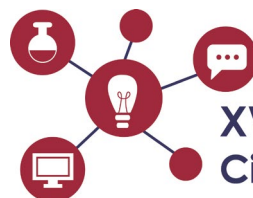


XV Encontro de Iniciação
Científica da UNIFRAN

Anais do XIV Encontro de Iniciação Científica da Unifran



UNIFRAN
Universidade
de Franca



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

Jhenice Palmeira Gallina^{1*}, Pâmela Rodrigues Reina Morena¹, Victória Marques Russo Ramos¹, Lucas de Freitas Pereira¹, Sérgio Ricardo Ambrósio¹, Renato Luis Tame Parreira¹, Denise Crispim Tavares¹, Rodrigo Cássio Sola Veneziani¹, Saulo Duarte Ozelin¹, Fernanda Gosuen Gonçalves Dias¹

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

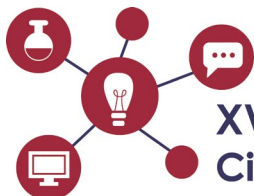
E-mail: jhenice.palmeirag@gmail.com

Purpose: As no mouthwash is totally effective, studies involving the of new active and less expensive products are justified. In this sense, polyhexamethylene guanidine hydrochloride (PHMGH) stands out, synthetic polymer with high and rapid antibacterial, antifungal and antiviral activity, even at low concentrations. Thus, the objective of the work is to evaluate the histological effect of the digestive system after the use of topical oral solution containing PHMGH at 0.0625%. **Methods:** Ten rats will be used, divided into two groups: GPHMGH (n=5, topical instillations of the polymer (four drops), daily, for 90 consecutive days, mimicking the use of the product as a mouthwash) and GC (n=5, untreated). The treated rats will be evaluated daily for the presence of changes in the 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 experimental period, the animals will be euthanized and, subsequently, fragments of the oral mucosa and the tongue will be collected for histological analysis, as well as the esophagus, stomach and intestine, assuming possible ingestion of the tested product. The histological sections will be stained in hematoxylin-eosin to analyze edema, ulceration, necrosis, hyperplasia, hemorrhage, and polymorphonuclear (neutrophils, eosinophils and basophils) and mononuclear (monocytes and lymphocytes) inflammatory infiltrate, assigning intensity scores: 0 (absent), 1 (mild), 2 (moderate) or 3 (severe). **Results:** Will be statistically compared by simple analysis of variance. **Conclusion:** Waiting for results.

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

Approval CEUA: 8704160318.

Acknowledgments: University of Franca and CAPES.



ORAL MICROBIOLOGICAL EVALUATION OF LARGE CAT KEPT IN CAPTIVITY

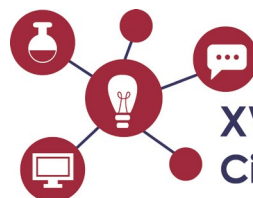
Messias Gonçalves Pessinato^{1*}, Renata Alves de Barros¹, Marcela Aldrovani Rodrigues¹, Daniel Paulino Júnior¹, Maria Anita Lemos Vanconcelos Ambrósio¹, Sérgio Ricardo Ambrósio¹, César Henrique Branco², Thayná de Souza Silva¹, Fernanda Gosuen Gonçalves Dias¹
University of Franca, UNIFRAN, Franca, Brazil, 14404-600
²Fabio Barreto Municipal Forest, Ribeirão Preto, Brazil, 14085-250
E-mail: messias.pessinato@gmail.com

Purpose: Large cats, such as the puma (*Puma concolor*), jaguar (*Panthera onca*), and lion (*Panthera leo*), represent endangered animals. So, the objective of this paper was to evaluate, through microbiological examination, the microorganisms that colonize the oral cavity of large felids that can be precursors of local and systemic diseases. **Methods:** Oral microbiological samples were collected with a sterile swab in Stuart medium, from three pumas, one jaguar, and one lion, from Bosque Municipal Fábio Barreto (Ribeirão Preto, SP) and processed following conventional quantitative (colony forming units per milliliter - CFU/mL) and qualitative techniques (BBL Crystal Kit). **Results:** The lion was the species that presented the highest number of CFU/mL (8.760.000), followed by four pumas (2.111.000; 1.995.000; 1.945.000 and 1.764.000) and the jaguar (232.000). There was bacterial growth in 100% of the samples collected, totaling the growth of 16 strains, six Gram-positive (which three were cocci and three bacilli) and 10 Gram-negative (nine bacilli and one coccobacillus). Of *P. concolor*, there was the growth of eight bacterial isolates (50% Gram-positive and 50% Gram-negative), with the identification of six species; of *P. onca* two isolates were identified (100% Gram-negative), with the identification of two species, and, of *P. Leo*, six isolates (33.3% were Gram-positive and 66.7% Gram-negative), with identification of four species. **Conclusion:** Through the methodology applied and the results obtained, it is assumed that all large felids showed relevant amounts of oral microorganisms and, through the qualitative analysis, the presence of several genera with a predominance of Gram-negative bacteria was noted.

Keywords: oral diseases, veterinary dentistry, *Panthera leo*, *Panthera onca*, *Puma concolor*.

Approval CEUA: 9615071020.

Acknowledgments: University of Franca, Fabio Barreto Municipal Forest and CAPES.



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

Victória Marques Russo Ramos^{1*}, Lucas de Freitas Pereira¹, Sérgio Ricardo Ambrósio¹, Renato Luis Tame Parreira¹, Denise Crispim Tavares¹, Rodrigo Cássio Sola Veneziani¹, Saulo Duarte Ozelin¹, Fernanda Gosuen Gonçalves Dias¹

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

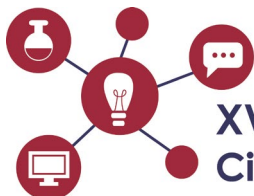
E-mail: victoriamrussoramos120@gmail.com

Purpose: To prevent oral diseases, mouthwashes are used, with 0.12% chlorhexidine digluconate being one of the promising options, however, it has adverse effects. As no commercial mouthwash is totally effective, studies involving of new active and less expensive products are justified. In this sense, polyhexamethylene guanidine hydrochloride (PHMGH) stands out, a synthetic polymer with high and rapid antibacterial, antifungal and antiviral activity, even at low concentrations. The objective of this work is to evaluate the in vivo safety of a topical solution containing PHMGH at 0.0625% for mouthwash use. **Methods:** Fifteen rats will be used, divided into three groups: GPHMGH (n=5, topical instillations of four drops of the polymer, daily, for 90 days), GST (n=5, without treatment) and GMMS (n=5, positive control for genotoxicity tests). Rats will be evaluated daily for changes in the oral mucosa and tongue such as sensitivity, edema, ulcer, bleeding and necrosis, in addition to dysphagia, hyporexia or anorexia resulting from oral sensitivity or loss of taste, followed by weight loss. Furthermore, to verify possible hepatotoxicity and nephrotoxicity of the polymer, the serum levels of alanine aminotransferase (U/L), aspartate aminotransferase (U/L), urea (mg/dL) and creatinine will be measured, respectively and the results will be statistically compared to the GST. Also, by microscopic analysis of the bone marrow, the treatment toxicity will be evaluated by the micronucleus test and the results will be statistically compared to those of the GST and GMMS. **Results:** Will be statistically compared by simple analysis of variance. **Conclusion:** Waiting for results.

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

Approval CEUA: 8704160318.

Acknowledgments: University of Franca, CNPq and CAPES.



XV Encontro de Iniciação Científica da UNIFRAN

CORNEAL EPITHELIAL MORPHOMETRY IN TERRESTRIAL, AERIAL, AND AQUATIC VERTEBRATES

Karoline Camargo, Jhuan Luiz Silva, Marcela Aldrovani Rodrigues

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

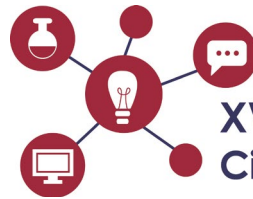
E-mail: karolinedeciosantana@gmail.com

Purpose: This study aimed to evaluate the morphometric characteristics of the corneal epithelia in terrestrial, aerial, and aquatic vertebrates using optical microscopy and image analysis. **Methods:** Twenty-two corneas of cadavers were studied; two from domestic dogs, four from horses, two from domestic cats, two from rats, two from raccoons, two from bats, two from tortoises, two from caracara, two from barn owls, two from parakeets and two from Nile tilapia. Corneas were cross-sectioned (5 μm), stained with hematoxylin and eosin, evaluated under an optical microscope, and photographed. The ImageJ® software was used to determine the corneal total thickness (CTT, mm), the corneal epithelial cellularity, and the corneal epithelial cell size (μm^2). Data were compared using ANOVA, followed by Tukey's post-test. Differences were considered significant when $P < 0.05$. **Results:** Differences in CTT (range from 0.18 mm to 0.90 mm) were observed between the species studied. Horses had thicker and more cellularized corneas than the other species ($P < 0.05$). In contrast, birds (caracara, barn owl, and parakeets) had thinner corneas. Bats and barn owls showed lower cellularity (3 epithelial cell layers). No differences in epithelial cell sizes (range from 10.01 μm^2 to 14.03 μm^2) were observed between the species ($P > 0.05$). **Conclusions:** This study showed differences in CTT and epithelial morphometry between studied corneas. However, these differences were random, with no apparent causal association between corneal morphometry and the species' lifestyle. Furthermore, the results suggested that cell sizes were not a factor related to the differences in CTT and epithelial cellularity between species.

Keywords: ocular surface, quantitative microscopy, veterinary ophthalmology, terrestrial life.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES (Finance code 001) and CNPq.



IMPACT OF THE SARS-COV-2 PANDEMIC ON THE ENTRY OF WILD ANIMALS INTO A CONSERVATION AND REHABILITATION PROGRAM

Mariana Medeiros de Freitas¹, Fernanda Aparecida Neves da Cunha¹, César Branco², Marcela Aldrovani Rodrigues¹

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

²Bosque Zoológico Fábio Barreto de Sá, Ribeirão Preto, Brazil, 14085-250

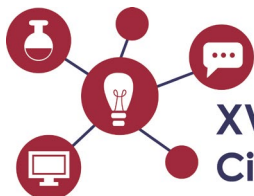
E-mail: mari.medeiros14@hotmail.com

Purpose: The present study evaluated the impact of the SARS-CoV-2 pandemic on the attendance or entry of wild animals into the “Uma Nova Chance” conservation and rehabilitation program, at Bosque Zoológico Fábio Barreto de Sá, in Ribeirão Preto, São Paulo. **Methods:** A retrospective study involving a review of records of animals attended by the program between June 2016 and June 2021 was designed. According to the date of entry of the animals into the program, the records were stratified into pre-pandemic and pandemic. This study considered that the pandemic moment began in March 2020, after an official decree of the World Health Organization. The total number of individuals and species attended by the program, as well as the monthly number of attendances made during the pre-pandemic and pandemic moments were calculated. **Results:** The entry of animals in the program was 39 individuals/month before the pandemic and increased to 55.46 during the pandemic. During the pandemic, the attendance of animals increased 1.9x in the class of birds, 1.4x in mammals, and 2.95x in reptiles. Eleven species, 3 birds, 3 mammals, and 5 reptiles, that did not appear in the pre-pandemic records entered the program during the pandemic. In contrast, the entry of the species *Amazona amazonica* and *Tamandua tetradactyla* was reduced by more than 90%. **Conclusions:** There are few studies about the impacts of the pandemic on the conservation and rehabilitation of wild animals in the world. In Brazil, this research is one of the pioneers on the subject.

Keywords: COVID-19, environment, sustainability, terrestrial life, wild fauna.

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES (Finance code 001) and CNPq.



DEVELOPMENT OF A COMIC BOOK AND A GAME TO PROMOTE THE TEACHING OF CYTOLOGY AMONG HIGH SCHOOL STUDENTS

Fábio de Oliveira¹, Danielle Dal Pico Cerce², Gabriela Nogueira Maggio², Jhuan Luiz Silva², Marcela Aldrovani Rodrigues²

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

²University of Sao Paulo, USP, Ribeirao Preto, Brazil, 14040-902

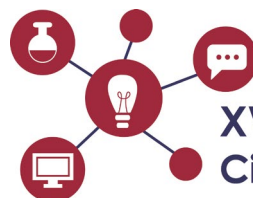
E-mail: fabioliveira.weishaupt@gmail.com

Purpose: Drawings, stories and games are useful tools to promote and improve science learning. Thus, the objective of this study was to develop a comic book and a memory game for teaching cytology. **Methods:** The material was developed for children between 11 and 12 years old attending high school. Books, articles, and atlases available at the University of Franca library were used for consultation and selection of information. The comic strips were created using the graphic editor Canva (<https://www.canva.com/pt-br/>); firstly, the central characters were chosen, and a script was elaborated. The game was created and executed in PowerPoint. **Results:** The comic book brings, as central characters, Celina, a pancreatic beta cell, and Ana, a student who observes Celina under the microscope. During the observation, Celina comes to life in Ana's imagination, and the two start a long conversation about the functions of the cell and its organelles. The memory game was based on the lessons that Celina gave to Ana, aiming to associate the organelles with their respective functions. **Conclusions:** Cytology understanding requires the use of complementary tools to books. However, not every school has microscopy laboratories, and, likewise, access to the internet that would allow the use of virtual microscopy or animations is often limited. In this way, the comic book and the game developed in this study can be an alternative teaching tool.

Keywords: active learning methodology, cell biology, quality education

Approval CEPE/CEUA: not applicable.

Acknowledgments: CAPES (Finance code 001) and CNPq.



TOXICOLOGICAL PROFILE OF AROMATIC SYNERGY OF ESSENTIAL OILS BY INHALATION AND INGESTION

Gabrielly Coutinho de Paula¹, Eveline Maria de Melo¹, João Vitor Sousa Lima¹, Silvio de Almeida Junior², Ricardo Andrade Furtado¹

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

²State University of Minas Gerais (UEMG), Passos. Brazil, 37900-106

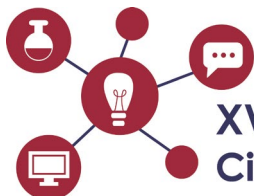
E-mail: gabrielly.coutinho3@gmail.com

Purpose: The goal was to identify the toxicological potential of aromatic synergy of essential oils (SEO) through oral and inhalational administration. **Methods:** The protocol followed OECD 425 guidelines on toxicity testing. It was administered as a single dose in mice of SEO at 5% by gavage or inhalation. Changes were observed between administration and the 14th day, when intracardiac blood collection and euthanasia of the animals were performed. **Results:** The inhaled SEO treated group showed no changes throughout the toxicity study. In the group treated with oral SEO, changes in the coat were evident, with regions of alopecia and signs of inflammation, in addition to showing hypersensitivity to touch in the abdominal region. A reduction of 46.7% in weight gain was observed when compared to the negative group. Survival was 66.7%. Post-mortem examination showed mild hepatomegaly with an increase of 19% when compared to the negative control group. In the stomach it presented alterations in the mucosa region, with extension of the body region and fundus. Inflammatory process, loss of gastric folds in the serosa, change in color and appearance of mucosa, presence of edema, petechiae and hemorrhagic streaks are identified. It is still possible to identify an increase of 58.8% in the AST dosage. **Conclusion:** This study demonstrated that inhaled SEO is safe to use, however, its ingestion should be avoided.

Keywords: Aromatherapy, complementary practices, essential oils, inflammation, toxicology.

Approval CEPE/CEUA: 2792150621

Acknowledgments: FAPESP, CAPES and CNPq.



CORRELATION OF HEMATOLOGICAL AND URINARY PROFILES OF ADULT DOGS WITH DIFFERENT DEGREES OF PERIODONTAL DISEASE

Cristiane Buzzato Garcia^{1*}, Kelly Venâncio de Oliveira Muniz¹, Vinícius Thomaz da Silva Almeida¹, Daniel Paulino Júnior¹, Silvio de Almeida Júnior¹, Ricardo Andrade Furtado¹, Lucas de Freitas Pereira¹, Brenda Faria Santos Gomes Parreira², Leandro Zuccolotto Crivellenti³, Fernanda Gosuen Gonçalves Dias¹

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

²Autonomous Veterinary Doctor, Passos, Brazil, 37900-104

³Federal University of Uberlândia, UFU, Uberlândia, Brazil, 38408-100

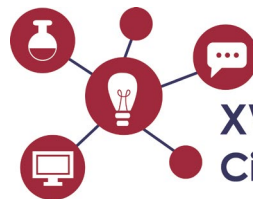
E-mail: crisbgarcia1@yahoo.com.br

Purpose: Given the high incidence of periodontitis in dogs and their local and systemic effects, the aim of this study was to describe the hematological and urinary profiles of adult patients and to analyze the correlation between the degrees of periodontitis. **Methods:** The study included 60 dogs with different breeds, weights, ages and grades of periodontitis. The values of red blood cells, hematocrit, total leukocytes, albumin, total protein, alanine aminotransferase (ALT), alkaline phosphatase (FA), urea and creatinine, density, red blood cells, leukocytes, cells, casts, proteins and urinary protein-creatinine ratio were measured and compared by simple analysis of variance. **Results:** As for red blood cells, hematocrit, total leukocytes, albumin, total protein, ALT and creatinine, there was no statistical correlation between the degrees of periodontitis and the values were within the normal range for the species. On the other hand, FA and urea showed a statistical increase in grade V ($p < 0.05$), despite being within the established for dogs. There was no statistical correlation between the urinary parameters of density, erythrocytes, leukocytes, cells, casts and RPC with the different degrees of periodontal disease and the values were within the recommended for the species. In contrast, the parameters severely affected by periodontitis (grade V) showed a increase in urinary proteins when compared with those of grades II and III ($p < 0.05$). However, they remained within normal limits for adult canines. **Conclusion:** Periodontitis in adult dogs did not indicate impairment in hematological, biochemical and urinary, regardless of breed and degree of involvement of oral disease.

Keywords: systemic diseases, complementary exams, periodontitis, bacterial plaque, veterinary dentistry.

Approval CEUA: 4182260917.

Acknowledgments: University of Franca and CAPES.



COMPARISON BETWEEN THE RIBS OF MAN AND DOMESTIC ANIMALS

Lorrane Batista Alves^{1*}, Tais Harumi de Castro Sasahara², Vinícius Thomaz da Silva Almeida³, Daniela do Nascimento Belmiro³, Lucas de Freitas Pereira³, Luis Gustavo Gosuen Gonçalves Dias⁴, Fernanda Gosuen Gonçalves Dias³

¹High School Student - Ângelo Scarabucci State School, Franca, Brazil, 14403-646

²University of São Paulo, USP, São Paulo, Brazil, 05508-220

³University of Franca, UNIFRAN, Franca, Brazil, 14404-600

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

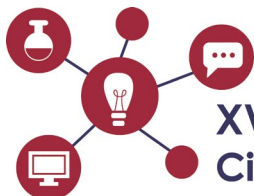
E-mail: lorranealves812@gmail.com

Purpose: Given the functional relevance of the ribs, the aim of the study was to compare these bone structures between humans and domestic species (canine, equine and bovine). **Methods:** Skeletons and anatomical pieces from the Human and Veterinary Anatomy Laboratory of the University of Franca were used. **Results:** In all species compared, the ribs were contributing to the support of the skeleton and form a part of the thoracic cavity, assisting in the respiratory movements of inspiration and respiration and protecting the thoracic and abdominal organs. As for the types, all the species presented sternal ribs (articulating directly with the sternum) and sternum (indirect contact with the sternum) in different amounts; on the other hand, only the canine and human, the floating ones (without connection with adjacent cartilage). The number of pairs of ribs corresponded to that of thoracic vertebrae, varying between the species (13 pairs in the canine, 18 in the equine, 13 in the bovine and 12 in the human). Concerning the rib shape, there was also variation according to each species, being longer, wider and flatter in cattle compared to horses; in canines, the narrower and more curved shape stood out, and in humans in semi-arches. **Conclusion:** Regardless of the species, the ribs perform the same functions, however, differences were found in terms of types, quantities and shapes, which may be involved with evolutionary and postural characteristics.

Keywords: comparative anatomy, asternal, sternal, floating, anatomical homology.

Approval CEUA: not applicable

Acknowledgments: University of Franca, CAPES (finance code 001), and CNPq.



HYDROXYAPATITE INCORPORATED IN POLYAMIDE 12 MEMBRANE IMPLANTED IN INTRACORPORAL SITES OF RODENTS: ANALYSIS BY SCANNING ELECTRON MICROSCOPY

Micaela Silva Carrijo^{1*}, Leonardo Lamarca de Carvalho¹, Marcela Aldrovani Rodrigues¹, Lucas de Freitas Pereira¹, Luis Gustavo Gosuen Gonçalves Dias², Eduardo José Nassar¹, Fernanda Gosuen Gonçalves Dias¹

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

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

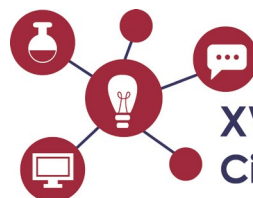
E-mail: micaelacarrijo@gmail.com

Purpose: Scanning electron microscopy (SEM) provides high-resolution information on the surface topography and microstructural characteristics. This study was to use SEM to evaluate the deposition and morphological organization of powdered hydroxyapatite incorporated in prototyped polyamide 12 membrane (implant) surgically implanted in intracorporeal sites (subcutaneous tissue, omentum, and bone) of rodents. **Methods:** After 30, 45, and 60 days of implantation, tissue samples from intracorporeal sites were biopsied and processed according to the conventional SEM technique. Later, the materials were photographed on a TESCAN scanning electron microscope (Vega 3SBH Easy Probe). Analyzes were performed at the implant/intracorporeal sites interface for calcium and phosphorus deposition (score 0: absent or 1: present), mineral morphology, and mineral organization (0: absent; 1: mild; 2: moderate or 3: intense). The deposition results were descriptive and the others were statistically evaluated by analysis of variance. **Results:** From the first moment of analysis, all tissues showed mineral deposition. The aggregation of calcium and phosphorus in the subcutaneous tissue was more evident after 15 and 30 days after surgery and in the other intracorporeal sites, despite the aggregation, there was no statistical difference between the different moments. The mineral organization in the subcutaneous tissue was higher on the 15th day and, in the other tissues, no statistical difference was observed between the moments. **Conclusion:** The polyamide 12 membrane incorporated with hydroxyapatite powder stimulated the deposition, aggregation and organization of bone tissue precursors, in different scores, from the first moment of experimental analysis, suggesting osteogenic and osteoinductive activity of the tested implant.

Keywords: three-dimensional imaging, nylon, veterinary orthopedics, osteogenesis, osteoinduction.

Approval CEUA: 6134300818.

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



CHARACTERIZATION OF HEMATOLOGICAL AND BIOCHEMICAL PARAMETERS OF NEW ZEALAND RABBITS FROM THE MAINTENANCE VIVARIUM OF THE UNIVERSITY OF FRANCA

Emilye Justus^{1*}, Silvio de Almeida Junior¹, Fernanda Gosuen Gonçalves Dias¹, Daniel Paulino Junior¹

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

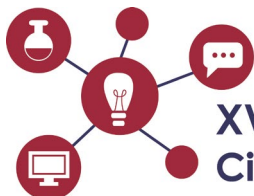
E-mail: emilyejustus@hotmail.com

Purpose: The research was carried out on 30 *New Zealand* rabbits installed in the Experimental Animal House at the University of Franca, in order to standardize hematological and biochemical reference values. **Methods:** The animals were housed in cages receiving water and food with daily change and were acclimatized for a month. The blood was collected through the venous access in a large-caliber vessel. A tube containing EDTA was used to perform hematological tests and a tube with a separator gel for biochemical tests. Mean and standard deviation were used to calculate the value, using -2SD to determine the minimum value and +2SD for the maximum value. **Results:** The red cells range from 5,1 to 6,3 x 10³ mm³; hemoglobin 10,3 to 13,5 g/dL; hematocrit 33% to 41,2%; V.C.M 60,5 to 69,3 fl; H.C.M 19,3 to 22,5 pg and the C.H.C.M to 31,5% to 32,1%. In the leukogram, the patterns showed total leukocytes with a reference range of 4,7 to 8,3 mm³. In biochemistry, the standards showed ALT with a reference range of 45 to 184,6 I.U/L; alkaline phosphatase ranging from 71,1 to 201,5 IU/L; creatinine with 1,13 to 1,89 mg/dL; urea with a reference range of 25,5 to 45,1 mg/dL and total proteins with a range of 7,4 to 9,3 g/dL. **Conclusion:** According to the methodology applied and the results obtained, it is understood the importance of standardizing and stipulating baseline values of the analytes, in order to guide researchers and assist in experimental research projects.

Keywords: rabbits, parameters, biochemical, hematological.

Approval CEUA: 9725071117.

Acknowledgments: FAPESP (2018/06407-9), CAPES and CNPq.



USE OF ESSENTIAL OIL BLEND VIA AROMATHERAPY IN THE CONTROL OF INDUCED PAIN

Eveline Maria de Melo¹, Silvio de Almeida Junior², Ricardo Andrade Furtado¹

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

²State University of Minas Gerais (UEMG), Passos. Brazil, 37900-106

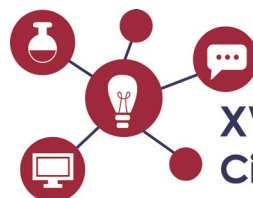
E-mail: evelinemelo5@gmail.com

Purpose: Identify the pain modulating potential of a blend of essential oils in an animal model. **Methods:** The blend of essential oils (BEO) was developed from a mixed composition of commercial essential oils. The blend of essential oils was Rosemary (*Rosmarinus officinalis* L.), Eucalyptus (*Eucalyptus globulus*), Peppermint (*Mentha piperita* L.), Lavender (*Lavandula angustifolia*) and Patchouli (*Pogostemon cablin*). The BEO was diluted in grain alcohol (70%) and completed with distilled water (30%) in the intended volume. For pain assessment, the formalin test was chosen. The technique consists of administering the 2.5 and 5% of BEO by inhalation, in addition to the negative control (vehicle) and positive control (indomethacin and morphine). After 60 minutes of treatment, 20 μ L of 2.5% formaldehyde was applied to the plantar region and observed for 30 minutes, divided into Phase I (0-5) and Phase II (15-30). **Results:** In phase I, efficacy of 62.4% were observed for the Morphine group and 39.8% in the 2.5% BEO and 41.1% in the 5% BOE ($p = 0.0311$). In phase II, excellent results were obtained, with 49.1% in 2.5% SEO and 63.1% in 5% BOE compared to 44.1% of the animals treated with indomethacin ($p = 0.0001$). **Conclusion:** It is concluded that the blend of essential oils administered via inhalation was effective in phases I and II, showing analgesic and anti-inflammatory activity.

Keywords: aromatherapy, complementary practices, essential oils, inflammation, pain.

Approval CEPE/CEUA: 2792150621

Acknowledgments: FAPESP, CAPES and CNPq.



IDENTIFICATION OF PHLEBOTOMINE FAUNA (Diptera: Psychodidae) IN GRUTA DO ITAMBÉ IN ALTINÓPOLIS-SP, BRAZIL

Rafael Marques Marcelo¹, Salvador Paganella Chaves Junior², Guilherme Cecílio Lima¹, Letícia Cristina Morelli², Andrey José Andrade², Marcela Aldrovani Rodrigues¹, Fernanda Gosuen Gonçalves Dias¹, Lizandra Guidi Magalhães¹, Rafael Paranhos de Mendonça¹

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

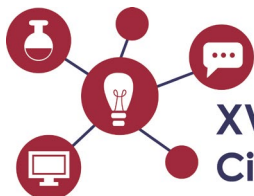
²Federal University of Paraná, UFPR, Curitiba, Paraná, Brazil, 80060-000

E-mail: rafaelmmarcelo@hotmail.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 sandflies in Gruta do Itambé (Altinópolis, SP). **Methods:** Between January and February 2022, entomological captures were carried out with light traps "Center on Disease Control" (CDC), for three consecutive nights in the second week of each month, totaling two months. Nine traps were installed at strategic points, with distances of approximately 10 meters from each other, at 1.5 meters above the ground. Traps were numbered, 1, 2, 3, 4, 5 and 6 were positioned inside the grotto (darkest region) and traps 7, 8 and 9 remained outside the grotto (lighter region). After the collections, the sandflies were morphologically identified, relating the data with the collection points. **Results:** In the captures carried out, 324 specimens were identified. The species *Lutzomyia longipalpis* was predominant in these two months, totaling 317 individuals captured, which corresponded to 97.83% of the identifications. The other species identified were *Brumptomyia pinto* (0.93%), *Brumptomyia avellari* (0.93%) and *Brumptomyia brumpti* (0.31%). *Lutzomyia longipalpis* was found in all trap points evaluated. Of the other species, only *B. avellari* was captured outside the grotto, specifically in trap 7. **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: grotto, leishmaniasis, sandflies, traps..

Acknowledgments: CAPES and CNPq.



COMPARISON BETWEEN THE REBOUND AND APPLANATION TONOMETER MANAGED BY DIFFERENT EVALUATORS FOR INTRAOCULAR PRESSURE MEASUREMENTS IN RABBITS

Vinícius Thomaz da Silva Almeida^{1*}, Cristiane Buzzato Garcia¹, Adriana Torrecilhas Jorge², Daniel Paulino Júnior¹, João Guilherme Martins¹, Poliana Marques Pereira¹, Silvio de Almeida Júnior¹, Fernanda Gosuen Gonçalves Dias¹

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

²Autonomous Veterinary Doctor, Franca, Brazil, 14.403-180W

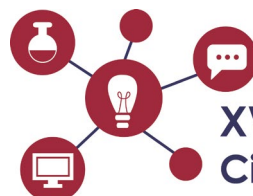
E-mail: vinithomaz2001@hotmail.com

Purpose: This study aimed to compare the values of intraocular pressure (IOP) by different tonometers and evaluators. **Methods:** 30 rabbits were used and, in all (n = 60 eyes), the IOP was initially measured with a rebound tonometer and, in subsequently, with an applanation tonometer. With the two devices, the measurements in mmHg were performed in the central region of the corneas, always performed in the same period, by a professional veterinary ophthalmologist and a veterinarian non-specialist in the area. Data were statistically compared using the simple analysis of variance test. **Results:** With the rebound tonometer, IOP ranged from 7 to 14 mmHg when measured by both evaluators; while with the applanation tonometer, from 9 to 15 mmHg by the ophthalmologist and from 8 to 16 mmHg by the non-specialist. In the right eyes, the IOP measured by the applanation tonometer by the non-experienced evaluator was statistically lower than the specialist's values; yet the results of the two evaluators were higher in these same eyes when compared with those of the rebound tonometer. In the left eyes, the IOP measured by the applanation tonometer by the non-experienced evaluator was statistically higher than the specialist's values with the rebound tonometer. **Conclusion:** It was possible to infer that, regardless of experience in the area, the applanation tonometer indicated higher mean values of IOP in both eyes and, in relation to the evaluators, the means of the measurements performed by the ophthalmologists were higher compared to the non-professional specialist.

Keywords: aqueous humor, glaucoma, veterinary ophthalmology, tonometry, uveitis.

Approval CEUA: 9725071117.

Acknowledgments: University of Franca, CAPES and CNPq.



COMPATIBILITY OF *Chrysoperla externa* (NEUROPTERA: CHRYSOPIDAE) WITH ENTOMOPATOGENIC FUNGI

Agda Braghini^{1*}, Rafaela Cristine Rodrigues², Wellington Louiz Vitali³, Marina Barbosa de Jesus⁴, Alessandra Marieli Vacari⁵

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

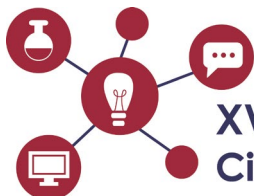
E-mail: agdabraguine@hotmail.com

Purpose: The great challenge of the present research project was to try to provide producers with a compatible biological control methodology using microbiologicals and the predator. **Methods:** Available entomopathogenic fungi (*Beauveria bassiana*, *Cordyceps fumosorosea* and *Metarhizium anisopliae*) on the mortality of the predator *C. externa* under ideal conditions for the pathogens, in addition to investigate the effects on population parameters when subjected to topical application of fungi. For this, the effect of microbiologicals on eggs and adults of *C. externa*, and also on the predator's offspring was studied. **Results:** The fungi *B. bassiana* and *C. fumosorosea* are not compatible with *C. externa* when treated with adults and eggs of the predator, as they caused 100% mortality. The fungus *M. anisopliae* is compatible with adults of *C. externa*, but it is not compatible with eggs of *C. externa*, as it caused reduced hatching of larvae. **Conclusion:** The results obtained in this research open the possibility of using the fungus *M. anisopliae* in association with adults of *C. externa* in biological pest control programs.

Keywords: green lacewing, biological control, sustainable strategies.

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

THERMAL NOCICEPTION OF ANIMALS TREATED WITH RED PROPOLIS ON LIPIDIC NANOPARTICLE

Maria Eduarda Silva¹, Heloisa Ubeda¹, Joao Guilherme Martins¹, Jairo Kenupp Bastos³, Priscyla Danieli Marcato Gaspari³, e Silvio de Almeida Junior², Ricardo Andrade Furtado¹

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

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

³University of São Paulo, USP, Ribeirao Preto, Brazil, 14040-902

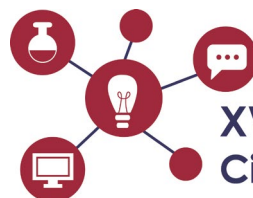
E-mail: mariaedusilva712@gmail.com

Purpose: Several properties were identified with the red propolis, among them the therapeutic, using the propolis anti-inflammatory action. In this way, this work aims to contribute through experimentation, to a better understanding of the analgesic effect of red propolis on thermal nociception. **Methods:** The animals were divided into groups: treated (Red Propolis Lipidic Nanoparticle; 3 mg/kg), control (distilled water), and reference control (dexamethasone; 1mg/kg). The Hargreaves apparatus was used to evaluate thermal nociception. The nociception was measured before treatments. After 1 hour the nociception was measured and subsequently an inflammatory process was induced in the paw with carrageenan. After 1 hour, nociception was measured again. **Results:** In the Hargreaves assay, the animals treated with red propolis showed changes in response time of 1.7 and 1.2 seconds from baseline, 1 and 2 h after treatment, respectively. In the negative control, a reduction in response time was observed, being -0.1 and -3.07 seconds, respectively, for 1 and 2 hours after treatment. The reference control showed an increase in response of 2.1 and 3.1 seconds. These results show that inflammation reduces nociception time, whereas propolis was able to maintain the response time, on the other hand, dexamethasone increased the response time. **Conclusion:** The results indicate that the nanoencapsulated red propolis is capable of reversing the nociception induced by the inflammatory process, however it is necessary to increase the experimental number for proper statistical analysis.

Keywords: analgesia, inflammation, red propolis

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.



POTENTIAL OF NANO-PARTICULATE RED PROPOLIS ON NOCICEPTION

Thaylla Maria Ferreira¹, Aliny Faria Silva¹, Heloisa Ubeda¹, João Guilherme Martins¹, Silvio de Almeida Junior², Sérgio Ricardo Ambrósio¹, Jairo Kenupp Bastos³, Ricardo Andrade Furtado¹

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

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

³University of São Paulo, USP, Ribeirão Preto, Brazil, 14040-9020

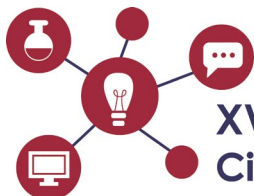
E-mail: thayllaferreira01@hotmail.com

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 antinociceptive activity of red propolis in lipid nanostructure (CLN-PVB). **Methods:** Analgesic and anti-inflammatory activity were evaluated by the formalin assay in mice 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, 1 hour before nociceptive induction. **Results:** The results show that in the first 5 minutes of the trial, no reductions in nociception were observed, on the other hand, doses of 3, 1 and 0.5 mg/kg of CLN-PVB significantly reduced nociception in the second phase of the trial by 49%. No differences were observed between the doses. **Conclusion:** Thus, it is observed that CLN-PVB does not have analgesic activity (Phase I), but has good anti-inflammatory activity (Phase II), so this work aims to contribute to a better understanding of the action of CLN-PVB, providing its more effective and safe use in future clinical applications.

Keywords: analgesia, inflammation, toxicology.

Approval CEPE/CEUA: 1608260921

Acknowledgments: FAPESP, CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

Mentha piperita, Melaleuca spp and Citrus sinensis in control of Rhipicephalus (Boophilus) microplus - TEST IN VITRO

Luis Felipe Lamarca Ribeiro^{1*}, Isabela Ferreira Junqueira¹, Renato Alves de Freitas¹, Guilherme Cecílio Lima¹, Gabriel Nunes de Oliveira¹, Thuany Martins Ferreira¹, Silvio de Almeida Junior¹, Rafael Paranhos de Mendonça¹

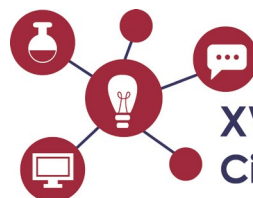
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: luisfelipelamarca@gmail.com

Purpose: Brazilian livestock is a major place in the national and international market, the world's largest exporter of beef and the third largest in milk production. Among the parasitosis, the tick, *Rhipicephalus (Boophilus) microplus*, is the ectoparasite that causes the greatest financial damage to milk and meat production, so the correct control of this parasite is of paramount importance to reduce the impact on milk and meat production. Conventional control of ticks with synthetic products has become a major problem, due to increased resistance of organisms to the active ingredients of chemical acaricides and food contamination. In this context, the present work aims to evaluate the efficacy of *Mentha piperite* oils, *Melaleuca sp* and *Citrus sinensis* in the control of the tick *R. microplus* by in vitro test. **Methods:** For this, the immersion test of adult females (TIA) of *R. microplus* will be performed. The teleogins will be divided into four experimental groups, composed of 3 groups treated in dilutions of 1.0%; and a control group. Each group will be evaluated in triplicate totaling 30 teleogins per group. The efficacy of each study will be evaluated by comparing the groups treated in relation to the control group in the methodology of the adult immersion test. **Results:** it is expected that the present study will bring information on the discovery of new therapeutic alternatives for the control of bovine ticks. **Conclusion:** project in progress.

Keywords: cattle, tick, phytotherapy, treatment.

Acknowledgments: CAPES and CNPq.



INCORPORATION OF OZONIZED SUNFLOWER OIL IN POLYUREA FOR APPLICATION AS ANTIMICROBIAL AGENTS

Julia Santana Reinaldi, Bianca de Souza Cintra, Viviani Silva Rodrigues, Gabriella Rocha Vicente de Souza, Regina Helena Pires, Eduardo Ferreira Molina, Jair Camargo Ferreira

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

²University of Málaga, Málaga, Spain, 29016

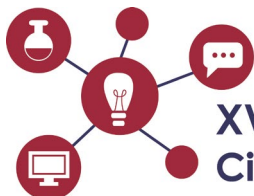
E-mail: juliasantana2405@hotmail.com

Purpose: The aim of this study was to describe the minimum exposure time necessary for the degradation of fungal biofilms. **Methods:** After the production of *Candida albicans* and *Candida tropicalis* biofilm, the supernatant medium was aspirated and the biofilm was washed with PBS. Standardized polyurea fragments G4 and GC were positioned over bifilms and the microplate was incubated at 37 degrees for eight different times: 30, 60, 90, 120, 150, 180, 210 e 240 minuts. Negatives and positives controls were made for each plate. After the exposure time, the contents of the wells were diluted in PBS, plated and incubated at 37 degrees for 72h, culture of the suspension was performed to enumerate the CFU mL⁻¹. **Results:** As well as the positive control, exposure times of 30 and 60 minutes were shown to be ineffective for the degradation of *Candida albicans* and *Candida tropicalis* biofilms, with a reduction in the number of colonies in 90 minutes of exposure and inhibition of microbial growth in times greater tan 120 minutes. **Conclusion:** Considering its antimicrobial and antibiofilm potentials, the hydrogel formulation containing ozonized sunflower oil is promising to the medical community.

Keywords: biofilm, degradation, polyurea, oil

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.



EFFECT OF PHOTO-OZONE THERAPY ON *CANDIDA* MONOSPECIES BIOFILMS AND IN THE VIABILITY OF HUMAN KERATINOCYTE CELL LINE HaCaT

Gabriella Rocha Vicente de Souza¹, Julia Santana Reinaldi¹, Viviani Silva Rodrigues¹, Denise Crispim Tavares¹, Regina Helena Pires¹, Jair Camargo Ferreira¹

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

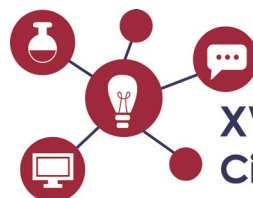
E-mail: jair.ferreira@unifran.edu.br

Purpose: Biofilms are microbial communities embedded in extracellular matrix with high adhesion power and extreme antimicrobial resistance. Photo-ozone therapy has a germicidal action against omycetes. The goals of the present study will be to characterize the antibiofilm action of photo-ozone therapy and its effect on the viability of keratinocytes. **Methods:** Biofilms of *Candida* (*C. albicans*, *C. tropicalis* and *C. parapsilosis*) will be treated with low-level laser (LLLT), ozone gas (O₃) or photo-ozone therapy (LLLT-O₃). In the LLLT group, the biofilms will be irradiated 64 for 160 seconds with an iodine laser with a light absorption wavelength of 660nm and a final fluence of 80 J cm². In the O₃ group, the biofilms will be exposed to an O₂-O₃ gas mixture containing 50 µg O₃ mL⁻¹ for 15 min. Biofilms from the LLLT-O₃ group submitted to LLLT and O₃ treatments in sequence. The effect of treatments (LLLT, O₃ and LLLT-O₃) on cell viability will be determined through their cytotoxicity and antiprophyllactic potential on human keratinocytes (HaCaT).. **Results:** It was possible to conclude for now that the laser, ozone and laser+O₃ treatments have a fungicidal action when it comes to *Candida tropicalis*. Treatment with ozone alone against *Candida parapsilosis* demonstrated sensitivity of the pathogen to this mechanism. *Candida albicans* proved to be a resistant pathogen against laser, ozone and laser+O₃ treatments. **Conclusion:** The results will support future research on the antimicrobial and regenerative efficacy of photo-ozone therapy using in vivo models.

Keywords: Antibiofilm, cytotoxicity, clonogenic efficiency, laser, ozone.

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES and CNPq.



EFFECT OF PHOTO-OZONIOTHERAPY ON KERATINOCYTES OF THE HUMAN LINEAGE HaCaT

Bianca de Souza Cintra¹, Arthur Barcelos Ribeiro¹, Viviani Silva Rodrigues¹, Júlia Santana Reinaldi¹, Gabriella Rocha Vicente de Souza¹, Denise Crispim Tavares¹ e Jair Camargo Ferreira¹

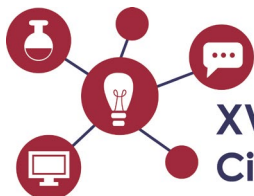
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: biancasouzacintra@icloud.com

Purpose: The study aimed to evaluate the possible cytotoxic action of photo-ozone therapy on human HaCaT lineage keratinocytes. **Methods:** The cytotoxic potential of the treatment using the association between low-level laser therapy (LLLT) and ozone gas (O₃) on human keratinocytes (HaCaT) lines was performed using a colorimetric assay for non-radioactive quantification of cell viability. Cells were cultured in Dulbeccos's Modified Eagle's medium supplemented with 10% fetal bovine serum, antibiotics and Hepes. Subsequently, they were seeded in 96-well microplates, cultured for 25h and exposed to treatments with LLLT, O₃ or LLLT-O₃. Negative and positive control wells were also added to the assay. The culture medium was then removed and the cells were washed with PBS, then exposed to the Ham's Nutrient Mixture F10 culture medium. The microplates were incubated for 17h at 36.5°C. The absorption of the samples was determined using a multiplate reader at a wavelength of 450 nm and a reference length of 620 nm. The negative control was considered 100% cell viability and the viability of HaCats demonstrated as a percentage of untreated cells. **Results:** In the treatments with LLLT and O₃, there was no change in keratinocyte viability, but the HaCats of the LLLT-O₃ group showed a slight attenuation in cell viability and the positive control showed 85% of cytotoxic potential. **Conclusion:** The use of photo-ozone therapy has a slight cytotoxic potential on keratinocytes, which makes it a promising option in the treatment of skin diseases.

Keywords: photo-ozone therapy, cytotoxic potential, keratinocytes

Acknowledgments: FAPESP, CAPES and CNPq.



IN VITRO GROWTH INHIBITION OF *Pythium insidiosum* WITH DIFFERENT DILUTIONS OF OZONATED SUNFLOWER OIL

Luís Miguel Faria de Souza Soares¹, Viviani Silva Rodrigues², Julia Santana Reinaldi², Bianca de Souza Cintra², Regina Helena Pires², Jair Camargo Ferreira²

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

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

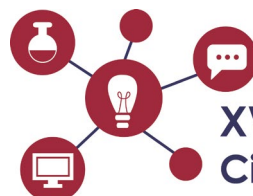
E-mail: faria.luismiguel@hotmail.com

Purpose: The goal of the present study was to evaluate the effectiveness of different dilutions of sunflower ozonated against the in vitro growth of *Pythium insidiosum* isolated from horses. **Methods:** Hyphae plugs from four specimens of equine *P. insidiosum* were recovered with 2mL of different dilutions of ozonated sunflower oil (100%, 50%, 25% and 12.5%; n=12 plugs/group). Hyphae plus exposed to non-ozonated sunflower oil were used as control group. All plugs were cultured for 14 days. The in vitro growth was evaluated once a day until day four after-treatment and every other day between days 4 and 14. Plugs with absence of growth were recultured for additional 14 days using new medium. Absence of growth in the reculture indicated the germicidal action of the respective treatment. **Results:** Similar to the control group, in vitro growth was observed between days 2 and 3 in all hyphae plugs exposed to solutions with 12.5% ozonated sunflower oil. The remains treatments inhibited the hyphae growth. In addition, no growth was detected in the recultures. **Conclusion:** Under the current conditions, the three solution with $\geq 25\%$ of ozonized sunflower oil inhibited the in vitro growth of *P. insidiosum* hyphae isolated from horses.

Keywords: Integrative medicine, oomycete, ozone therapy, pythiosis.

Approval CEPE/CEUA: --

Acknowledgments: FAPESP, CAPES and CNPq.



CYTOTOXIC ACTIVITY OF THE OZONIZED SUNFLOWER OIL ON BOVINE MAMMARY EPITHELIAL CELL (MAC-T)

Julia Santana Reinaldi, Arthur Barcelos Ribeiro, Viviani Silva Rodrigues, Bianca de Souza Cintra, Gabriella Rocha Vicente de Souza, Denise Crispim Tavares, Jair Camargo Ferreira

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

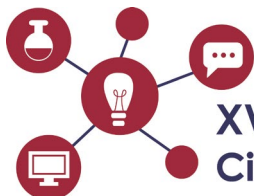
E-mail: juliasantana2405@hotmail.com

Purpose: A bovine mammary epithelial cell (MAC-T) was used to evaluate the cytotoxic activity of the ozonized sunflower oil. **Methods:** The evaluation of cytotoxicity was carried out through the colorimetric assay of toxicology in vitro - Kit XTT (Roche Diagnostics) according to the manufacturer's guidelines. For carrying out the experiments, 1×10^4 cells were seeded in microplates containing 96 wells. The cells were exposed to different proportions (oil:culture medium [v/v]) of ozonized or non-ozonized sunflower oils (1:3; 1:6; 1:9; 1:12; 1:15; 1:18 and 1:21). Wells for negative (untreated), solvent (Ethanol 5%) and positive (Dimethyl sulfoxide 100%; Sigma-Aldrich) control were included. Cell viability were expressed as a percentage of untreated cells, and the negative control group will be designated as 100%, the results will be expressed as a percentage of the negative control. The experiments were carried out in triplicate. **Results:** The results demonstrated that the all treatments using ozonized sunflower oil statistically reduced the cell viability of the MAC-T cell line after one hour of treatment when compared to the negative control group. Independently of the dilution, the exposition to non-ozonitized oil did showed cytotoxic activity on MAC-T cells. **Conclusion:** Based onf the colorimetric assay, and under the current conditions, ozonized sunflower oil is cytotoxic to bovine mammary epithelial cell (MAC-T).

Keywords: dairy cows, integrative medicine, ozone therapy.

Approval CEPE/CEUA: --.

Acknowledgments: FAPESP, CAPES and CNPq.



ACARICIDE POTENTIAL OF CITRONELLAL EXTRACTED FROM *EUCALYPTUS (Eucalyptus citriodora)* LEAVES IN A COMPUTATIONAL MODEL

Maria Júlia Martins Chieregato¹, Paola Cristina Colombo², Arthur Gassetta Batista², Silvio de Almeida Junior², Francismar Barbosa Oliveira¹, Istanlei Soares Costa¹, Gabriel Nunes Oliveira¹, Rafael Paranhos de Mendonça¹

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

²State University of Minas Gerais (UEMG), Passos. Brazil, 37900-106

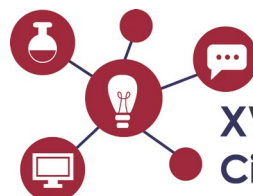
E-mail: jujuchieregato@gmail.com

Purpose: Identify by in silico analysis the acaricide potential of citronellal. **Methods:** For the activity, the citronellal molecule (ZINC1531600) was used, identified with the majority molecule of the essential oil extracted from the aerial parts of *Eucalyptus (Eucalyptus citriodora Hook)*. In silico toxicity predictions were performed using OSIRIS property explorer. Pharmacokinetics were identified using SwissADME and OSIRIS. Also performed, molecular anchoring by SwissDock with interaction with the triosephosphate isomerase structure of *Rhipicephalus (Boophilus) microplus* (PDB code: 3TH6). As a comparative molecule, Fenthion (ZINC1443), a commercially known drug, was used. **Results:** The citronellal molecule presents low risk in terms of mutagenic, tumorigenic and over-reproduction potential, and an alert is issued regarding the irritant potential. It showed lipophilicity potential (iLOGP at 2.49), hydrophilicity (ESOL at -2.88) and cutaneous absorption (Log Kp at -4.52 cm/s) similar to fenthion (iLOGP at 2.99 / ESOL at -4.09 / Log Kp at -5.09 cm/s). In the interaction with an active site of tick activity, 58 clusters were identified with 257 possible links against 73 clusters with 251 possible fenthion links. It was identified that citronellal has a binding capacity of -1168.61 kcal/mol compared to -1198.98 kcal/mol of fenthion, with free energy release (ΔG) at -6.67 kcal/mol and -7.36 kcal/mol, respectively. The citronellal molecule showed interactions with amino acids ARG4, ALA45, GLN64, GLY76, ARG5, ARG205 and TRP90. **Conclusion:** the citronellal compound has low toxic activity, good pharmacological potential and good interaction with the molecule of interest, and may be considered as a possible tick in the future.

Keywords: ticks, oils essenciais, in vitro, efficacy, computational model

Approval CEPE/CEUA: Não se aplica

Acknowledgments: FAPESP, FAPEMG, CAPES and CNPq.



CHRYSOPIDAE SPECIES IN COFFEE CROPS

Renato Moraes Ferreira Sene, Agda Braguini, Jonas Mendes Rodrigues Souza, Felipe Breda Alves, Rafael Henrique da Silva Alves, Rômulo Ruttie, Guilherme Nunes Martins, Alessandra Marieli Vacar

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

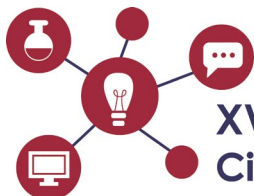
E-mail: renatosene2005@gmail.com

Purpose: The aim of this book was to present the main species of lacewings (Neuroptera: Chrysopidae) that occur in coffee, as well as the biology, behavior and potential for use in pest control. The book aims to provide knowledge to the coffee grower in a practical and objective way to contribute to the recognition of the main insect predators of the crop.

Methods: The book will be developed to provide photos and key information on each of the green lacewing species that occur in coffee crops. Thus, the book will be prepared using the photographs collection of the Entomology Laboratory obtained from 2017 to 2022. The text will be prepared by each member of the Entomology Laboratory team (doctoral, master and undergraduate students), which will be organized and edited by the scholarship Renato Moraes Ferreira Sene (PIBIC-EM). **Expected Results:** The book will be covers the biology, morphology, life cycle, behavior, and potential for use in pest control for each of the predator species of the coffee crop. The book even will be presents a description of a green lacewing species (Chrysopidae) that will be reported in coffee crops in the Alta Mogiana region. The book will be presents illustrations and information that will be essential for both technicians and growers about the green lacewing species that occur in coffee crops, contributing to the better management of insect pests.

Keywords: Integrated pest control, entomology, Coffea arabica.

Acknowledgments: FAPESP, CAPES and CNPq.



BACTERICIDAL ACTION OF OZONIZED SUNFLOWER OIL AGAINST THE ORAL MICROBIOTA OF LARGE CAPTIVITY FELINES

João Marcos Acácio, Renata Alves de Barros, Maria Anita Lemos Vasconcelos Ambrósio, Sérgio Ricardo Ambrósio, Fernanda Gosuen Gonçalves Dias, Jair Camargo Ferreira

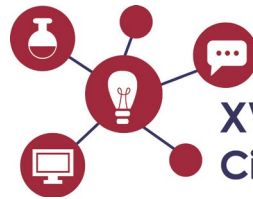
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: joaojmej@gmail.com

Purpose: In case of host-microorganism imbalance in wild cats, the oral microbiota can be a precursor of both local and systemic diseases. **Purpose:** To determine the Minimum Inhibitory Concentration and the Minimum Bactericidal Concentration (MIC and MBC, respectively) of ozonized sunflower oil against bacteria from the oral cavity of large felids in captivity. **Methods:** Six large healthy felids were used, four of the species *Puma concolor*, one *Panthera onca* and one *Panthera leo*. The microorganisms were submitted to treatment with ozonized sunflower oil with a peroxidation index ≥ 600 mEq kg⁻¹. Additionally, positive (chlorhexidine digluconate) and negative (non-ozonized sunflower oil; ≤ 15 mEq kg⁻¹) control groups were included. The MIC of treatments for each pathogen was defined as the lowest concentration capable of inhibiting microbial growth. CBM was indicated by the treatment that showed the lowest concentration with no bacterial growth after reculture. Twelve and ten serial dilutions of vegetable oils (0.08 to 100%) and of chlorhexidine digluconate with (0.012 to 5.9 $\mu\text{g mL}^{-1}$) were used, respectively. **Results:** The treatment of the negative control group did not show inhibitory activity on the isolates (MIC and CBM > 100%). In contrast, the MIC and CBM results demonstrated the efficiency of low concentrations of ozonized sunflower oil (0.062 to 40%) and chlorhexidine digluconate with (0.46 to 3.69 $\mu\text{g mL}^{-1}$). **Conclusion:** The results demonstrated the germicidal effect of high peroxide ozonated sunflower oil (> 600 mEq kg⁻¹) against pathogens isolated from the oral cavity of large felids in captivity.

Keywords: ozonioterapia, medicina de animais selvagens, *Panthera leo*, *Panthera onca*, *Puma concolor*.

Acknowledgments: FAPESP, CAPES and CNPq.



EVIDENCE OF REPAIRING ACTIVITY OF SLIDING CUPPING THERAPY ON STRETCHES AND CELLULITES

Lorena Tavares Borges¹, Ricardo Andrade Furtado¹, Silvio de Almeida Junior¹

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

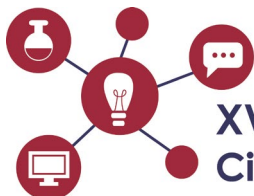
E-mail: lorena.tavares.b@hotmail.com

Purpose: The objective of the present work to evaluate the effect of sliding cupping therapy on stretch marks and cellulite. **Methods:** Sliding suction cup was performed for a period of 5 minutes in "back and forth" movements (arrow suction cup) with only an average suction (150 millibars). A photographic record was performed before the procedure and after 7 days after it. The position in which the participant remained was variable in relation to the places to be applied, and for better comfort, the parts that were not used were covered to avoid possible embarrassment. Twenty participants were selected, most of them women, with a mean age of 29.4 ± 11.7 years. **Results:** Striae alba were the most common in the consultations and presented the most results, with a self-reported improvement of $34.0 \pm 8.9\%$ of the affected area. The same is confirmed by image analysis, which showed an improvement of 32.7%. **Conclusion:** %. The sliding method and medium to light suction proved to be effective, especially in relation to striae alba, due to blood stimulation and lipid metabolism. It also encourages the growth of collagen and elastin production, making it a comfortable and satisfying non-pharmacological option.

Keywords: Cupping therapy, alternative medicine, aesthetic treatment.

Approval CEPE/CEUA: 32992620.6.0000.5495

Acknowledgments: FAPESP, CAPES and CNPq.



DEVELOPMENT OF THE A COMIC BOOK TO AWARENESS ABOUT VACCINES AGAINST COVID-19

Isabella Cristina de Andrade Batista¹, Ana Carolina Bolela Bovo Candido¹, Lizandra Guidi Magalhães¹.

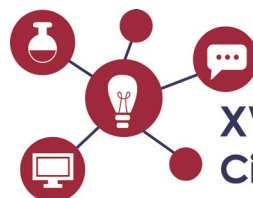
¹University of Franca, Av. Dr. Armando Salles, Oliveira, nº201. Franca / SP.

E-mail: Isabatista873@gmail.com

Purpose: This work aimed to create a comic book to raise awareness among young people and children about vaccines against COVID-19. **Methods:** The method used was through a website called Canvas and Pixton for the creation of the comics, the program was selected due to its ease of use knowing this through research, it was created in a way that has several options so that it can reach the target audience, as well as obtaining knowledge through scientific articles. **Results:** The comic strip, the Flora teacher engage in a tête-à-tête with the students about vaccines against COVID-19. This makes the students curious about the various aspects of vaccination, ranging from history about vaccines and technologies involved with the development of COVID-19 vaccines. **Conclusion:** This is just one among a burgeoning number of visual narratives, spreading awareness about COVID-19 and vaccination. The comics format, with its visual appeal, has a special function: it educates while being entertaining.

Keywords: comic book, awareness, COVID-19, vaccines

Acknowledgments: FAPESP, CAPES and CNPq.



DICLOFENAC SODIUM LOADED INTO POLYUREA AS CONTROLLED DRUG DELIVERY SYSTEMS

Lucia Helena Garcia Mendonça Costa Macêdo¹, Eduardo Ferreira Molina¹

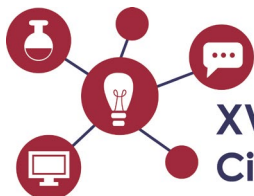
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: luciahelenagmcm1511@gmail.com

Purpose: The objective of the project is to prepare polyureas containing or not a model drug diclofenac sodium for controlled release purposes. **Methods:** To obtain the polyurea, a mixture of polyethylene-PEO reagent and isocyanate (hexamethylenediisocyanate) was carried out. The appropriate drugs were incorporated in the polyethylene-PEO solubilization step using acetone. **Results:** The polyureas demonstrated properties such as flexibility, transparency and production capacity in different shapes and thicknesses. The polyurea matrix allowed the incorporation of different species as drugs of different structures such as naproxen, diclofenac, cyclosporine and 5-fluorouracil. The membrane in contact with water showed swelling, leading to an increase in the mass and diameter of the sample due to the hydrophilic nature of PEO. FTIR infrared spectroscopy confirmed the formation of urea groups. The absorption of wavelengths below 340 nm by the sample allows the use of polyurea as a protector against UVB. **Conclusion:** Polyureas showed promise as new carriers of active species as drugs of different therapeutic classes.

Keywords: sol-gel, controlled release, polyethylene-PEO, polyurea, UV-vis

Acknowledgments: FAPESP, CAPES 001 and CNPq



SYNTHESIS AND STABILIZATION OF METALLIC COPPER NANOPARTICLES

Gustavo Ribeiro Faria¹, Eduardo José Nassar¹

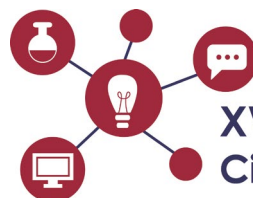
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gustavo.rfaria@outlook.com

Purpose: We aimed to synthesize and to stabilize copper nanoparticles by a clean process. **Methods:** The copper sulfate solution was heated to 80 °C under stirring. The ascorbic acid solution, used as stabilizing agent and chemical reducer, was added to the copper solution. The change in the solution color, from yellow to brown, indicated that copper nanoparticles were formed. The solution was allowed to age. **Results:** After the aging process, the UV-Vis spectrum of the solution remained the same, indicating that the nanoparticles were stabilized in the aqueous medium. **Conclusion:** This methodology produced stable copper nanoparticles. Properties such as electric conductivity and antimicrobial activity can be explored, and the nanoparticles can be dispersed in several surfaces.

Keywords: Copper nanoparticles, clean process, Materials Science

Acknowledgments: CAPES, CNPq and FAPESP



PREPARATION AND CHARACTERIZATION OF KAOLINITE-Fe-TiO₂ NANOCOMPOSITES AS POTENTIAL CATALYSTS FOR HYDROGEN PEROXIDE PRODUCTION.

Vinícius Lima¹, Marcus Vinícius do Prado, Emerson Henrique de Faria, Liziane Marçal, Katia Jorge Ciuffi.

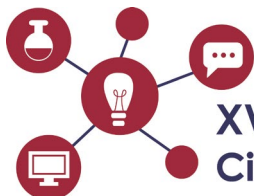
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: vinicius2003lima15@gmail.com

Purpose: The aim of this work is use sol-gel processes to prepare titania-based catalysts that can produce hydrogen peroxide directly, thus avoiding hydrogen peroxide deactivation and optimizing TiO₂ properties and advantages. **Methods:** Kaolinite (10.0 g), ethanol (200 cm³), acetic acid (1 cm³), and Ti(IV) isopropoxide (2.0 cm³), iron chloride were mixed at room temperature in a beaker, 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 surface of the clay. The solid was dried at 100°C for 24 h and split into four fractions: one was used as dried, and the other three were heated in air at 400, 700, and 1000°C, respectively, for 24 h. These temperatures were chosen based on the thermal analysis of the as-obtained solid. **Results:** Drying did not modify the kaolinite basal spacing (7.14 Å), this suggests that functionalization occurred at the lateral silanol and aluminol groups. Anatase was formed at 400 °C. At higher temperatures, anatase and rutile were formed, and kaolinite was amorphized and transformed into metakaolinite. Hydrogen peroxide was synthesized in glass reactors containing ethanol, in the presence of oxygen, and under photoirradiation with a mercury vapor lamp. The preliminary results showed the potential of the prepared photocatalysts for selective hydrogen peroxide production.

Keywords: clay, hydrogen peroxide, sol-gel.

Acknowledgments: CNPq, CAPES, FAPESP.



XV Encontro de Iniciação Científica da UNIFRAN

PHYSICOCHEMICAL PROPERTIES OF POLYUREA MATERIALS

Julia Gabriela Matos Vargas¹, Eduardo Ferreira Molina¹

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

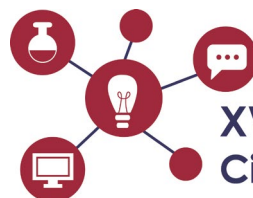
E-mail: juliagabriela-vargas@hotmail.com

Purpose: The objective of the work is to prepare polyureas by sol-gel chemistry as membranes shape. After evaluate the possible incorporation of a model drug for delivery purposes. **Methods:** To obtain the polyurea membranes, a solution of polyethylene-PEO reagent and isocyanate (hexamethylenediisocyanate) was carried out using acetone as solvent. The drug were incorporated in the polyethylene-PEO solubilization step. **Results:** The FTIR results demonstrated the formation of urea groups evidencing the formation of a polymeric 3D structure. The membranes were flexibility, transparency and show a water uptake behavior in aqueous medium leading to an augment of mass and diameter, respectively. DSC analysis demonstrated a low glass transition temperature of the material and a fusion region characteristic of the PEO crystalline domains. **Conclusion:** Polyurea membranes offers a potentail as drug delivery vehicle due to the facile method of preparartion and incorporation of drug molecules.

Keywords: sol-gel, controlled release, polyethylene-PEO, polyurea, UV-vis

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES 001 and CNPq.



ISOLATION AND CHARACTERIZATION OF TRITERPENES FROM *Fridericia florida*.

Luiza Abud Monteiro¹, Ina Blaine de Alvarenga Pereira¹, Osvaine Júnior Alvarenga Alves¹, Valéria Maria Melleiro Gimenez¹, Márcio Luís Andrade e Silva¹, Wilson Roberto Cunha¹, Ana Helena Januário¹, Patrícia Mendonça Pauletti¹

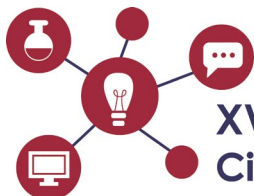
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: luiza.abud.lam@gmail.com

Purpose: The objective of this study was to isolate compounds from the *Fridericia florida* leaves crude extract, thus contributing to the chemical knowledge of the Bignoniaceae family, and then subjected the pure compounds to bioassays. **Methods:** Firstly, the leaves were dried and powdered, and then the material (462 g) was extracted with ethanol (2 L) and concentrated in the rotary evaporator. A liquid-liquid partition procedure was used to fractionate the crude extract into four fractions: hexane (4.6 g), dichloromethane (14.1 g), ethyl acetate (4.3 g), and hydromethanol (13.1 g). The ethyl acetate fraction (2.0 g) was purified by Sephadex LH-20 column with methanol as the mobile phase. The achieved fractions were analyzed by Thin Layer Chromatography (TLC), and subfraction 19-25 (793 mg) was further subjected to a medium pressure silica column eluted with dichloromethane-methanol. **Results:** The subfraction (19-25) 8-11 (90.2 mg) showed one main spot in the TLC, and the NMR data obtained enabled us to confirm the isolation of a mixture of the isomers ursolic and oleanolic acids. **Conclusion:** Moreover, other fractions are under investigation and should result in the isolation of other compounds that will be evaluated *in vitro* as anti-*Plasmodium* agents.

Keywords: Bignoniaceae, *Fridericia florida*, oleanolic acid, ursolic acid.

Acknowledgments: FAPESP, CAPES and CNPq.



PHYTOCHEMICAL STUDY OF *Fridericia craterophora*.

João Paulo Cintra Silva¹, Rômulo Honorio Ruttie Oliveira¹, Osvaine Júnior Alvarenga Alves¹, Valéria Maria Melleiro Gimenez¹, Márcio Luís Andrade e Silva¹, Wilson Roberto Cunha¹, Ana Helena Januário¹, Patrícia Mendonça Pauletti¹

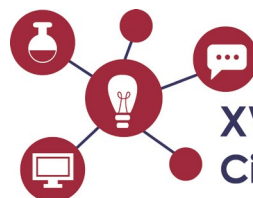
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: cintrasilvajoapaulo1@gmail.com

Purpose: This study aimed to obtain the crude extract and fractions from leaves of *Fridericia craterophora*. **Methods:** Firstly, the leaves were air-dried and milled, and then the material (770 g) was extracted three times with ethanol (5 L) by maceration. The solvent was filtered and concentrated in the rotary evaporator. The crude extract (30 g) was dissolved in methanol-water (8:2 v/v, 500 mL) and subjected to a liquid-liquid partition with the solvents: hexane, and ethyl acetate (3 x 300 mL). The solvents were also dried in a rotary evaporator. The obtained fractions were also analyzed by TLC (Thin Layer Chromatography). **Results:** The extraction procedure furnished 68.1 g of crude ethanol extract. The liquid-liquid partition allows us to obtain three fractions: hexane (4.6 g), ethyl acetate (6.8 g), and hydromethanol (8.7 g). The TLC analyses indicated the presence of flavonoids and terpenes. **Conclusion:** The obtained extract and fractions will enable us to evaluate the samples in biological assays, such as antimalarial.

Keywords: Bignoniaceae, *Fridericia craterophora*, terpene

Acknowledgments: FAPESP, CAPES, and CNPq.



MODIFICATION OF POLYAMIDE 12 POWDER FOR APPLICATION IN 3D PRINTING

João Vitor G. de Faria¹, Lauany M. Pontes¹, Lucas A. Rocha¹, Arthur B. Ribeiro¹, Denise Cr. Tavares¹, Jorge V. L. Silva², Marcelo F. Oliveira², Izaque A. Maia², Eduardo J. Nassar¹

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

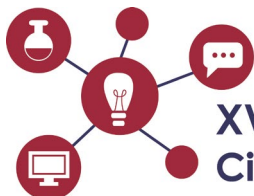
²Centro da Tecnologia da Informação Renato Archer, Rod. Dom Pedro I, km 143,6 – CEP 13069-901 – Campinas – SP – Brazil

E-mail: queromineorg@hotmail.com

Purpose: This study aimed to incorporate silver nanoparticles into polyamide powder. **Methods:** AgNO₃ (10 mg) was dissolved in 75 mL of water and 46 mg of Na₃C₆H₅O₇ under stirring for 30 min. Then, NaBH₄ solution (6 mg in 5 mL of water) was added, under stirring. Next, 1.0 g of polyamide 12 was added to the colloidal solution. The resulting solid was separated by centrifugation, washed, and dried at 60 °C for 24 h. **Results:** The colloidal solution was analyzed by UV/Vis spectroscopy. The spectrum displayed a band at 392 nm, indicating that AgNPs between 10 and 15 nm were formed. The spectrum was compared to the supernatant obtained after centrifugation. Such supernatant did not display the typical AgNP absorption band, showing that AgNPs were incorporated into the polyamide powder. The polyamide powder incorporated with AgNPs was subjected to UV/Vis and infrared spectroscopy and SEM analysis. The AgNP band at 392 nm shifted to 401 nm; the infrared spectrum remained unaltered; and SEM conducted by the BSE method indicated the presence of AgNPs in the polyamide powder. The bactericidal action and cytotoxicity of the polyamide powder incorporated with AgNPs was assessed. The powder was active against *S. aureus* and presented low cytotoxicity. The polyamide powder incorporated with AgNPs was subjected to 3D printing, and the presence of AgNPs was observed. **Conclusion:** We obtained polyamide powder incorporated with AgNPs with inhibitory activity against bacteria. The thermoplastic characteristics of polyamide were maintained after AgNP incorporation, which allowed 3D printing.

Keywords: Polyamide, silver nanoparticles, bactericide.

Acknowledgments: FAPESP, CAPES, and CNPq.



PHYTOCHEMICAL STUDY OF *Petiveria alliacea*

Ina Blaine de Alvarenga Pereira¹, Camila Yamasita Henrique^{1,2}, Wilson Roberto Cunha¹, Márcio Luís Andrade e Silva¹, Ana Helena Januario¹, Alexandre Henrique Leonel², Talita Thomaz Nader³, Ana Maria Soares Pereira³, Patrícia Mendonça Pauletti¹

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

²Homeopatia Brasil, Franca, Brazil

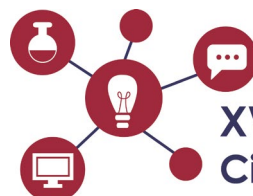
³University of Ribeirão Preto, UNAERP, Ribeirão Preto, Brazil, 14096-900

E-mail: ina.blaine@hotmail.com

Purpose: This project aims to carry out a phytochemical study to isolate and identify the major components of the *n*-butanol fraction from the crude extract of *Petiveria alliacea* aerial parts. **Methods:** The *n*-butanol fraction of *P. alliacea* (2.0 g) was initially purified in a Sephadex LH-20 column, using methanol as eluent, from this procedure 56 subfractions were obtained which were submitted to analysis in Thin Layer Chromatography (TLC), through this observation it was possible to identify pink spots, which are indicative of flavonoids, in subfractions 36, 37-38 and 39-41. Additionally, a compound was also identified in the subfraction 24-25. In order to obtain a greater amount of fractions, the *n*-butanol fraction (10.0 g) was purified by solid-phase extraction, and 4 subfractions were obtained. Subfraction 1 (6.97 g) was purified by Sephadex LH-20 column, which was performed three times. The obtained subfractions were evaluated by TLC, and the subfractions that showed pink spots were combined and injected into the HPLC-prep. (ODS column, methanol-water 20:80 v/v, 4 mL/min) resulting in 11 subfractions, where subfractions 2 and 5 showed spots roses in TLC analyses. Finally, a second purification procedure of subfraction 2 was performed, this procedure provided 7 subfractions. **Results:** The chemical study allows us to identify the compound: trans-N-methyl-4-methoxy proline in the subfraction 24-25. The HPLC-prep subfractions showed a higher degree of purity when analyzed by TLC and mobile phase: ethyl acetate-formic acid-acetic acid-water (25 : 2.75 : 2.75 : 6.5 v/v/v/v) and will have their NMR data obtained. **Conclusion:** Purification tests continue for the isolation of major compounds.

Keywords: flavonoids, phytochemical study, purification

Acknowledgments: FAPESP, CAPES and CNPq.



IN VITRO EVALUATION OF THE LEISHMANICIDAL ACTIVITY OF TWO COMPOUNDS ISOLATED FROM COPAIFERA OBLONGIFOLIA.

Samarah Gomes de Almeida, Rafael Correa Ramos, Sérgio Ricardo Ambrósio, Rodrigo Cassio Sola Veneziani, Márcio Luis Andrade e Silva, Lizandra Guidi Magalhães, Wilson Roberto Cunha.

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

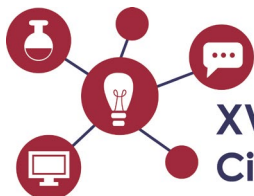
E-mail: samarah.galmeida@gmail.com

Purpose: The aim of this work was to evaluate the leishmanicidal activity of two compounds obtained from *Copaifera oblongifolia* (Leguminosae). **Methods:** The leaves of *Copaifera oblongifolia* were collected from a specimen located at Usina Santo Ângelo, in the city of Pirajuba-MG. The collected leaves were dried in a circulating air oven (40°C) and pulverized in a knife mill resulting in 913.7g of powder. This material was submitted to five successive extractions with ethanol/water (75:25 v/v). After drying, 64.84g of crude extract was obtained. A liquid-liquid partition was carried out with approximately 40g of the hydroalcoholic extract. The mass was dissolved in 300mL of an ethanol/water solution (80:20 v/v) and placed in a separating flask, partitioning with n-hexane, dichloromethane, ethyl acetate and n-butanol. The dichloromethane and ethyl acetate fractions showed similar chemical profiles, and the dichloromethane fraction was chosen to carry out chemical studies, from which two major substances were isolated: quercetin-3-O- β -L-ramnopyranoside (Quercetrin) and canferol -3-O- α -L-ramnopyrananoside (Afzelin). To evaluate the leishmanicidal activities, the samples were submitted to an in vitro assay against the promastigote forms of *Leishmania amazonensis* (MHOM/BR/PH8). **Results:** Regarding the in vitro assays of leishmanicidal activity, the dichloromethane and ethyl acetate fractions showed the most promising results with % lysis of 71.17% (after 48 h) and 75.8% (after 48 h), respectively. In this test, the two isolated substances showed very similar effects in terms of % lysis, but with little promising activity in the tested concentrations.

Keywords: *Copaifera oblongifolia*, *Copaibas*, *Leishmania*.

Approval CEUA: no. 3830250919

Acknowledgments: FAPESP, CAPES and CNPq.



EVALUATION OF ANTI-INFLAMMATORY ACTIVITY OF PHENOLIC EXTRACT AND FRACTIONS OF RED PROPOLIS

Pedro Sandoval dos Santos Ribeiro Cavallari, Samarah Gomes de Almeida, Fransérgio Francisco dos Santos, Wilson Roberto Cunha, Ricardo Furtado, Márcio Luis Andrade e Silva.

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

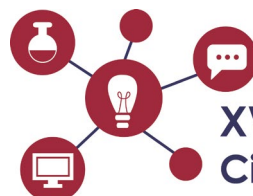
E-mail: pedrosandovalcavallari@hotmail.com

Purpose: The present project is the study of the anti-inflammatory activities of red propolis. **Methods:** 30 male Wistar rats \pm 150 grams were used. After passing through a period of acclimatization and adaptation, the animals were divided into 5 groups: Group I (negative control) treated orally with distilled water and DMSO, Group II (positive control) treated orally with Indomethacin 10mg/kg, Group III treated orally with Phenolic Acid 1mg/kg, Group IV treated orally with Phenolic Acid 10mg/kg and Group V treated orally with Phenolic Acid 30mg/kg. After one hour of oral administration of the compounds, the first measurement of the paw volume of the animals was performed in the plethysmometer, and soon after, inflammation was induced by means of the intraplantar administration of carrageenan; edemas were monitored for an additional 4 hours with an interval of 1 hour between each measurement. At the end of the experiment, all animals were sacrificed according to ethical standards. Protocol number: 6061231118. **Results:** The treatment groups had a similar decrease in edema as the positive control at hours 2, 3 and 4 when compared to the negative control. Histamine releases were inhibited at hour 1 of the treatment groups when compared to the negative control and positive control, being more effective at doses of 10 and 30mg/kg. **Conclusion:** Doses of 10 and 30mg/kg are more effective in inhibiting histamine release in the first hour of inflammation, and that all treatments are effective in controlling edema in treated animals.

Keywords: anti-inflammatory, paw edema, phenolic acid, red propolis.

Approval CEPE/CEUA: 6061231118.

Acknowledgments: FAPESP, CAPES, CNPq and GPNUF.



EVALUATION OF THE BIOSURFACTANT AND BIOEMULSIFIER ACTION OF *Penicillium citrinum*-4A14 ISOLATED FROM MARINE ENVIRONMENT

Lisiane Rivelto¹, Mariana Bueno do Nascimento¹, Wanderson Zuza Cosme¹, Carla Aparecido Silva Lopes¹, Kátia Aparecida Siqueira², Marcos Antônio Soares², Gustavo Muniz Dias³, Ana Helena Januário¹

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

²Federal University of Mato Grosso, UFMT, 78060-900, Cuiabá, MT, Brazil

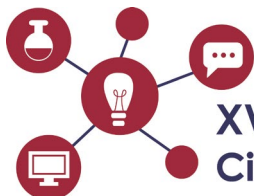
³Federal University of ABC, UFABC, 09606-070 São Bernardo do Campo, SP, Brazil.

E-mail: lisianerivelto@hotmail.com

Purpose: Biosurfactants are amphiphilic molecules of microbial origin that reduce the surface and interfacial tension of aqueous or non-aqueous solutions, favoring solubilization of nonpolar compounds. We aimed to investigate the biosurfactant and bioemulsifier potential of the fungus *Penicillium citrinum*-4A14, associated with *Didemnum perlucidum* ascidian. **Methods:** The fungal lineage was cultivated in malt broth. The emulsification index (E24) of the resulting cell-free broth was evaluated, its drop collapse and oil displacement were tested. All the assays were performed in triplicate. **Results:** The *P. citrinum* fungal isolate presented emulsification index of 50% and tested positive in the oil displacement test. However, there was no drop collapse. Chemical characterization of the fungal biosurfactants is in progress. **Conclusion:** The search for biosurfactants and bioemulsifiers in filamentous fungi is an attractive strategy given that these fungi are considered a renewable and ecologically safe source. Additionally, this investigative approach corroborates the implementation of the 2030 agenda targets set by the UN related to the preservation of water and the environment in general.

Keywords: *Didemnum perlucidum*, Marine fungi, Sustainability.

Acknowledgments: FAPESP, CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

ANIONIC RECOGNITION SUPPORTED ONLY BY C-H CHEMICAL BONDS

Amanda Maria Candido, Renato Pereira Orenha, Renato Luis Tame Parreira

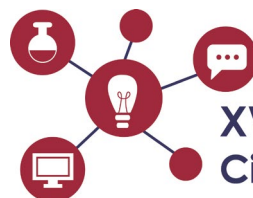
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: amandamcandido21@gmail.com

Purpose: The present study aims investigate the recognition of anions: chloride (Cl⁻), bromide (Br⁻) and nitrite (NO₂⁻), from C-H bonds (of trioxane structures). **Methods:** The geometry of all complexes trioxane...anion was optimized from the B97D3/6-31+G(d) computational model through of the Gaussian 16 (Revision A.03) software. The investigation of the chemical bonds was performed using the energy decomposition analysis (EDA) method along with the natural orbitals for chemical valence (NOCV) methodology in the ZORA-BLYPD3(BJ)/TZ2P level of theory. These calculations were made through of the ADF2019 package. **Results:** The chemical bonds C-H...anion are mainly supported by favorable electrostatic (ΔV_{elstat}), and orbitals interactions (ΔE_{oi}) energies. The attractive electrostatic interactions occur between the positively charged hydrogen atom and the negatively charged anion. The orbital interactions are associated to σ bonds C-H...(Cl⁻, Br⁻, or NO₂⁻). Electron donor groups in the trioxane structure disfavor the interactions C-H...(Cl⁻, Br⁻, or NO₂⁻) due to a less favorable ΔV_{elstat} energy. However, electron acceptor groups in the trioxane compound favor the bonds C-H...(Cl⁻, Br⁻, or NO₂⁻) because the more attractive ΔV_{elstat} and ΔE_{oi} energies. In general, NO₂⁻ is preferably recognized by trioxane molecules regarding to Cl⁻ and Br⁻ due to more attractive ΔE_{oi} energy. The anion Cl⁻ rather interacts with trioxane compounds than Br⁻ because the less disfavor Pauli repulsion energy. Conclusion: Relevant features revealed of the chemical bonds C-H...anions can be used for the elaboration of anions receptor compounds.

Keywords: anionic recognition, EDA, host-guest, supramolecular chemistry, trioxane.

Acknowledgments: FAPESP, CAPES and CNPq.



STUDY OF THE FREQUENCY OF MICRONUCLEI AND ITS RELATIONSHIP (OR NOT) WITH THE PRESENCE OF HPV IN THE ORAL CAVITY OF A YOUNG POPULATION

Gabriela da Silva Delado¹, Naiara Cristina SilvaBoaretto¹, Lilian Tedeschi Ramalli¹, Raquel Alves dos Santos¹

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

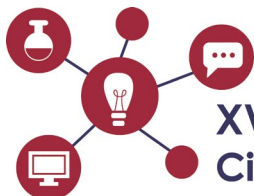
E-mail: deladogabriela@gmail.com

Purpose: Since head and neck cancer in young people are described in the literature to be related to the presence of HPV in oral cavity, the aim of this study is to analyse the genotoxic effects of HPV in buccal cells and its relationship with the presence genomic copies of this virus in the oral cavity, in young people aged 18 to 35 years. **Methods:** At least 100 individuals aged from 18 to 35 years will be enrolled in the present study. The micronucleus frequency will be determined using buccal cells Schiff-Fast Green staining method. The copies of HPV genome will be assessed using the Polymerase Chain Reaction after DNA extraction of buccal cells. Statistical analysis will consider the frequency of micronuclei and its correlation with the presence of HPV genomic copies in the studied population. **Results:** The project was approved by FAPESP, and is under standardization of the methods. **Conclusion:** The screening of DNA damage in buccal cells and its relationship with the presence (or not) with HPV in the oral cavity in young population will help access the risk factors to head and neck cancer in young people and also to develop strategies on health education.

Keywords: HPV; micronuclei, PCR; oral cancer.

Approval CEPE/CEUA: Under approval (CAAE: 56054122.3.0000.5495).

Acknowledgments: FAPESP (2022/00689-8), CNPq and CAPES



EVALUATION OF CYTOTROXIC AND ANTIPROLIFERATIVE POTENTIAL OF GUTIFERONE E IN THE CERVICAL CANCER CELL LINE SiHa

Lara Cunha Carnelós¹, Júlia Aparecida Arantes Branco¹, Lilian Tedeschi Ramalli¹, Rodrigo Cassio Sola Veneziani¹, Sérgio Ricardo Ambrósio¹, Jairo Kenupp Bastos², Raquel Alves dos Santos¹

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

²Faculty of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil, 14040-900

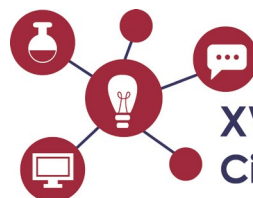
E-mail: laracarnelos@gmail.com

Purpose: The aim of this study is to evaluate the cytotoxic and antiproliferative effect of Gutiferone E (Gut E) in the cervical cancer cell line SiHa. Gut E is a benzofenone present in red propolis, a natural compound with antimicrobial and antitumoral effects.

Methods: The cell line was cultured in HAMF10+DMEM medium, supplemented with antibiotics Penicillin/Streptomycin, 10% Fetal Bovine Serum and Kanamycin Sulfate. Cytotoxicity was evaluated by XTT assay where the cells were treated for 24h with 1, 5, 10, 50 and 100 μM of Gut E. **Results:** The results obtained in the XTT assay demonstrated no cytotoxicity of Gut E in all tested concentrations. Even at the highest concentration, Gut E did not reduce the cell viability. **Conclusion:** These preliminary results demonstrate no cytotoxic and antiproliferative effects Gut E against SiHa cell line. Further experiments of clonogenic survival assay and cell death will be designed to confirm these results. The cytotoxic effects of Gut E in another cervical cancer cell line, HeLa, will also be tested in future experiments.

Keywords: Clonogenic survival, cytotoxicity, Gutiferone E, XTT assay.

Acknowledgments: FAPESP (2021/12338-2; 2017/04138-8), CAPES and CNPq.



ANTIPROLIFERATIVE EVALUATION OF THE TRICHOKONIN TK-VIII ON THE BREAST CANCER CELL LINES MCF-7 AND MDA-MB-231

Natalia Nascimento Silveira¹, Mirian Oliveira Goulart¹, Julia Mirian Paulino¹, Ariane Fernandes Bertonha², Roberto Gomes de Souza Berlinck², Raquel Alves dos Santos¹

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

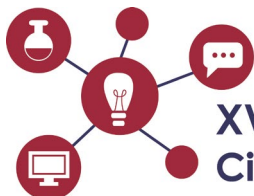
²Institute of Chemistry, University of São Paulo -USP, Brazil, 05508-000

E-mail: nataliasilveira.bio@gmail.com

Purpose: The aim of this study is the evaluation of the antiproliferative effect of trichokonin VIII (TK-VIII) on the breast cancer cell lines MCF-7 and MDA-MB-231. **Methods:** Cytotoxicity was determined by XTT assay using the concentrations of 2.5; 5; 10; 20; 40 and 80 μM upon MCF-7 and MDA-MB-231 cells. By that assay, the clonogenic survival concentrations 5, 7.5, 10 e 20 μM were established. Under the concentrations of 5, 7.5, 10 μM , cell death assay was proceeded to evaluate apoptosis and DNA damage (comet assay). **Results:** TK-VIII exhibited an IC₅₀ of 5.4 and 10 μM in MDA-MB-231 and MCF-7 cells, respectively. Based on these results, clonogenic survival assay was conducted and revealed that the trichokonin VIII reduced the survival fraction in concentrations $\geq 5 \mu\text{M}$ ($p < 0,0001$) on MCF-7 cells and $\geq 7.5 \mu\text{M}$ ($p < 0,0001$) on MDA-MB-231 cells. By the cell death assay, statistically relevant results were obtained by the concentration of 5 μM ($p < 0,001$) for MCF-7 and 7.5 μM ($p < 0,01$) for MDA-MB-231. The comet assay on MDA-MB-231 cells revealed that the TK-VIII induced DNA damage in concentrations $\geq 5\mu\text{M}$ ($p < 0,0001$) and induced DNA damage on every concentration used excluding 7.5 μM on MCF-7 cells. **Conclusion:** The TK-VIII exhibited cytotoxic activity, reduced the survival fraction, induced apoptosis as well as induced DNA damage on the tested cells. Therefore, we concluded that TK-VIII has an antiproliferative potential but further experiments are needed to clarify if cell cycle arrest is a mechanism involved on the antiproliferative effects of this peptaibol.

Keywords: pPeptaibols, cytotoxicity, genotoxicity, breast adenocarcinoma.

Acknowledgments: FAPESP (2021/09852-6; 2019/17721-9), CAPES and CNPq



CYTOTOXICITY OF RED PROPOLIS EXTRACT ON THE CERVICAL CANCER CELL LINES HeLa AND SiHa

Júlia Aparecida Arantes Branco¹, Lara Cunha Carnelós¹, Lilian Tedeschi Ramalli¹, Rodrigo Cassio Sola Veneziani¹, Sérgio Ricardo Ambrósio¹, Jairo Kenupp Bastos², Raquel Alves dos Santos¹

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

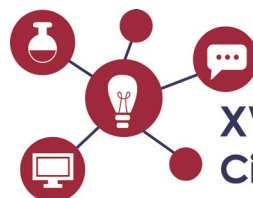
²Faculty of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil, 14040-900

E-mail: julia.arantes987@gmail.co

Purpose: The aim of this study is to evaluate the antiproliferative potential of standardized extract of red propolis (SERP) in the tumoral cervical cell lines HeLa and SiHa. **Methods:** Both cell lines were cultured in complete medium HAMF10+DMEM, supplemented with 10% fetal bovine serum, penicillin/streptomycin antibiotic mixture, and kanamycin sulfate. Cytotoxicity was evaluated by the XTT assay after 24h of treatment with SERP at 7.8, 15.6, 31.2, 65.2, 125, 250 and 500 µg/mL. The clonogenic survival assay was also performed in both cell lines with SERP at 50, 100 and 200 µg/mL during 24h of treatment. **Results:** The XTT assay demonstrated that the SiHa cell did not respond to the treatment with SERP, but the IC₅₀ in HeLa cells was 219 µg/mL, with a significant reduction in the cell viability at 250 and 500 µg/mL. Similarly, the treatment with SERP did not affect SiHa cells, but at 200 µg/mL significantly reduced the survival fraction of HeLa cell line **Conclusion:** The present results indicate that HeLa cell line is more sensible than SiHa regarding the cytotoxic effects of SERP, but experiments of cell death are considered to confirm these results.

Keywords: cervical cancer, clonogenic survival, cytotoxicity, XTT assay, red propolis extract.

Acknowledgments: FAPESP (2021/12338-2; 2017/04138-8), CAPES and CNPq.



HYBRID MICROSPHERES CHITOSAN/POLYVINYL KAOLIN AS DYE ADSORBENT

Hugo Fernando Meira dos Santos¹, Suelen Delfino de Souza¹ and Emerson Henrique de Faria¹

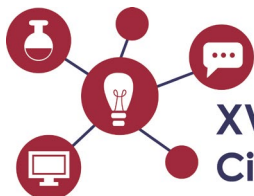
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: hugoferando3768@gmail.com

Purpose: This project goals the development of hybrid microspheres (MS) composed by kaolinite/ polyvinyl alcohol(PVAL)/ chitosan aiming to improve the clay mineral adsorption capacity for different contaminants, such as dyes, metals and drugs, this study is focused on methylene blue(MB) as model, and is aligned to sustainable development goal number 6, clean water, and sanitation. **Methods:** Chitosan was dissolved in acetic acid 5%(m/v), under vigorous magnetic stirring. The PVAL solution was prepared 1%(m/V) stirred at 50°C during 24h. Thereafter 7g of kaolinite was added to the polymer solutions. Mixture of solutions were dripped into 8%(m/V) sodium hydroxide solution, thereafter the MS were washed with distilled water until pH=7.5 and dried at 30°C for 24h. Four types of MS were prepared (varying the simple or double layer, and the presence of PVAL). Adsorption experiments were evaluated and the parameters: contact time, magnetic stirring, initial concentration of dye and mass of adsorbent were evaluated for MB as model. **Results:** Characterization techniques confirm the interaction between kaolinite, chitosan, and PVAL. The maximum adsorption capacity of the pure kaolinite was of 3.77 mg/g and of MS was 5.12 mg/g(Simple layer); 5.17 mg/g(double layer); 5.89 mg/g(simple layer with PVAL) and 4.74 mg/g(double layer with PVAL) in 24h of contact time, under magnetic stirring at room temperature. **Conclusion:** Results confirm the potential of MS containing kaolinite as efficient adsorbents of MB under continuous process, being environmentally friendly and cost effectively safe.

Keywords: kaolinite, adsorption, dyes, hybrid microspheres.

Acknowledgments: CNPq, FAPESP and CAPES



SYNTHESIS AND CHARACTERIZATION OF BENTONITE CLAY FUNCTIONALIZED WITH BIS-(TRIETHOXSILYLPROPYL) TETRASULFIDE

Maria Isabel Oliveira Damas, Katia Jorge Ciuffi, Emerson Henrique de Faria, Eduardo José Nassar, Liziane Marçal

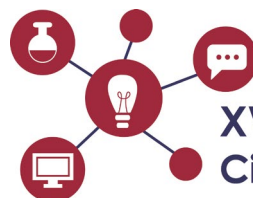
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mariaisabel.oliveiradamas@gmail.com

Purpose: The objective of this study was to synthesize and characterize bentonite clay, both in natural and functionalized form, aiming at its application in the adsorption of lead metal from aqueous solutions. **Methods:** In this study, the bentonite clay will be modified with bis-(triethoxysilylpropyl) tetrasulfide (TESPT) by the sol-gel methodology. Other techniques were reproduced to obtain a comparison with the literature and to show the functionality of the modified clay. The samples were characterized by the techniques of X-ray diffractometry (XRD), molecular adsorption spectroscopy in the infrared region (FTIR), spectroscopy in the ultraviolet-visible region (UV-VIS), determination of the cation exchange capacity (CTC), specific area by methylene blue (SE), scanning electron microscopy (SEM), point of zero charge and zeta potential. **Results:** The characterization techniques revealed that the bentonite was organofunctionalized with the alkoxide. X-ray diffraction (XRD) analysis showed an expansion of the interlayer space from 4,44 to 4,47 Å. The analyzed material has a CTC value corresponding to 1.98 meq. 100g⁻¹ and SE of 15.50 m².g⁻¹. **Conclusion:** The present study demonstrated that the Bentonite clay functionalized with bis-(triethoxysilylpropyl) tetrasulfide and could be prepared efficiently and reproducibly. Material with great prospects for application in adsorption.

Keywords: chemical modification, functionalization, bentonite, adsorption.

Acknowledgments: PIBIC-UNIFRAN



INTERACTIONS OF A STANDARDIZED EXTRACT OF BRAZILIAN RED PROPOLIS WITH PRAZIQUANTEL ON *Schistosoma mansoni* *IN VITRO*

Matheus Henrique Marques Zago¹, Munky Glória Mouro¹, Lucas Antonio de Lima Paula¹, Sérgio Ricardo Ambrósio¹, Jairo Kenupp Bastos², Rodrigo Cassio Sola Veneziani¹, Lizandra Guidi Magalhães¹

¹University of Franca, UNIFRAN, Av. Dr. Armando Salles de Oliveira, 201, SP CEP 14404-600 Franca, Brazil

²University of São Paulo, Av. do Café, s/n, CEP 14.040-903, Ribeirão Preto, SP, Brazil

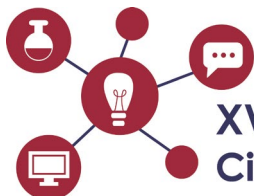
E-mail: zago.matheus10@gmail.com

Purpose: The aim of this study was to evaluate activities of a standardized extract of brazilian red propolis (SEBRP)/praziquantel (PZQ) combinations against *Schistosoma mansoni* in vitro. Methods: Adult worms were obtained by perfusion and cultivated in RPMI 1640 medium. Dose-response relationships were established following exposure of adult *S. mansoni* to SEBRP, PZQ and fixed concentration combinations of SEBRP/PZQ in vitro after 24, 48 and 72 h. Results: In vitro the effective concentration of 50% values (EC₅₀) were 6.14 µg/mL and 0.045µg/mL SEBRP and PZQ, respectively. SEBRP/PZQ combination showed synergistic effect in adult worms after 72h, with combination index (CI) lower than 1. Conclusion: The combination between SEBRP and PZQ showed a synergistic effect in adults worms may have a promising strategy of treatment for schistosomiasis.

Keywords: Combination, *in vitro*, praziquantel, red propolis, schistosomiasis.

Approval CEPE/CEUA: 5199070417.

Acknowledgments: CNPq.



EVALUATION OF ANTIMELANOMA ACTIVITY OF GUTTIFERONE E IN RODENTS

Marcela de Melo Junqueira, Arthur Barcelos Ribeiro, Matheus Reis Melo, Mônica Garcia Leal Rodrigues, Thiago Olimpio de Souza, Gabriela Fernandes, Denise Crispim Tavares.

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

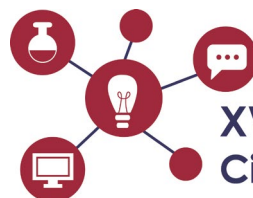
E-mail: marcelamjunqueira@gmail.com

Purpose: The present study evaluated the antitumor potential of the polyisoprenylated benzophenone Guttiferone E (GE) in an allogenic murine model of melanoma. **Methods:** Murine melanoma cells (B16F10) in suspension, 100 μ L, were implanted on the back of male C57BL6 mice, weighing 30 g. When the tumors reached 100 mm³, subcutaneous treatments with 10 and 20 mg/kg of GE were performed for five consecutive days. Vehicle (Tween 80, 10%) and positive (cisplatin, 5 mg/kg) control groups were included. After the treatment period, the animals were euthanized and tumor tissues were excised, weighed and processed for histopathological analysis. Bone marrow was collected to evaluate the genotoxic potential of the treatments. The evaluation of the antitumor activity of GE was conducted by analyzing volume and weight of the tumor, and the frequency of mitosis. **Results:** The results showed that GE at a dose of 20 mg/kg inhibited tumor growth by 54.36%, resulting a decrease in tumor weight and frequency of mitosis when compared to the untreated implant group. No significant differences were observed in the weight gain of the treated animals and those of the group without tumor implant, indicating the absence of toxicity of the treatments. Additionally, there was no significant difference in the frequencies of chromosomal damage between treated animals and those without tumor implant, revealing the absence of genotoxicity. **Conclusion:** The GE was able to reduce the tumor weight and frequency figures of mitosis in an allogenic murine model of melanoma, not presenting genotoxicity. Therefore, GE showed promising anti-melanoma activity.

Keywords: antitumor, B16-F10 cells, C57BL/6 mice, natural products, red propolis.

Approval CEUA: 2983210721.

Acknowledgments: FAPESP, CAPES and CNPq.



ANALYSIS OF CELL DEATH IN THE MDA-MB-231 CHEMORESISTANT BREAST CANCER CELL LINE IN RESPONSE TO TREATMENT WITH A STANDARDIZED RED PROPOLIS EXTRACT

Karolinne Beloti Silva¹, Laisla Rodrigues Figueiredo¹, Loren Monielly Pires¹, Rodrigo Cássio Sola Veneziani¹, Jairo Kenupp Bastos², Sérgio Ricardo Ambrósio¹, Raquel Alves dos Santos¹

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

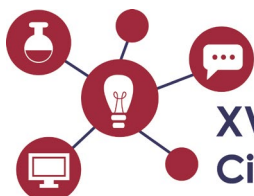
²School of Pharmaceutical Sciences of Ribeirão Preto, University of Sao Paulo (USP), Ribeirão Preto, Brazil.

E-mail: belotikarol@gmail.com

Purpose: This study aimed to evaluate the cell death index of the breast tumoral cell line MDA-MB-231 chemoresistant phenotype, after treatment with standardized extract of red propolis (SERP). **Methods:** To determine the apoptotic potential of the SERP, the apoptosis assay was performed using concentrations of 1.0 and 10 µg/mL for the treatment of MDA-MB-231 cancer cell line. In addition, positive control group (Doxorubicin Hydrochloride at 0.5 µM), solvent control (DMSO 0.1%, v/v) and negative control (culture medium) was included in the experimental design. **Results:** The results considered the percentages of necrotic and apoptotic cells compared to the negative control. Interestingly, it was observed, through the Dunnett's multiple comparison test, that the rate of cell death in the treated groups did not differ from the negative control. **Conclusion:** In conclusion, it is essential to note that this study confirm the chemoresistant behavior of the MDA-MB-231 cell line regarding cell death. The treatment with the standardized extract of red propolis did not show significant results as a promising compound against this cell line.

Keywords: Apoptosis, Breast adenocarcinoma, red propolis.

Acknowledgments: FAPESP (2017/04138-8), CAPES and CNPq.



**POTENTIAL OF ORANGE OIL TO CONTROL COFFEE LEAF
MINER *Leucoptera coffeella* (LEPIDOPTERA: LYONETIIDAE)
AND SELECTIVITY FOR *Chrysoperla externa* (NEUROPTERA:
CHRYSOPIDAE) PREDATOR**

Vinícius de Oliveira Lima, Guilherme Nunes Martins, Yasmin Borges Machado, Alessandra Marieli Vacari

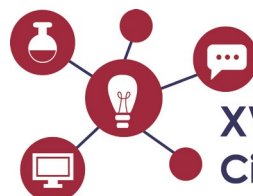
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: volima_2013@hotmail.com

Purpose: Insect Pest Control Strategies, such the use of plant extracts, which has insecticidal activity against several species of lepidopteran pests, can be a promising and efficient control sustainable tactic for these insects. The objective will be to study the control of *Leucoptera coffeella* (Lepidoptera: Lyonetiidae) using a botanical insecticide based on orange oil and, in addition, to verify the selectivity of this plant extract to the *Chrysoperla externa* (Neuroptera: Chrysopidae) predator, commonly found in coffee crops. **Methods:** For this, the effect of the orange oil on eggs, larvae, pupae and adults of *L. coffeella* will be studied, as well as on eggs and larvae of first instar of *C. externa*. Orange oil was compared with neem oil (positive control), chemical insecticide (flupyradifurone, positive control) and control (negative control). **Results:** The percentage of egg hatching of *L. coffeella* was significantly affected when the eggs were treated with orange oil reducing by 75.0%. The formed mines were influenced by the orange oil, reducing by 46.9% the formation of injuries on the leaves. The development of larvae of the predator *C. externa* was not influenced by treatments with orange oil, showing similar developmental stages to control treatment. Both neem oil and Orange oil did not allow larvae to Hatch from eggs when adults were treated **Conclusion:** The botanical insecticide based on the orange oil can be a viable alternative for the sustainable management of the coffee leaf miner, a key pest of the coffee crop.

Keywords: *Botanical insecticide, green lacewings, coffee crops, IPM.*

Acknowledgments: FAPESP, CAPES and CNPq.



DEVELOPMENT AND VALIDATION OF AN ANALYTICAL METHOD FOR FLUID GUACO EXTRACT (FGE)

Talita Aparecida Cabral¹, Larissa Costa Oliveira¹, Sérgio Ricardo Ambrósio¹, Rodrigo Cassio Sola Veneziani¹

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

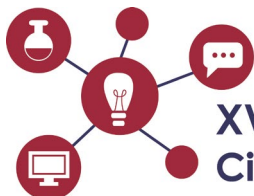
E-mail: talitaaparecidat50@gmail.com

Purpose: The aim of the present work is to develop and validate an analytical method based on HPLC-DAD to identify and quantify the phytotherapeutic marker of fluid guaco extract (FGE), *ent*-kaurenoic acid in a commercially available phytomedicine (Fluid guaco extract, FGE) used for cough treatment. **Methods:** The FGE sample was commercially acquired (Franca-SP) and the standards (*ent*-kaurenoic acid and usnic acid – internal standard) were previously isolated and identified by our research group. The analytical method was developed and validated in a high-efficiency liquid chromatography system (Shimadzu,) with three model LC-20AR Prominence pumps composed of a SIL-10AF automatic injector, CTO-20A column oven, CBM-20A control module, DGU-20A3R degasser and SPD-M20A diode photoarray detector. Analyzes were performed on a Shim-pack CLC-ODS column (250 X 4.6 mm Shimadzu) using 80% acetonitrile (AcN) in H₂O and 0.1% acetic acid (v/v) at 1,0 mL·min⁻¹ as mobile phase. Data processing was performed with the LAB solution[®] software. **Results:** The linear regression coefficients (r^2) achieved for each compound showed that the analytical curves proved to be linear in the range. Moreover, the values obtained for limits of detection (LOD) and limits of quantification (LOQ) indicated that the developed method is sensitive and suitable for the quantification of compounds in the extract. The method also displayed good precision and accuracy and showed that FGE contains about 0,014% of *ent*-kaurenoic extract. **Conclusion:** The analytical method complies with the Brazilian National Health Surveillance Agency guidelines and represents an alternative to identify and quantify *ent*-kaurenoic acid in fluid guaco extracts.

Keywords: Fluid guaco extract, HPLC-DAD, *ent*-kaurenoic acid.

Approval CEPE/CEUA: not required.

Acknowledgments: FAPESP, CAPES and CNPq.



**CHOICE BEHAVIOR OF CHRYSOPIDAE BY COFFEE LEAF MINER
Leucoptera coffeella (GUÉRIN- MÈNEVILLE AND PERROTTET, 1842)
(LEPIDOPTERA: LYONETIIDAE) OR RED MITE *Oligonychus ilicis*
(ACARI: TETRANYCHIDAE)**

Jonas Mendes Rodrigues Souza, Bruno Gomes Dami, Marina Barbosa de Jesus, Alessandra Marieli Vacari

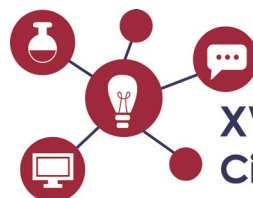
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: jonasmendesrs97@hotmail.com

Purpose: To study the behavior of choice of lacewings species, by the coffee leaf miner *Leucoptera coffeella* (Lepidoptera: Lyonetiidae) or by the red mite *Oligonychus ilicis* (Acari: Tetranychidae), and these pests can occur simultaneously in coffee (*Coffea arabica* L.), during hot and dry times of the year. **Methods:** The predators collected in coffee plantations in the Franca region were taken to the laboratory, where they were screened, being used to start reproduction and, later, some individuals were referred to a specialist (taxonomist) for proper identification. In the laboratory, experiments were carried out with larvae of predators *Ch. externa*, *Ce. cincta* and *Ce. cornuta* choosing for *L. coffeella* larvae or *O. ilicis* adults. The choice of each predator species was recorded using an olfactometer with a "Y"-shaped glass tube. **Results:** Regardless of the larval instar, predators showed a preference for plants infested with the pest in relation to non-infested ones. Furthermore, when given the option of choosing between plants infested with *L. coffeella* caterpillars or *O. ilicis* adults, only the third instar of the predator *Ce. cornuta* showed a preference for the consumption of *L. coffeella* caterpillars, while the species *Ch. externa* and *Ce. cincta*, in all larval instars, showed no preference for the consumption of both pests. **Conclusion:** The results presented indicate that the three predator species have potential as biological control agents, being able to consume both pests in coffee areas, infested simultaneously by *L. coffeella* caterpillars and *O. ilicis* adults, contributing to their control in the field.

Keywords: Agroecological systems; green lacewings; coffee crops; biological control.

Acknowledgments: FAPESP, CAPES and CNPq.



A NATURAL DITERPENE AS PROTOTYPE TO REACH BIOACTIVE COMPOUNDS

Guilherme Meneghini Lopes Ghizzoni, Julian Carlos da Silva Pavan, Tais Alexandra Mário Figueredo, Vladimir Constantino Gomes Heleno

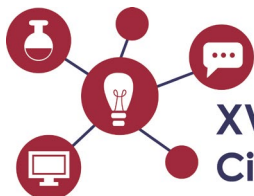
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gghizzoni@outlook.com

Purpose: The aim of this study was to submit a natural diterpene, kaurenoic acid (**1**), to structural modifications aiming to obtain structural analogues and to evaluate their biological potential. **Methods:** Initially, compound **1** was dissolved in 2 mL of anhydrous dichloromethane together with triphenylphosphine in a 10 mL round bottom flask. The mixture is then cooled to 0-5°C and *N*-bromosuccinimide (2.5 equivalents) is added. Stirring is kept for 15 minutes. After that, 4.5 equivalents of the amine (*tert*-butylamine or pyrrolidine) is added to the reaction mixture, which remains kept under stirring and at 0-5°C. The reaction course is followed by TLC until starting material is consumed. **Results:** With both reactions it was able to obtain the *N-tert*-butylamide (**2**) and the *N*-cyclohexylamide (**3**) from **1**. Compounds **2** and **3** were completely determined by NMR spectroscopy experiments. **Conclusion:** Interesting derivatives were obtained through amidation reaction applied to kaurenoic acid. Those analogues will be assayed to verify their biological potential.

Keywords: kaurenoic acid, amidation reaction, semisynthetic derivatives.

Acknowledgments: FAPESP, CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

OBTAINING CORE-SHELL NANOPARTICLES FOR MEDICAL IMAGING AND BIOSENSOR APPLICATIONS

Rogério de Andrade Miranda, Lucas Alonso Rocha

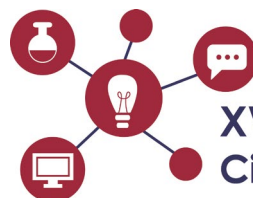
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: Rogeriomiranda1706@hotmail.com

Purpose: The focus of this work is to develop, by adapting the Stöber methodology, multimodal nanosized core-shell nanoparticles for application in medical imaging and biosensors. **Methods:** Spherical nanoparticles of Nb_2O_5 containing Gd^{3+} and Tm^{3+} ions covered with the same matrix with Nd^{3+} e Yb^{3+} ions. In a two-neck flask, the precursor solution will be prepared by homogenizing ammonium niobium oxalate with isopropyl alcohol and ethanolic solutions of gadolinium chloride and thulium chloride. Then ammonium hydroxide will be added, and the solution will remain under magnetic stirring for 30 minutes. The precipitate obtained will be centrifuged and washed with isopropyl alcohol. Finally, the material will be dried at 50°C in a vacuum oven. **Results:** The results obtained in this work should be analyzed by SEM and XRD techniques, luminescence (excitations, absorption and emission) and vibrational (FTIR and Raman) spectroscopic techniques, and toxicity tests will be required to verify safety. **Conclusion:** This Project proposes the development of true “multimodal nanomaterials for medical imaging and biosensors”. For this, these nanoparticles developed must be biocompatible, have stable physicochemical properties at room temperature and must have in vivo behavior that allows them to escape the body's immune defenses and make it possible to reach a certain population of cells.

Keywords: Stöber methodology, ammonium niobium oxalate, biocompatible

Acknowledgments: FAPESP, CAPES and CNPq.



COMPATIBILITY OF *Chrysoperla externa* (NEUROPTERA: CHRYSOPIDAE) WITH CHEMICAL INSECTICIDES IN COFFEE CROPS

Rafael Henrique da Silva Alves, Agda Braghini, Guilherme Nunes Martins, Felipe Breda Alves, Jonas Mendes Rodrigues Souza, Alessandra Marieli Vacari

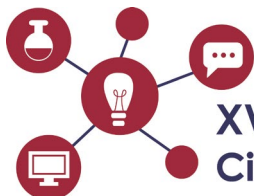
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: rafahenrique7@hotmail.com

Purpose: There are numerous species of natural enemies in coffee crops, but those belonging to the Chrysopidae family have played an important role as population regulators of various pests in this crop. The objective of this research was to evaluate the compatibility of the predator *Chrysoperla externa* with synthetic chemical insecticides used in the coffee crop. **Methods:** The experiment was carried out with the following insecticides: flupyradifurone (0.75 L/ha), chlorantraniliprole (157.5 mL/ha), chlorpyrifos (1.25 L/ha), cartap hydrochloride (0.9 kg/ha) and fenproprathrin (325 mL/ha). The insecticides cartape and fenproprathrin were used in mixture and the others isolated, in addition, the control treatment (water) was used. In each plot, 4 cards containing 5 eggs of *C. externa* each were released and fixed on the plant in 2 pairs of leaves in cages of voile fabric. Predator assessments were performed twice a week for up to 90 days, thus evaluating predator survival and duration of larval instars and pupal duration. **Results:** The survival of predators was influenced over time. The mixture of insecticides cartap + fenproprathrin and the insecticide chlorpyrifos were the treatments that most negatively affected predators. Population survival was reduced to 50% after 21 days for the insecticide mixture and after 35 days for chlorpyrifos. While the insecticide flupyradifurone after 65 days of application there were still 50% of the individuals alive. **Conclusion:** The insecticide flupyradifurone is selective to *C. externa* and therefore is compatible for joint use with the predator in coffee crops.

Keywords: biological control, Chemical control, integrated pest management.

Acknowledgments: FAPESP, CAPES and CNPq.



RED, GREEN AND BROWN BRAZILIAN PROPOLIS: ANTIMICROBIAL POTENTIAL AND AGAINST ATCC AND CLINICALLY ISOLATED MULTIDRUG-RESISTANT BACTERIA.

Paula Cristiana Gonçalves Garcia¹, Thayná de S. Silva¹, Mário F. C. Santos¹, Rodrigo Cassio Sola Veneziani¹, Jairo K. Bastos², Sérgio Ricardo Ambrósio¹

¹University of Franca, UNIFRAN, Franca, Brazil

²School of Pharmaceutical Sciences of Ribeirão Preto, USP, Ribeirão Preto, Brazil

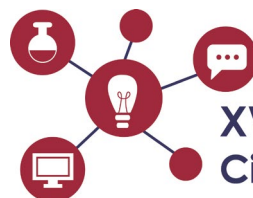
E-mail: cggarciapaula@gmail.com

Purpose: Brazilian propolis produced by *Apis mellifera* has great economic importance due to their biological properties, including the activity against microorganisms causing human diseases. Thus, the hydroalcoholic extract of Brazilian red (EBRP), green (EBGP) and brown propolis (EBBP) were tested *in vitro* against a panel of ATCC and clinically isolated multidrug-resistant bacteria. **Methods:** The minimal inhibition concentration (MIC) values were investigated against a representative panel of ATCC and clinically isolated multidrug-resistant bacteria. MIC of EBRP, EBGP and EBBP were determined by microbroth dilution assay on 96-well plates according to Clinical and Laboratory Standards Institute (CLSI). The inoculum of microorganisms was prepared from 12 h broth cultures and suspensions were adjusted to 0.5 McFarland standard turbidity. Samples were dissolved in DMSO at 2.5% (v/v) and each well contained 50 µl of samples diluted two-fold serially in RPMI 1640 was inoculated with suspension of bacteria at final concentrations of 5×10^5 CFU/ml. After incubation at 35°C for 24 h the MIC was determined. DMSO solution was used to negative control of solvent activity. Vancomycin and imipenem were used as positive reference standard. **Results:** The results revealed that, EBRP showed promising antibacterial activity against against a great number of multidrug-resistant bacteria. Then, nine metabolites were isolated from EBRP and also evaluated against, and oblongifolin B (**1**) and the mixture of isomers guttiferone E/xanthochymol (**2**) were the most effective ones (minimal bactericidal concentration values lower than 10.0 µg.mL⁻¹). The results described here pointed out **1** and **2** as a natural prototypes for further medicinal chemical studies against bacteria responsible for human diseases.

Keywords: Brazilian própolis; multidrug-resistant bacteria; oblongifolin B; guttiferone E/xanthochymol

Approval CEPE/CEUA: not required.

Acknowledgments: FAPESP, CAPES and CNPq.



CHARACTERIZATION AND PURIFICATION OF NATURAL CLAY FROM CAPETINGA-MG

Daniel da Silva Pimenta Filho¹, Emerson Henrique de Faria¹

¹University of Franca, UNIFRAN, Franca, Brazil

E-mail: danielpimentafilho@gmail.com

Purpose: This project goals the characterization and purification using the dispersion decantation method to remove impurities from natural clay from Capetinga/MG.

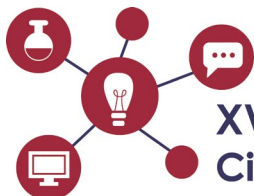
Methods: The natural clay sample was collected on Capetinga/MG and 500 g was grinded in a porcelain mortar to obtain powder. 30,0 g of clay was dispersed in 300,00 mL of deionized water, the sodium polyphosphate was added to maintain the clay particles in suspension, and this suspension was mechanically stirred during 1h00. After 7h45 the clay was separated from impurities by decantation (the impurities present crystal particles higher than 2 μ m). Optimizations in process were proposed resulting in very efficient purification procedure. The initial and purified clay were characterized by X-ray diffraction to confirm the removal of quartz and other mineral impurities present on the clay fraction collected.

Results: Characterization techniques confirm the purification of clay mineral resulting in very pure kaolinite, however, the typical kaolinite 001 and 002 reflections are large and with low intensity confirming that kaolinite present very low structural order compared to previous kaolinite purified in GPMatLam laboratory.

Conclusion: Natural clay mineral was suceffuly purified resulting in a kaolinite sample with very low crystallinity is very interesting to obtain adsorbents, catalysts, and other interesting materials.

Keywords: clay mineral, purification, X-ray diffraction.

Acknowledgments: Unifran, CNPq, FAPESP and CAPES



XV Encontro de Iniciação Científica da UNIFRAN

THE LITERATURE AT SCHOOL TODAY: A DIALOGICAL PROPOSAL

Isabel Ribeiro Sousa¹, Camila de Araújo Beraldo Ludovice¹

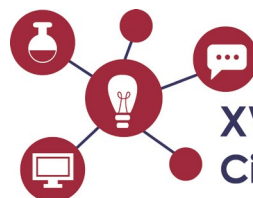
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: isabelrsousa3@gmail.com

Purpose: This research aims to study the practices of literature teaching in public schools. It is assumed that, currently, literature is dissolved in the didactic material of Portuguese Language, which results in a superficial teaching of literary texts and a regression in the students' interest for reading. The aim of this article is to present the teaching standards of reading literature applied in high school and propose new learning methods. **Methods:** The pedagogical proposals of the BNCC (National Common Curricular Base) will be evaluated, which characterize literature as a development in perception and vision of the world. The reflections of the philosopher of language, Mikhail Bakhtin, will serve as a pillar for the research, considering that for the author, language, as well as the reading process, is an interactive act. The methodology will be supported by the analysis of the BNCC documents, high school literature books and teaching materials, together with the studies of Bakhtin's works that bring the study of literature as the center. **Results:** So far, it has been observed that the literature teaching practices adopted by schools largely diverge from the proposals set forth by the BNCC. The standards of education do not, in fact, bring literature as a transformative and reader-forming act. **Conclusion:** Literary education depends on the interaction between teacher and student, a connection that develops values, self-knowledge, and critical sense, therefore, teaching methodologies of a regimental nature are effectively congruent to the decline in the learning of literature.

Keywords: literature, teaching, BNCC, Bakhtin.

Acknowledgments: PIBIC Institucional



MULTILITERACIES AND RESPONSIVE ACTS IN REMOTE TEACHING PERIOD IN HIGH SCHOOL

Beatriz Meleti Oliveira¹, Marilurdes Cruz Borges¹

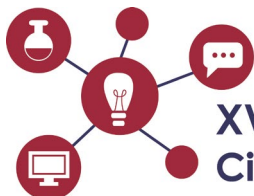
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: beatriz.meleti@gmail.com

Purpose: This study aims to analyze the multiliteracies and responsive acts in educational practices in remote teaching period. For almost two years (2020/2021), Basic Education experienced a drastic change in the forms of teaching-learning, due to COVID-19. A new educational environment was created to continue the curriculum of public and private schools, but many were the challenges – successes and failures – of this experience. Thinking about them aroused this research in order to find data that contribute to a quality education and that prioritizes the well-being and health of the student. **Methods:** The study, of quantitative and qualitative character, obtained the data from a public opinion survey for high school students, available on social networks between June 17 and 19, 2022, about school learning processes in the pandemic period. For the analysis, the concept of responsible act of Mikhail Bakhtin was used. **Results:** The data showed that, although classes were kept in remote format, there was a great learning gap, besides stating that the presence of the teacher and face-to-face teaching are essential. They also highlight that the pace of study has decreased and that, even with the full use of technology, the development of autonomy was partial. **Conclusion:** The research data show that high school students value the school and the physical presence of the teacher, which characterizes the responsive act of learning. It is in social interaction that learning is consolidated.

Keywords: multiliteracies, responsive acts, remote teaching, quality education, Bakhtin.

Acknowledgments: CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

AFFECTIVITY AND MEANINGFUL LEARNING IN DIALOGUE WITH GENERATION Z

Renata da Silva Costa Souza¹, Marilurdes Cruz Borges¹

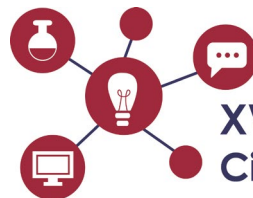
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: renata09costa@gmail.com

Purpose: The research aims to understand how Wallonian affectivity dialogues with the meaningful learning processes of teenagers between 13 and 14 years old. Learning with affectivity favors the cognitive development of students, as pointed out by Henri Wallon, the first philosopher to bring student's emotions into the classroom considering them fundamental to the formation of the self. The studies on affectivity and adolescence by Wallon do not concern Generation Z, the first generation to be born in a completely digital environment, as they corroborate the 2030 Agenda and Sustainable Development Goals 3 and 4, justified by the UN. **Methods:** Through the deductive and qualitative method, this study analyzes, under the Bakhtinian dialogic perspective, the subjective aspects of the human behavior of teenagers between 13 and 14 years old, considering the skills to be developed in the final years of elementary school. **Results:** Digital natives are characterized by the expression of their identity, they are subjects open to innovation, communication and diversity. Educating these subjects with affection is to enable them to learn to learn, to learn to be, to learn to get along and to learn to know. **Conclusion:** The dialogue between affectivity and learning in the school education of teenagers in the final years determines the identity of an active and participatory subject, not only with the digital world but also with the social environment. It results in quality education because it contributes to the health and well-being of the individual and society.

Keywords: Wallonian affectivity, Generation Z, dialogism, Bakhtin, quality education.

Acknowledgments: CAPES and CNPq.



EMOTIONS IN THE CONSTITUTION OF THE ROLE OF WOMEN IN THE CULTURE AND IN THE ISLAMIC RELIGION

Gabriella Santos Silva¹, Maria Flávia Figueiredo¹

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

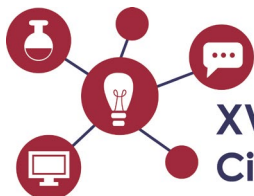
E-mail: gabezinhazs@gmail.com

Purpose: The role played by women in the culture and in the religion of the Islamic State is often debated. In the process, there seems to be a belief in the unification of religion and culture, merging them into an amalgam that is almost impossible to disaggregate. However, when we hear someone from this culture discourse on this subject, we can see that there are indications of a difference between the positions of religion and culture regarding the role of women in society. Based on this, we aim, with this work, to show the difference between Islamic culture and the Islamic religion, from the perspective of a Syrian refugee. The content on which our reflections are based consists of part of an interview given by Razan Suliman to the Mauricio Meirelles YouTube channel. Theoretically, we will be helped by the assertions coming from rhetoric based on the works of Aristotle (2005), Perelman and Olbrechts-Tyteca (2005), and, regarding the trajectory of the passions, Figueiredo (2020). So far, we have been able to observe that the passions of love and trust were mobilized to persuade women with regard to the religious discourse concerning the social role corresponding to the female figure. In the cultural part, in turn, we noticed the use of the passion of fear for the imposition of the culture of female inferiority.

Keywords: Rhetoric, Passions, Interview, Islamic State, Woman

Approval CEUA:

Acknowledgments: CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

DIGITAL CHURCH - CATHOLICISM IN DIGITAL MEDIA IN BAKHTINIAN PERSPECTIVE

Paulo Roberto da Costa Faria¹, Assunção Cristovão¹

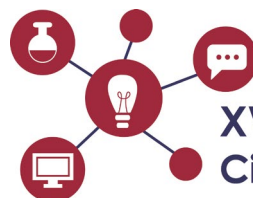
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: paulorcfaria@gmail.com

Purpose: This research aimed to analyze the growing presence of the Catholic Church in digital media, especially in Brazil. To fulfill this purpose, a rescue of the Church's communication mechanisms in cyberspace was carried out, seeking to evaluate how this institution uses this new modality of communication and how it interacts with its faithful. The study evaluated the Church's position on the mass media during the pontificate of the last three popes and the letters they wrote between 1989 and 2020, in addition to documents prepared by the Second Vatican Council and the National Conference of Bishops of Brazil - CNBB, what guide the institution's thinking on the subject. **METHOD:** To exemplify this action, the profile of the Instagram page The "Cristo Alegria" (Catholic community based in Belém - PA) was analyzed on social networks, which communicate the Church's message at a time when digital communication is in evidence and due to the the significant presence of young people in these media. **THEORY:** As a theoretical basis, the concept of dialogism by Mikhail Bakhtin was used, in order to show how dialogic relationships occur. **RESULTS:** Such dialogic relationships were shown to be in accordance with the social and technological contexts of each historical period of the Church, as well as a answer with direct interlocutors from the Cristo Alegria page.

Keywords: Catholic Church, Social Networks, Communication, Mass Media, Bakhtinian Studies.

Acknowledgments: UNIFRAN



CARE AND RECEPTION OF VICTIMS OF DOMESTIC VIOLENCE: PROFESSIONAL REPORTS OF A SOCIAL PROBLEM

Larissa Xavier Correia Silva¹, Luciana Carmona Garcia¹

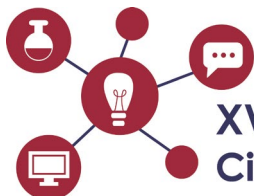
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: larissaxaviercorreia@hotmail.com

Purpose: The purpose is to build an archive based on reports from professionals in the municipality of Franca who provide care to victims of domestic violence, rapes and all gender violence, through which it is possible to analyze how the subjects, social actors that welcome women who seek emergency assistance in the city. Our objective was to create a political space for registration for the formulation and circulation of reports with effects that aim at social transformation through the production of memory to the extent that the results of this and other projects in this segment can form the basis for the creation of public policies that bring dignity and independence to women and contribute to the reduction of violence, considering the possibility of raising awareness from the dissemination of the results of this research. **Methods:** The methodology of analysis of the data collected, the assumptions built in Discourse Analysis, combined with discursive reflections by Michel Foucault, we seek to answer the following questions, configured as a general objective: how is the saying of the woman victim of violence when seeking medical care emergency? How is the saying of the subjects of emergency care constructed when accepting this request for help? **Results:** Based on the bibliographic research one can observe issues involving blaming the victim in testimony and issues related to memory constructions about what it means to be a woman historically in society. **Conclusion:** The research is still in progress and there is no analysis so far.

Keywords: gender violence, care for victims of violence, documentary file.

Acknowledgments: CNPq.



"I AM A TRANSVESTITE AND I WANT TO BE A MOTHER": SENSES OF MOTHERHOOD IN THE DOCUMENTARY MOTHER, A LOOK AT TRANS MOTHERHOOD

Bianca Lucchetti Tarantelli¹, Aline Fernandes de Azevedo Bocchi¹

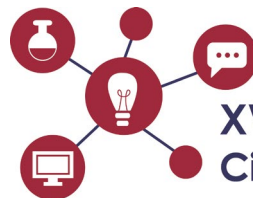
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: biancatarantelli15@gmail.com

Purpose: It aims to understand the processes of meaning for motherhood in the documentary *Mother: a look at trans motherhood*, involved in modes of formulation, constitution and movement of senses. Shot remotely, the documentary created by singer Maria Sil featured crowdfunding and features of the Aldir Blanc Act, and is available for free on the Youtube platform. It presents four stories of mothers who do not fit the cisnormative stereotypes and whose paths are marked by violence, prejudice and multiple exclusions. **Methods:** In view of the question about the meanings for motherhood in the documentary, an analytical corpus was constructed composed of relevant cutouts, which were analyzed according to the theoretical framework of Discourse Analysis. An audiovisual material was mobilized intersected by different significant materiality, from which the testimony was cut as discursive object in the construction of the theoretical-analytical device. **Results:** The analyses indicate that the testimonies that structure the documentary show the historicity of the event of trans motherhood and the uniqueness of the subject, by way of desire. They were organized from sayings that mark derivatives in the processes of signification and allow to affirm that there is no enunciation without alterity. **Conclusion:** It is concluded that the documentary is the intersection between the artistic discourse, put on the stage by the use of the poetic that gives edge to the desire, and the informative discourse, which allows the social movement of meanings put aside, establishing an event that breaks with the supposed "normality" of cisgender motherhood.

Keywords: maternity, transsexuality, documentary, testimony.

Acknowledgments: CNPq.



BODY, MOURNING AND VIOLENCE: A DISCURSIVE ANALYSIS OF TRANSGENDER PEOPLE TESTIMONIES IN THE CITY OF FRANCA - SP

Evelyn Stefani Toniato da Silva¹ Aline Fernandes de Azevedo Bocchi¹

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

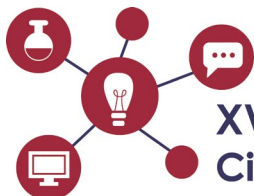
E-mail: evelyntoniato@hotmail.com

Purpose: This scientific initiation research project aims to collect testimonies and stories about life experiences and violence against transgender people in the city of Franca, São Paulo. In it, we intend to articulate a discussion about the ways of symbolizing violence in testimonial sayings that may allow the elaboration of mourning for non-binary people.

Methods: From the theoretical framework of Discourse Analysis elaborated by the philosopher Michel Pêcheux and developed by Eni Orlandi, we will elaborate thoughts about the meanings that language produces about these bodies, encompassed by reference to the conditions of production and the ideological productions of those who use language. Lacanian psychoanalysis also interests us, since it allows us to understand the processes of subjectivation from its insertion in the symbolic and imaginary field, also aiming at the processes of recognition in/by the other/Other. We will also postulate reflections on the theory of mourning formulated by the philosopher Judith Butler, whose elaboration does not disregard reflections on gender issues addressed by the author in the course of her studies. **Results:** As theoretical results, the research is expected to contribute to the production of knowledge on the subject, allowing a critical appreciation of subalternized ways of life in our society, enabling the problematization of testimony as a resource for the visibility of non-hegemonic narratives. **Conclusion:** We expect to provide ways to discuss mourning and recognition in testimonies of violence as a resource for the visibility of non-binary people.

Keywords: body, mourning, violence, transsexuality.

Acknowledgments: CAPES



THE FUNCTIONING OF THE WITNESS OF SURVIVORS AT THE COVID TRIBUNAL: TRAUMATIC EXPERIENCE AND THE RIGHT TO MOURN

Leticia Ferreira Gomes¹, Aline Fernandes de Azevedo Bocchi¹

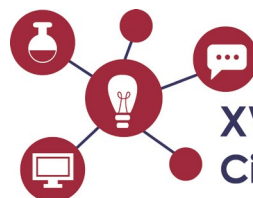
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-60

E-mail: ticiagomes2010@gmail.com

Purpose: Aims to problematize witness pronounced in public hearing held during the Parliamentary Committee of Inquiry (CPI) of Covid, in which family heard of victims of the covid-19 in relation to the omissions of the Bolsonaro government in conducting measures to combat the pandemic. **Methods:** As a theoretical reference, we mobilized the Discourse Analysis of materialist bias, intersected with Psychoanalysis and philosophical reflections on mourning and necropolitics. The methodological procedures are based on the construction of an analytical device that made it possible to examine two sections of witness pronounced in the Parliamentary Committee of Inquiry on 18 October 2021. **Results:** The analyses show that the witness examined are a way of giving edge to the traumatic experience, understood as violent and disruptive situation produced in the face of the encounter with death. They also show the right to mourn, which is impressed in the testimony as a demand for public recognition to mourning and justice for the deaths that could have been avoided. **Conclusion:** The discussion makes it possible to understand the witness as a gesture of resistance to the prohibition of mourning at a juncture in which the relations between life, death, law and the State, point to a functioning in which the State legislates on who can live and who must die. At this juncture, witness is constituted between the desire for justice and the elaboration, by word, of mourning prohibited by practices sustained in necropolitics.

Keywords: witness, mourning, covid, CPI.

Acknowledgments: CNPq.



THE EXPRESSION OF BLACK IDENTITY IN CONTEMPORARY SHORT STORIES. A SEMIOTIC APPROACH.

Rafaela Silva Costa¹, Vera Lucia Rodella Abriata¹

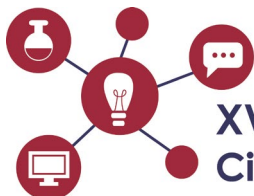
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: rafaelasilcosta@gmail.com

Purpose: This research analyzes the construction of the identity of black actors in Brazilian contemporary short stories through the theoretical framework of French semiotics. **Methods:** We use, as a theoretical-methodological hypothesis, elements of the generative path of meaning in order to analyse the short stories: at the narrative level, we particularly apprehend the polemical relationships between the actors and the sanction that they suffered by the other who reveals racial intolerance. At the discursive level, we describe the thematic-figurative paths, place of insertion of the socio-historical and ideological in the texts, and the strategies used by the enunciator in their construction, such as those that aim to sensitize the enunciatee on the theme of prejudice and racial violence. **Results:** We have observed the way in which the enunciator uses strategies to create the effect of a sense of truth in the texts and to sensitize the enunciatee to the theme of the naturalization of violence against black people. **Conclusion:** The theme of the naturalization of racial violence in the two short stories is the effect of enunciative strategies such as the ellipses through which the enunciatee is led to recompose the narrative scene, made of tensions and subtractions, which reveal the way in which the black characters are considered marginal ones and suffer the effects of violence and racial prejudice.

Keywords: Identity, racism, intolerance, literary short stories.

Acknowledgments: UNIFRAN.



THE USE OF FIGURES AS A STRATEGY FOR THE PRODUCTION OF HUMOR IN MEMES ABOUT COVID-19

Giovana Parreira Bomfim¹, Luana Ferraz¹

¹Ângelo Scarabucci State School, Franca, Brazil, 14403-646

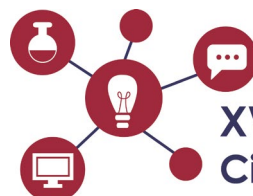
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gi.parreirabomfim@gmail.com

Purpose: Given the context of the pandemic caused by the SARS-CoV-2 coronavirus (COVID-19) and its social and political repercussions, this paper proposed a study of persuasion in humorous speech, aiming to identify the most critical rhetorical figures in the construction of memes on the topic. **Methods:** To carry out this research, we used, as a theoretical framework, Aristotelian Rhetoric and neo-rhetorics, as well as studies that deal with the nature of the humorous phenomenon and its functions on memes, their characteristics and their place in digital culture and on multimodal speeches. References, such as those by Reboul (2004), Perelman and Olbrechts-Tyteca (2005), Abreu (2009), Figueiredo and Ferreira (2018) and Chagas (2020), were partially read and reviewed in the development of the research. At the same time, we selected the memes about Covid-19, published on different websites from March 2020 to December 2021. After a pre-analysis, we identified the predominance of irony as a rhetorical resource responsible for producing the humorous effect in the collected memes. Thus, we focused on reading specific articles about irony and its persuasive effects to conclude the analysis of the material. **Results:** With the analysis of the memes completed, we confirm the importance of rhetorical figures, especially irony, in producing the humorous effect in memes about Covid-19. **Conclusion:** Memes, in addition to their wide incidence and dissemination in digital media, have great argumentative potential and, therefore, play a relevant role in the public debate on sensitive issues in Brazilian Society.

Keywords: memes, pandemic, rhetoric, humor, irony.

Acknowledgments: CNPq.



THE SOCIO-HISTORICAL PERSPECTIVE OF SOCIOEDUCATION IN BRAZIL: ACHIEVEMENTS AND CURRENT CHALLENGES

Paola Stefani Silva¹, Luciano Aparecido Pereira Junior¹, Gilmar Antoniassi Junior¹

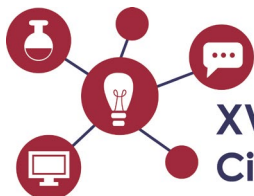
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: paolastefani2016@hotmail.com

Purpose: The application of socio-educational measures in Brazil is a result of the emergence of the Child and Adolescent Statute. In the socio-historical context, the Brazilian reality portrays the constant violation of adolescents' rights and the absence of social protection. This study aimed to understand the socio-historical panorama regarding the achievements and current challenges, in the integral attention and guarantee of rights of adolescents in conflict with the law. **Methods:** The method used in this study was qualitative, through bibliographic research carried out in the SciELO, Redalyc, and Google Academic databases, and documentary research on websites, primers, and Brazilian government documents, using the descriptors: socio-educational measures, adolescents, violence, and public policies. The data were analyzed through the perspective of content analysis and the dialectical method, as a theoretical and methodological reference, being contemplated ten articles dated between 2017 and 2021. **Results:** Although several changes have occurred over time, situations of violence and violation of adolescents' rights still permeate society, especially with the criminalization of poverty and race - male, poor and black adolescents have the highest rate of infractional acts committed in the country. There are several failures in the application of public policies and the lack of responsibility of the State regarding the social unprotection generated for adolescents in conflict with the law and their families. **Conclusion:** Finally, the political and management disarticulation prevents the National System of Socio-Educational Care from working properly, increasing the process of social exclusion, violence, and lack of quality of life for Brazilian adolescents.

Keywords: adolescent, violence, socioeducational measures.

Acknowledgments: CAPES and CNPq.



FOOD INSECURITY IN PANDEMIC TIMES

Julia Souza Fazio¹, Regina Celia de Souza Beretta¹

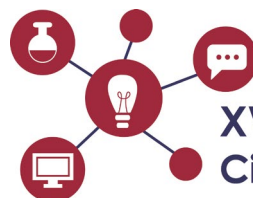
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: juliafaziosouza@gmail.com

Purpose: To investigate food insecurity in times of a pandemic. Phenomenon that occurs when there is no physical, economic, and social access to food to satisfy needs. According to the UN for Food and Agriculture it can be chronic or temporary. In Brazil, food started to be recognized as a fundamental right by the Federal Constitution and by the Food and Nutritional Security of 2006. **Method:** Qualitative research with a dialectical approach, bibliographic and documentary survey was used. **Results:** Structural unemployment worsened with the pandemic. Labor relations had already been dismantled since 2016, with an increase in informal jobs. In Brazil, 38 million people live informally (IBGE, 2021). Unemployment affects family food survival issues, with repercussions on physical and mental health, as it is not only about not having enough to eat, but also about what the future will be like. Among the 211.7 million Brazilians, 116.8 million lived with some degree of food insecurity and, of these, 43.4 million did not have enough food; 19 million Brazilians faced hunger, according to the Brazilian Research Network on Food and Nutrition Sovereignty and Security. **Conclusions:** The political-economic crisis was further aggravated by the health crisis, putting the country back on the hunger map, with greater deficits in violated rights, corroborating the social insecurities of survival, access to income and work. The pandemic revealed a perverse capitalist system, which feeds back social inequality, where the richest became richer and the poorest, more miserable.

Keywords: Food insecurity; Unemployment; Pandemic.

Acknowledgments: CNPq.



EMERGENCY AID IN PANDEMIC TIMES

Maria Eduarda Andrade Peroni¹; Regina Celia de Souza Beretta¹

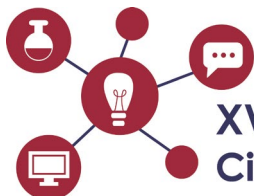
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: dudaandradepeperoni@gmail.com

Purpose: Discuss emergency aid in times of a pandemic. Emergency aid (AE) is an income transfer, which aimed to serve families affected by Covid-19, guaranteeing a minimum income for formal and informal workers. Established in April 2020, it lasted until October 2021. **Methodology:** Documentary and bibliographic research on Google Escolar, Dieese, reports. **Results:** More than R\$ 294 billion was invested, serving more than 68.4 million people, over 18 years old, with a family income of half the minimum wage per capita. 12 million people had already lost their jobs, today 38 million live informally (IBGE, 2021). The initial amount was R\$ 600 per month, in the first three months, with a guarantee of up to two benefits per family. From September to December 2020, the amount was halved and discontinued. It was paid again in April 2021, with the amount changed to BRL 150 for singles without children, BRL 250 per family or BRL 375 for single mothers. DIEESE (2021) pointed out that the value was unable to meet the needs of the population, as the basic food basket was above R\$ 600. **Conclusion:** Extinct in the phase of aggravation of the disease, it was replaced by Auxilio Brasil, almost 25 million people were without financial assistance. Amnesty International (2021) pointed to the worsening of rights violations, food insecurity and violence among vulnerable groups. Important social protection mechanism, however reduced and interrupted for the vulnerable population, who needed to stay at home to avoid contamination.

Keywords: Emergency Aid; Pandemic; rights.

Acknowledgments: CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

DEVELOPMENT AND TASTING OF A FOOD WITH POTENTIAL BENEFITS FOR INDIVIDUALS UNDERGOING ONCOLOGICAL TREATMENT

Amanda C. Torralbo Pugliesi, Ana Laura Moretti, Felipe dos Santos Arcolino, Vitor Manoel Arduini Antônio, Fabiola Pansani Maniglia

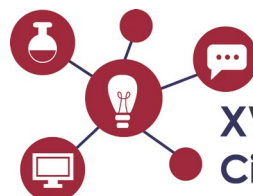
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: amandatorralbo@gmail.com

Purpose: To develop a food with potential benefits for individuals undergoing cancer treatment and to submit it to tasting. **Methods:** This is a cross-sectional study with 50 patients undergoing oncological treatment at the Cancer Hospital of the Santa Casa de Misericórdia Complex of Franca and other 50 individuals who composed the control group. **Results:** The sensory analysis of the food revealed very good acceptance of the aspects: appearance, texture, aroma, and flavor by both the control group and the experimental group. The positive aspects pointed out by the control group participants were: the combination of coconut and mango ingredients, the lightness and smoothness of the preparation and the freshness conferred by the mint. Patients undergoing cancer treatment emphasized the combination of fruits and the presence of ginger, which was not well accepted in the control group. The lack of sugar and the texture of the preparation were the characteristics that cancer patients liked least. Overall, the preparation offered presented an acceptance rate of 88.1%. **Conclusion:** The preparation involving foods with potential benefits, such as mint, ginger and green banana, was well accepted among individuals in the control group, and especially among oncology patients.

Keywords: Diet therapy, functional foods, oncology, side effects.

Acknowledgments: FAPESP, CAPES and CNPq.



TREND LINE OF INCIDENCE OF COVID-19 FROM 02/2020 TO 03/2022 IN BRAZIL

Gabriel Santana Garcia¹, Salvador Boccaletti Ramos¹

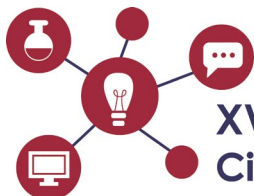
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: gabrieltgarcia.fr@gmail.com

Purpose: The aim of this study was to estimate a trend line for the incidence of Covid-19 cases from the beginning of the pandemics until the present day in Brazil. **Methods:** A dataset containing records of 29138362 new cases of Covid-19 from 26/02/2020 to 08/03/2022 of all Brazilian cities were used to estimate a simple linear regression of the format $y=ax+b$ where y is the number of new cases, x is the number of days considering 26/02/2020 as day 1, a is the regression coefficient that indicates the trend and b is the intercept. The dataset was downloaded from <https://covid.saude.gov.br/> in 08/03/2022. We used Microsoft Excel 365 to estimate the regression model. The level of significance adopted was 0,01. **Results:** The estimated model was $y=57,927x-18026$. It show that, on average there were 58 new cases of Covid-19 per day in Brazil from the beginning of the pandemic until march 2022. The intercept estimates the number of new cases on day 0 and the estimative was equal to 18026 new cases on day zero. **Conclusion:** Although the pandemics have a typical cyclic behavior, the population used preventive measurements like masks, isolation and hand washing and there were vaccination, the number of new cases is stil growing. That suggests the Covid-19 pandemics is not over.

Keywords: Covid-19, incidence, trend line.

Acknowledgments: CNPq and Cruzeiro do Sul



EATING BEHAVIOR AND RISK FOR EATING DISORDERS OF INDIVIDUALS AFTER BARIATRIC SURGERY

Winnie Vilas Boas Hilário¹, Rafaela De Souza Macedo², Luiza Amaral Vilela³, Marina García Manochio-Pina¹

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

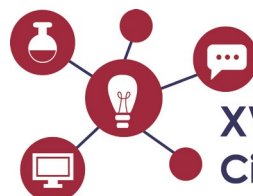
E-mail: winnievilasboas@gmail.com

Purpose: Analysis of eating behavior and indicators of eating disorders after bariatric surgery. **Methods:** This is a cross-sectional, quantitative and qualitative research of a descriptive nature, whose collection was online, disseminated on social media and all individuals who, after observing the inclusion criteria and considering themselves able to participate, was able to fill out the form via google forms. Food consumption and indicators of eating disorders was investigated through the application of the Eating Attitudes Test (EAT-26) and the Binge Eating Scale (ECAP/BES). **Results:** Fifty-one people participated in the research who had already undergone bariatric surgery at some point in their lives, with a mean age of 37.8 years. The average score for the EAT test was 25.68, which indicates a possible tendency towards the development of eating disorders, while the average score for the BES was 12.31, which does not indicate a possible tendency for the development of binge eating disorder specifically in the post bariatric surgery public. The dietary pattern was analysed using the 24-hour recall, where the most consumed foods were meat, bakery products, fruits, vegetables, rice and coffee. **Conclusion:** In addition to the physical impacts, obesity also has a psychological impact, which can reflect on eating disorders, body image disorders, depression, anxiety, low self-esteem that negatively reflects on the individual's professional life and interpersonal relationships that may persist or intensify in the post-surgical period, therefore, the importance of interdisciplinary follow-up in the pre- and post-surgical period is emphasized.

Keywords: food, bariatric surgery, obesity, eating and food intake disorders.

Approval CEPE/CEUA: CAAE: 21777019.0.0000.5495

Acknowledgments: FAPESP, CAPES and CNPq.



ELABORATION OF INFORMATIVE BOOKLET FOR PATIENTS WITH EATING DISORDERS

Raissa Estefany de Souza¹, Marina Garcia Manochio-Pina¹

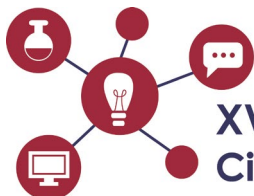
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: raissaestefany2005@gmail.com

Purpose: To develop an information booklet for the patients of the Nucleus of Studies and Assistance in Obesity and Eating Disorders (NEOTA) of Unifran. **Methods:** This research was carried out in the period from August 2021 to July 2022. A booklet was developed with information on eating disorders, addressing multiprofessional content with a greater approach to food care. **Results:** The booklet will be made available to NEOTA patients and their caregivers and digital service media, which has existed since 2009 and takes place weekly at the Unifran Nutrição Clinic. The service has a partnership with the courses of Psychology, Medicine (Psychiatry) and Physical Education. **Conclusion:** it is confirmed that quality information, by means of a clear language content and appropriate illustrations, will be able to contribute to the knowledge and possibility of a better prognosis. Digital media should be encouraged to use it for a greater scope of health education and promotion interventions.

Keywords: Promoção da saúde. Transtornos da alimentação e da ingestão de alimentos. Alimentação.

Acknowledgments: FAPESP, CAPES and CNPq



APPLICATION OF TRADITIONAL CHINESE MEDICINE PRACTICES IN THE INTEGRATIVE TREATMENT OF STRETCHES ALBAS IN WOMEN

Ana Paula Bispo Neves¹, Viviane Pereira Rodrigues¹, Silvio de Almeida Junior², Ricardo Andrade Furtado¹

¹University of Franca, UNIFRAN, Franca, Brazil, 37900-106

²State University of Minas Gerais (UEMG), Passos. Brazil, 29016

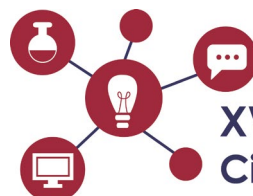
E-mail: anastudiomd@gmail.com

Purpose: To identify the repairing potential of cupping therapy associated with dragon siege and bloodletting in women with striae alba. **Methods:** The work was submitted to the Research Ethics Committee and approved. As an intervention, a sliding suction cup was performed for a period of 5 minutes in continuous “back and forth” movements (arrow suction cup) with only an average suction (150 millibars). Then, the technique of Bloodletting or Siege of the Dragon was chosen randomly. A photographic record was performed before the procedure and after 7 days after it. **Results:** Thirty-one women were selected, with a mean age of 34.8 ± 9.7 years, being stratified into 13 participants for the associated technique of siege of the dragon and 18 participants for the technique associated with bloodletting. After the procedure, a self-perceived improvement of $33.8 \pm 21.4\%$ was observed in the siege of the dragon group and $41.8 \pm 25.1\%$ in the bloodletting group. **Conclusion:** Through subjective analysis, an improvement was identified after 7 days of treatment with cupping therapy associated with siege of the dragon and bloodletting. The project is in progress, and it is necessary to carry out the measurement of the area with striations through imaging software.

Keywords: Complementary therapies, cupping therapy, medicina China tradicional, striae distensae.

Approval CEPE/CEUA: 32992620.6.0000.5495

Acknowledgments: FAPESP, CAPES and CNPq.



HEALTHY EATING IN THE PALM OF YOUR HAND: USE OF QR CODE FOR SPREAD NUTRITIONAL INFORMATION IN THE UNIVERSITY.

Grazielle Maria Freitas de Resende¹, Maísa Rodrigues de Paula¹, Fabíola Pansani Maniglia¹

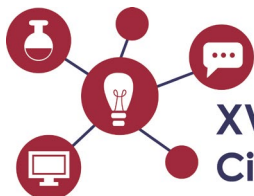
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: grazymfresende@gmail.com

Purpose: The aim of this study was to disseminate information about healthy eating to students at the University of Franca through QR codes distributed on campus. **Methods:** Ten messages about healthy eating were developed, based on the Dietary Guidelines for the Brazilian population, which dealt with the following central themes: conscious consumption of sodium and sugar, restriction of ultra-processed food products and preference for in natura foods. Then, after authorization from the university's management, six QR codes were distributed on the University's campus in the form of stickers placed in strategic locations with large circulation of students. When accessing each QR code, the academic community had access to one of the messages on healthy eating, a satisfaction survey about this communication initiative and also a link to write questions or suggestions. At the end of the two-month period of exposure of QR codes by the university, records of satisfaction responses, doubts and suggestions were tabulated. **Results:** Of the 36 individuals who responded to the survey, 29 (80.6%) said that their satisfaction was "very good" with the informative phrases, 6 (16.7%) said "good" for satisfaction, and 1 (2.8%) answered that "median" for their level of satisfaction. "Bad" and "too bad" had no answer. **Conclusion:** It can be concluded that this interactive form of information on nutrition is a good strategy for health promotion in the university environment.

Keywords: university students, nutrition, healthy eating.

Acknowledgments: FAPESP, CAPES and CNPq.



PHYSICAL ACTIVITY, SLEEP QUALITY AND HEALTH OF OPERATIONAL MILITARY POLICE

João Paulo Aguiar Albano, Aline Cristina Ribeiro Savio, Daniel dos Santos

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

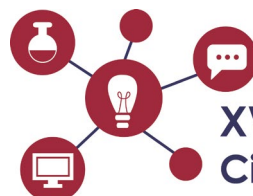
E-mail: jp-albano@hotmail.com

Purpose: The study aimed to analyse the level of physical activity, sleep quality and health of operational military police. **Methods:** This is a quantitative, descriptive study, with a cross-sectional design, carried out with 34 Military Police (men) from Franca - SP, aged 39.50 ± 7.34 years. Information on anthropometric characteristics (body mass, height, and body mass index - BMI), physical activity level, sleep quality, medication use, disease history and pain report were investigated. **Results:** Participants had a BMI of 29.09 ± 4.17 kg/m². The BMI classification showed that 11.76% were eutrophic, 50% overweight, 29.42% grade I obese and 8.82% grade 2 obese. The sleep analysis showed that 14.7% had a sleep good quality and 85.3% had a sleep poor quality. A total of 11.76% were sedentary, 14.70% irregularly active A, 17.65% irregularly active B, 17.65% active and 38.24% very active were observed regarding to the level of physical activity. Medication use was reported by 11 military police officers (32.35%). The reported comorbidities included hypertension (n=3) and diabetes, hyperthyroidism, dyslipidemia, hypothyroidism, arthrosis, sinusitis, migraine, labyrinthitis (n=1). Pain was reported in the cervical (n=5), thoracic (n=7) and lumbar (n=6) regions. **Conclusion:** Therefore, it is concluded that military police officers present risk factors that predispose to the emergence of chronic diseases and do not meet the minimum recommendations related to the level of physical activity, as well as having poor quality sleep. In this sense, health promotion actions that encourage the adoption of healthy habits are necessary.

Keywords: police, sleep, physical activity, body mass index, circadian cycle

Approval CEPE: 3.306.881

Acknowledgments: CNPq and Cruzeiro do Sul



ASSOCIATION BETWEEN INCIDENCE OF MALARIA AND AIR QUALITY INDICATORS

Laura Silva Pereira¹, Salvador Boccaletti Ramos¹

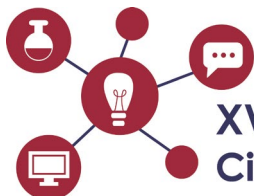
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: Lauraps918@hotmail.com

Purpose: The aim of this study was to estimate the association between Incidence of Malaria (MI) and air quality indicators (AQI). **Methods:** The dataset had observations of 99 countries, collected in 2015, for the following indicators: MI, black carbon, methane, carbon monoxide, ammonia, non-methane volatile organic compounds, oxides of nitrogen (NO_x), organic carbon, sulfur dioxide (SO₂), particulate matter up to 2.5 micrometers and particulate matter up to 10 micrometers. For all AQI the unit of measurement was Gigagrams. MI data came from the World Health Organization (<https://apps.who.int/gho/data/view.main.MALARIAINCIDENCEv?lang=en>) and AQI data from the Emission Database for Global Atmospheric Research (https://edgar.jrc.ec.europa.eu/overview.php?v=432_AP). Due to non-normal data, assessed by the Shapiro-Wilks Test ($p < 0.001$), the associations between MI and AIQ were estimated by Spearman's Correlation (r^2). Statistical analyzes were conducted using JASP v. 0.16.1. **Results:** Estimates of r^2 between MI and NO_x and SO₂ were equal to -0.358 and -0.388, respectively ($p < 0.001$). This suggests that MI decreases as NO_x and SO₂ increases. One possible explanation for these results is that these compounds react with water vapor to form acid rain (AR). AR may change rainwater pH, harming the reproduction of the mosquitoes (vector). **Conclusion:** Air pollution can decrease the number of new cases of Malaria.

Keywords: correlation, malaria, SDG3

Acknowledgments: CNPq and Cruzeiro do Sul.



XV Encontro de Iniciação Científica da UNIFRAN

THE POTENTIAL USE OF *Protium ovatum* ESSENTIAL OIL TO CONTROL CANDIDIASIS

Vitor de Paula Castro¹, Gardênia B. C. Rodrigues², Cassia C. Fernandes², Suzana M. L. O. Marcionilio², Mayker Lázaro Dantas Miranda³, Regina Helena Pires¹

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

²Federal Institute of Education, Science and Technology of Goiás, Rio Verde, Brazil

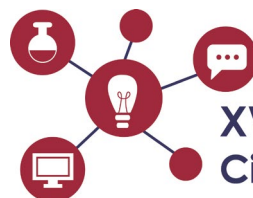
³Triângulo Mineiro Federal Institute, Uberlândia, Brazil, 38400-974

E-mail: vitordepcastro@gmail.com

Purpose: The study aimed to evaluate the essential oils from *Protium ovatum* Engl. (PO) fruits on growth of yeast species belonging to the genus *Candida*. Methods: Strains tested included *Candida albicans* ATCC 90028, *Candida glabrata* ATCC 2001, *Candida krusei* ATCC 6258, *Candida metapsilosis* ATCC 96143, *Candida orthopsilosis* ATCC 96141, *Candida parapsilosis* ATCC 22019, *Candida parapsilosis* ATCC 90028, *Candida tropicalis* ATCC 13803 and *Candida rugosa* ATCC 10571. Essential oils were obtained by hydrodistillation. The minimum inhibitory concentration (MIC) was determined by the broth microdilution methodology with revelation by resazurin. *Caenorhabditis elegans* (*C. elegans*) model in vivo assay provide data from oil toxicity. Results: The PO oil from ripe fruits (PORF) was more effective than the oil from unripe fruits (POUF) exhibiting MIC range from 62.5 to >1000 µg/mL. The species most sensitive to PORF were *C. albicans*/*C. glabrata* and *C. metapsilosis* showing MIC values of 62.5 µg/mL and 250 µg/mL, respectively. Compared to the control groups, *C. elegans* larvae exposed to PORF for 24 h showed 80% or more survival in the concentrations ranging 62.5 µg/mL to 250 µg/mL. Conclusion: The results show the PORF oil effectiveness in the candidiasis control and emphasize the importance of the phytotherapy availability to the Unified Health System through the National Policy on Integrative and Complementary Practices.

Keywords: alternative medicine, *Candida*, phytotherapy, essential oil.

Acknowledgments: CAPES, CNPq and Cruzeiro do Sul.



OZONIZED SUNFLOWER OIL FOR THE TREATMENT OF ORAL CANDIDIASIS

Bianca Souza Cintra¹, Carmen Magaly Alvarez^{1,2}, Jair Camargo Ferreira¹, Regina Helena Pires¹

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

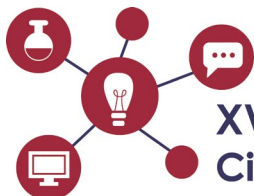
²Agrarian University of Ecuador, Guayaquil, Ecuador, 090104

E-mail: biancasouzacintra@icloud.com

Purpose: The study aimed to evaluate the potential use of ozonized sunflower oil for the oral candidiasis treatment. **Methods:** The oil effect against biofilms of *Candida albicans* ATCC 90028, *Candida glabrata* ATCC 2001, *Candida krusei* ATCC 6258, *Candida metapsilosis* ATCC 96143, *Candida orthopsilosis* ATCC 96141, *Candida parapsilosis* ATCC 22019, *Candida parapsilosis* ATCC 90028, *Candida tropicalis* ATCC 13803 and *Candida rugosa* ATCC 10571 was evaluated. Then, the cytotoxicity of the effective concentration against the most resistant species was studied using a murine model of induced oral candidiasis. Histopathological and cultural tests were used to assess the existence of colonization and infection. Data was statistically analyzed. **Results:** *C. albicans* was the most *Candida* species resistant to oil since the cells of its biofilms became unviable after 60 minutes of exposure. Tissues removed from infected and ozonated oil-treated rodents exhibited a cone-shaped filiform papillae with the keratinized layer at the surface. These animals also showed little or no fungal cells. The histological data were validated by the CFU determinations, as mice treated with the ozonated oil after infection had the lowest fungal burden ($P < 0.0001$). Nystatin-treated animals displayed a 2-fold reduction in *C. albicans* tissue load relative to the infected controls ($P < 0.0001$). **Conclusion:** Our findings suggest that ozonated oil may be an effective alternative for the treatment of oral candidiasis and emphasize the importance of the ozone therapy availability to the Unified Health System through the National Policy on Integrative and Complementary Practices.

Keywords: ozone, *Candida*, alternative medicine, oral candidiasis.

Acknowledgments: CAPES, CNPq and Cruzeiro do Sul.



EFFECTS OF TWO INTERVENTIONS IN RELATION TO FEAR OF FALL IN ELDERLY PEOPLE

Rosimere de Paula Cosmo¹, Carolina Beatriz Honorato Leite¹, Renan Nunes Aguiar¹, Carolina Milhim Barcellos¹, Ana Paula Oliveira Borges¹, Lilian Cristina Gomes do Nascimento¹

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

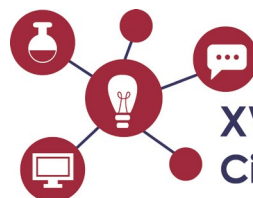
E-mail: rose1307paula@gmail.com

Purpose: The aim of this study was to analyze the fear of falling in the elderly before and after the intervention of two different protocols. **Methods:** To assess the risk of falls, the *International Falls Efficacy Scale* was used. The Scale vary to 16 to 64 points, ranging from lack of concern to extreme concern. Eighty-nine elderly people from a rehabilitation center in a municipality in the interior of Minas Gerais were summoned. The samples consisted in 30 participants who accepted and fitted within the eligibility criteria, which were randomly divided into three groups: control group, isolated physical training group and physical training group associated with a dual task. **Results:** All participants were female with a mean age of 67.4 ± 6.69 years. It was found in the present study that the participants of the physical training group (pre = 28.5 and post = 17.3, $p < 0.02$) and dual-task (pre= 42.4 and post = 17, $p < 0.00$) presented a significantly reduced of fear of falling when compared to participants in the control group (pre = 36.6 and post = 31.3, $p > 0.05$). **Conclusion:** It was found that the practice of physical exercise can reduce the fear of falls in elderly women, so it is recommended to implement guided activities that, in addition to promoting the health of the elderly population in relation to the previously aspects described in the literature, can also result in Cognitive improvements in relation to fear of falling.

Keywords: accident by fall, aging, gerontology, health promotion.

Approval CEPE/CEUA: 3.558.405.

Acknowledgments: CAPES.



REASONS FOR THE PRACTICE OF BULLYING AND CYBERBULLYING: AN INTEGRATIVE LITERATURE REVIEW

Monique de Fátima Oliveira¹, Jorge Luiz da Silva¹

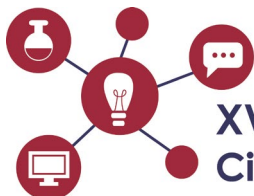
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: monique_fatima98@hotmail.com

Purpose: To identify why children and adolescents practice bullying and cyberbullying in the school environment. **Methods:** This integrative literature review was performed in seven databases: ERIC, LILACS, PsycINFO, Scopus, Web of Science, SCIELO, and CINAHL. The following keywords were cross-referenced in all the databases: bullying AND causality OR cause OR causes OR reason OR reasons OR motive OR motives; cyberbullying AND causality OR cause OR causes OR reason OR reasons OR motive OR motives. The question guiding the bibliographic search was developed according to PICo (P = Population or problem; I = Interest; Co = Context). The papers published in the last five years (2017-2021), written in Portuguese, Spanish, or English, specifically focusing on the studied topics, were included. **Results:** Five of the 57 papers initially identified met the inclusion criteria and were analyzed. Four were cross-sectional studies, and one was a qualitative study. The samples comprised both female and male participants. The studies were conducted in Cyprus, Portugal, Germany, the United States, and Slovakia. The main reasons for the practice of bullying and cyberbullying included peer acceptance, fun and revenge, power, anger, and the victims' physical appearance. **Conclusion:** The results indicate that bullying and cyberbullying mainly occur due to intolerance for differences and appreciating violence committed by schoolmates. Hence, students need to be sensitized to the harmful nature of violence.

Keywords: bullying, cyberbullying, reasons, causes, literature review.

Acknowledgments: FAPESP, CAPES and CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

DEVELOPMENT OF EDUCATIONAL MATERIAL TO IMPROVE INTESTINAL FUNCTIONING

Letícia Saud Belleza, Fabíola Pansani Maniglia

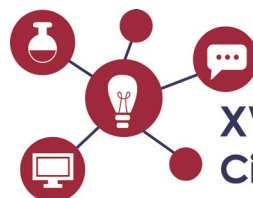
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: leticiasbelleza@gmail.com

Purpose: The study aimed to carry out an online exhibition of healthy recipes to encourage good eating practices and promote intestinal transit, targeting students at the University of Franca. **Methods:** This is a cross-sectional intervention study carried out through the official social media of the nutrition course at the University of Franca. The exhibition material was prepared based on practical and healthy recipes aimed at improving intestinal transit, excluding quantitative calculations of nutritional values. **Results:** Students rated the revenues exposed by interactive features of the digital media itself. The selected recipes had 34% of interaction by the target audience. **Conclusion:** It can be concluded that the selected recipes were well evaluated by the student public, who expressed an interest in executing them in their usual food practice. Therefore, the study noted that the exposure of digital and interactive health promotion activities should be encouraged in the academic environment to improve students' quality of life.

Keywords: students, feed, intestinal problems.

Acknowledgments: CNPq and Cruzeiro do Sul



THE IMPACT OF SANITIZATION ON BIOFILMS FORMED BY *Candida parapsilosis*

Kayro de Lima Vieira¹, Bárbara Higa¹, Vitor de Paula Castro¹, Leonardo Guedes Lopes¹, Danilo Y. Thomaz², Gil Benard², Regina Helena Pires¹

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

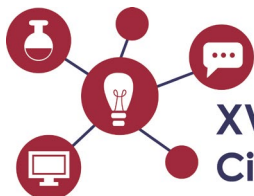
²Faculty of Medicine, University of São Paulo, São Paulo, Brazil, 05403-000

E-mail: kayro.vieira21@outlook.com

Purpose: This study aimed to evaluate the effectiveness of disinfectants on *C. parapsilosis* biofilms. **Methods:** Environmental and clinical strains (38) were used for in vitro biofilm formation. Eight hospital disinfectants consisting of different active ingredients were tested. The concentration and exposure time of each disinfectant followed the standardization described in legislation, literature or manufacturer. Cell viability of biofilms treated with disinfectants was obtained by agar plating methodology. **Results:** The total number of colony forming units (CFU) per milliliter (mL) in the biofilms incubated for 24h at 37°C was 9.48 ± 0.35 Log CFU/mL while for biofilms incubated for 48h was obtained 9.77 ± 0.54 Log CFU/mL. The application of Student's t test showed no significant difference ($p > 0.05$) for the average number of cells in the *C. parapsilosis* biofilm after 24h or 48h incubation at 37°C. Seven disinfectants, namely peracetic acid (0.1% - 30 min), glutaraldehyde (2% - 30 min), chlorhexidine (0.5% - 3 min); chlorhexidine (2.0% - 1 min), 0.08% alkyl dimethyl benzyl ammonium chlorides/0.02% alkyl benzyl ammonium chlorides (3 min), orthophthalehyde (0.55% - 10 min) and polyvidone iodine (10 % - 3 min) showed effectiveness against *C. parapsilosis* biofilms. **Conclusion:** Understanding the effect of disinfectants on *C. parapsilosis* biofilms will help to design antimicrobial interventions in hospital settings since there is a relationship between rates of healthcare-associated infections and environmental biological burden.

Keywords: disinfectants, hospital infections, *Candida*, biofilm.

Acknowledgments: CAPES, FAPESP and Grupo Cruzeiro do Sul Educacional



SYSTEMATIC REVIEW OF COMMUNICATION AND LINGUISTIC BEHAVIORS IN PREMATURE CHILDREN

Débora Maria da Silva¹, Monica Pires de Castro¹, Maysa Venturoso Gongora Buckeridge Serra¹,
Marisa Afonso Andrade Brunherotti¹

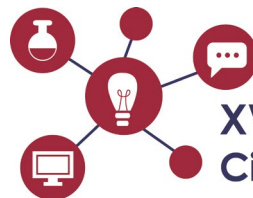
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: deboramari10@hotmail.com

Purpose: To identify characteristics of communicative development in premature children from 0 to 6 years old, with analysis parameters of Language in DENVER II Test. **Methods:** The present study is a systematic review to identify, select and critically evaluate scientific evidence on communicative development functions and their alterations in premature children, using PRISMA recommendation checklist. The search strategy was based on articles indexed in CAPES, SCIELO and PUBMED electronic databases, from 2016 to 2021. In the survey, Health Sciences Descriptors (DECS) were used, searching for subjects with the following reference search terms: "DENVER II AND premature newborn". The articles were independently evaluated and selected, according to eligibility criteria established by the authors. **Results:** Seven articles were selected and reported aspects related to premature birth, such as gestational age, low weight and birth complications can negatively influence language functions, being observable from six months age on the transition from pre-linguistic to linguistic phase. **Conclusion:** The performance of children born preterm is inferior when compared to performance of children born at term, with a significant difference for language domains during early childhood, which Denver II test allows developmental milestones evaluation and provides correct approach to a multidisciplinary team to carry out intervention according to needs of the child born prematurely.

Keywords: technology, premature, communication, review academic

Acknowledgments: CNPq.



MOTOR DEVELOPMENT STIMULATION IN PRETERM NEWBORNS: A LITERATURE REVIEW

Aline Cristine Alves Lima¹, Marisa Afonso Andrade Brunherotti¹, Maysa Venturoso Gongora Buckeridge Serra¹

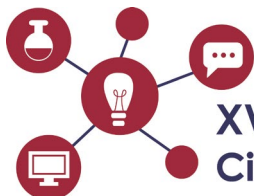
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: alinecristinealveslima@gmail.com

Purpose: The aim of this study was to make an analyze in the literature about motor development in preterm newborns during the first trimester of life. **Methods:** The present study is a literature review to identify, select and evaluate scientific evidence about motor development functions and their alterations in premature children. The search strategy was based on articles indexed in PUBMED electronic databases, from 2016 to 2021. In the survey, Health Sciences Descriptors (DECS) were used, searching for subjects with the following reference search terms: "Neuropsychomotor development AND newborns". The articles were independently evaluated and selected, according to eligibility criteria established by the authors. **Results:** Eight articles were included, which met eligibility criteria. Among those, it was possible to identify most used tests to assess neuropsychomotor development are: DENVER II, Bayle Scale and Alberta Infant Motor Scale. Of the eight articles, four directly related neuropsychomotor development to: newborn feeding, language development and neonatal and environmental variables. All demonstrate importance of evaluation and monitoring in preterm newborns for positive outcomes on neuropsychomotor development. **Conclusion:** Despite importance of evaluation and monitoring in preterm newborns reported in the articles, it's still not possible to identify consensus on test type to apply and none of the articles evaluated the babies longitudinally. Correct assessment to monitor preterm newborns are highlighted by this review, where any atypical performance identified in assessment will be interpreted and multidisciplinary team will determine best strategy to generate a correct approach to reach newborn potentials.

Keywords: technology, premature, child development, review academic

Acknowledgments: CNPq.



THE EARLY CHILDHOOD'S IMMUNIZATION IN BRAZILIAN REGIONS DURING COVID-19 PANDEMIC

Carlos Eduardo Borges Carvalho¹, Marisa Afonso de Andrade Brugnerotti²

¹ETC Dr. Júlio Cardoso, Franca, Brazil, 14404-500

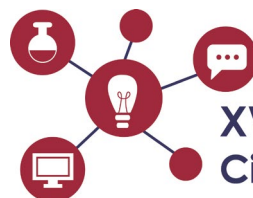
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: carlos.carvalho100@etec.sp.gov.br

Purpose: To evaluate the accession to child's immunization on the first childhood period during the COVID-19 pandemic in Brazilian regions. **Methods:** It is an epidemiologic, observational, descriptive study about applied vaccinations in children during the first childhood in Brazilian territory. It was used the Datasus database in the 2019 period (pre-pandemic) and 2020 (pandemic) of children between 0 and 6 years old, following the vaccination calendar of the Brazilian Immunization Society in North, Northeast, South, Southeast and West-center regions of Brazil. The data are presented in a descriptive way. **Results:** The BCG, hepatitis b, *Haemophilus influenzae* type b and inactive poliomyelitis vaccinations have obtained less adherence in 2020 in Brazilian regions, only triple bacterial vaccine has presented more adherence in this period and the pentavalent rotaviruses had very similar frequencies in the two periods. In 2020 less number of 10, 13 and 7-valent conjugated pneumococcal, hepatitis a, viral triple and chickenpox vaccines also registered and more registers in influenza followed by yellow fever vaccinations, the oral poliomyelitis vaccination in this period had a discrete reduction in Brazilian regions. The Southeast has registered more quantity of applied vaccinations and the West-center and North regions had obtained the lower vaccination register. **Conclusion:** the adherence to the vaccination in Brazilian regions had suffered a negative impact with the COVID-19 pandemic in first childhood. The information, effective communication and public policies aimed to health prevention and promotion is a protective factor to the community and should be considered with equity among the Brazilian regions.

Keywords: vaccination coverage, immunization schedules, delivery of health care, immunization programs.

Acknowledgments: CNPq and Cruzeiro do Sul.



SCIENTIFIC EVIDENCE ON OTONEUROLOGY AND ELECTROPHYSIOLOGY FINDINGS RELATED TO TINNITUS

Mariana Souza Lopes¹, Renata Sales¹

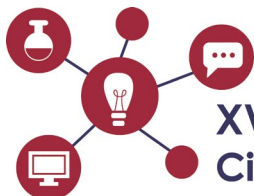
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mariana.lopes1@icloud.com

Purpose: Otoneurology is the science that studies balance and, to assess this function, it can make use of the vectoelectronystagmography (VENG), present in clinical routine, to evaluate the vestibular system, being one of the organs responsible for postural stability. In vestibular disorders, symptoms such as dizziness, nausea and tinnitus are frequent and lead to loss of quality of life, requiring adequate treatment. Brainstem Auditory Evoked Potentials (BAEP), an exam also present in the clinical routine, evaluates the functioning of the central auditory pathways, and changes in the physiology of these pathways may interfere with balance. Balance treatment is widespread in the literature with the objective of improving dizziness and nausea, but the tinnitus symptom, defined as the perception of a sound stimulus without having a generating source in the environment, often remains, becoming the main patient's complaint. Faced with the concern of tinnitus in cases of balance disorder, the present study aimed to carry out a bibliographic survey, seeking scientific evidence on the findings of the VENG and BAEP tests that may be related to this symptom. The work was carried out through a literature review, based on PubMed (National Center for Biotechnology Information – NCBI) and SciELO electronic databases. The descriptors used were extracted from the Medical Subject Headings (MeSH) and their corresponding Portuguese were consulted in DeCS (Descriptors in Science and Health), namely Otoneurology (“otoneurologia”), Vestibular System (“sistema vestibular”), Electrophysiology (“eletrofisiologia”) and Tinnitus (“zumbido”). The search was limited between the years 2011 and 2021, being selected materials in Portuguese, Spanish and English.

Keywords: otoneurology, vestibular system, electrophysiology, tinnitus.

Acknowledgments: CNPq.



CHARACTERIZATION OF THE COMMUNITY OF MEDIUM AND LARGE SIZE MAMMALS IN THE AREA OF THE SERRA DA CANASTRA NATIONAL PARK AND ITS BUFFER AREA

Maria Eduarda Silva e Silva¹, Maísa Ziviani Alves¹

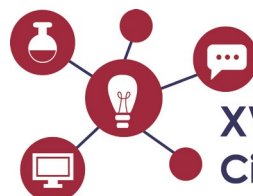
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: duda.eduardamaria98@gmail.com

Purpose: The present study has the general objective to characterize the community of medium and large mammals of Recanto Ecológico Vale do Céu, located in the Serra da Canastra National Park and its buffer zone. **Methods:** Data collection was carried out from July to September 2021, using photographic trapping. The equipment installation points were distributed in a systematic sampling grid, with intersections 1 km apart. Thus ensuring the interdependence of the collected data, totaling 10 sampling sites. Camera traps were installed on tree trunks. To ensure sample independence at the same collection point, starting from the first image captured of an individual, only after 30 minutes. Based on this matrix, the following are characterized: the connectivity pattern between predators and prey (observed and possible interactions), the degree of connectivity $\langle k \rangle = C(N-1)$ and its distribution $P(K) = \text{Freq}(k)/N$. The number of interactions is given by the formula $(\sim N(N-1)/2)$. To determine the structural pattern and characterize the dynamics of interaction between species, the 'bipartite' package will be used. **Results:** The data collected between July and September, we were able to evaluate the frequency of the following species: *Cerdocyon thous* (42.86%); *Chrysocyon brachyurus* (24.49%); *Myrmecophaga tridactyla* (8.75%); *Cuniculus paca* (4.66%); *Eira barbara* (4.66%); *Nasua nasua* (2.91%); *Leopardus pardalis* (2.62%); *Procyon cancrivorus* (2.04%); *Puma concolor* (2.04%); *Euphractus sexcinctus* (1.75%); *Mazama americana* (1.48%); *Puma yagouaroundi* (0.58%); *Conepatus chinga* (0.29%); *Dasyurus novemcinctus* (0.29%); *Galictis cuja* (0.29%); *Lycalopex vetulus* (0.29%). **Conclusion:** The most frequent species were: *Cerdocyon thous*; *Chrysocyon brachyurus*; *Myrmecophaga tridactyla*.

Keywords: Trapping, photographic, cerrado, mammals

Acknowledgments: FAPESP, CAPES and CNPq.



COMPARISON OF GOOD PRACTICES IN RESTAURANTS WITH AND WITHOUT NUTRITIONIST

Felipe dos Santos Arcolino¹, Marília Liotino dos Santos¹

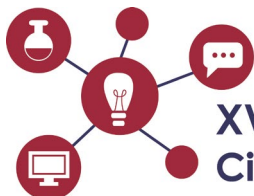
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: felipe_arcolino@hotmail.com

Purpose: This work aims to identify and understand the importance of Good Practices in food handling for restaurant owners with and without nutritionists. **Methods:** Commercial restaurants in the city of Franca and Ribeirão Preto were selected, half of the sample with a nutritionist and the other half without the professional. Transcription and content analysis of the interviews were performed. **Results:** Four subjects were interviewed (partial results), all female, three owners and one manager. The qualitative analysis of the interview resulted in two categories common to restaurants with and without nutritionists: "hostage of the workforce" and "damaging reputation". From the restaurants with a nutritionist, "food kills" resulted. Of those without professional supervision, two categories: "the concept of freshness" and "devaluation of food safety". **Conclusion:** The analysis of the interviews shows that both categories agree that the lack of food safety can destroy a restaurant's reputation and that one of the biggest obstacles to excellence in Good Practices is having trained and engaged employees. However, when dealing with the importance of the topic, restaurants with nutritionists and without have opposing views since the first considers it an act of life or death and the second minimizes food safety and demonstrates the lack of technical knowledge on the subject.

Keywords: Good Handling, UAN and Nutritionist Practices.

Acknowledgments: CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

A WELL CARED FOR MOTHER, TAKES BETTER CARE: GROUP INTERVENTION WITH RECENT MOTHERS BASED ON WINNICOTTIAN PSYCHOANALYSIS

Paola Bernardes Aguiar Andrade¹, Arali Helena Stort¹

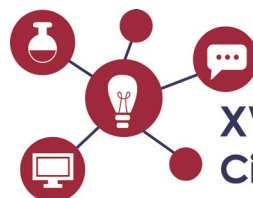
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: pbandrade@live.com

Purpose: Much is known about the physical care of the new-mother phase, and little is said about the importance of caring for the emotional aspect of this unique one. From the results of psychoanalysis, this work aimed to offer an adequate care environment as a contribution to a good enough mothering. In this way, the realization of an operational group could raise awareness of the importance of self-care in general, thus awakening more qualified care for her baby. Nine weekly meetings of 1h30min were held, with the participation of women of any age, at the Reference Center for Social Assistance (CRAS) in a city in the interior of the state of São Paulo. Expository and playful resources were used, as well as conversation circles, dynamics, and reflections. With, we sought to emphasize the benefit of Psychology for the reception with the maternal group, providing welcome, humanization, and appreciation of the person. This work began after approval by the Ethics Committee under opinion No. 4,812,723 in accordance with Resolution No. 466, of December 12, 2012 of the National Health Council, Ministry of Health.

Keywords: Mothers; Maternal health; Psychoanalysis; Winnicott; Group Intervention

Acknowledgments: FAPESP, CAPES and CNPq.



ANALYSIS OF LIFESTYLE ASSOCIATED WITH ANTIDEPRESSANT USE IN MEDICAL STUDENTS

Jessica Lara Lazzari Ducas¹; Bianca Dias Rodrigues¹; Julia Eid de Mello¹; Cynthia Kallás Bachur¹

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

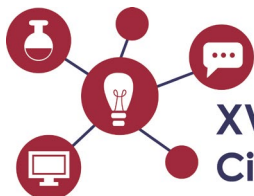
E-mail: jessica-ducas@hotmail.com

Abstract: Lifestyle directly interferes with mental health, and it is necessary to investigate and modify elements that characterize them. **Purpose:** To assess lifestyle using the FANTASTICO instrument and identify the use of antidepressant drugs associated with certain behaviors in medical students. **Methods:** Descriptive, cross-sectional, population-based study. The sample of this study was for convenience, carried out with the participation of students from the private Faculty of Medicine of Franca, who agreed to answer the questionnaire online (Google Forms). The socio-demographic questionnaire and the Fantastic questionnaire were used, which has 25 closed questions exploring 9 domains on the physical, psychological and social components of lifestyle. **Results:** 105 medical students participated, 19 (19.9%) from the 1st year, 23 (24.1%) from the 2nd year, 16 (16.8%) from the 3rd year and 47 (49.3%) from the 4th year. Composed of 82 (86.1%) women and 23 (24.1%) men with a mean age of 22.62 ± 2.81 years. The general classification was "Good", none of the participants scored in the "Needs Improvement" category, only 2 (1.9%) fit in the "Excellent" category. The domains that most need change are mainly related to "Type of Behavior" (1.3 points), "Nutrition" (1.5 points) and "Activity" (1.6 points). **Conclusion:** The results of the study suggest that the use of antidepressants was a predictor for an unhealthy Lifestyle indication according to the fantastic lifestyle questionnaire.

Keywords: Antidepressant, lifestyle, students.

Approval CEPE/CEUA: 32154820.8.0000.5495

Acknowledgments: CNPq.



XV Encontro de Iniciação Científica da UNIFRAN

TEACHING DENTISTRY ARTICULATED TO PUBLIC HEALTH/SOCIAL SERVICES: DENTAL CARE OF HOMELESS PEOPLE IN THE CITY OF FRANCA

Maria Rita Santos Bronzati¹, Ana Flavia de Pádua Castro¹, Regina Célia Souza Beretta¹, Ana Elisa Rodrigues Alves Ribeiro¹

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

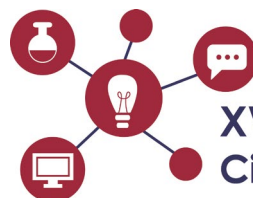
E-mail: mrsb2001@live.com

Purpose: Encountered oral health conditions of homeless people are mainly due to drug use, difficulties in accessing health services, many times related to rupture of family ties. **Methods:** This work aims to clarify, through an experience report, how occurred dental care of homeless people, articulating many institutions in Franca city, São Paulo, Brazil. **Results:** Franca University, UNIFRAN, by its Dental School and Social Inclusion Laboratory LABPROSOCIAL, built partnerships with Health and Social Assistance Public Services for homeless people. The first one occurred between the University and the Municipal Health Department, in two services: "Consultório na Rua", a service targeted at vulnerable people, and a basic health Unit, where ambulatory procedures were done. The other partnership was between the University and "POP" Center, a national social and inclusive service. Offering a new modality of service, since the multidisciplinary team does not have specific oral health care to this group, this project united intersectoral services with a in-service student training. Dental care was developed from educational actions (oral hygiene, harm reduction policy and oral cancer prevention), to non-ambulatory care (Atraumatic Restorative Treatment) and outpatient care. **Conclusion:** With the joint of these services, student training in concrete realities favored and innovated vulnerable populations care in Franca. A unique experience, usually not-included in graduation, adding to positively influence in professional future.

Keywords: Homeless Persons. Community-Institutional Relations. Intersectoral Collaboration. Dental Care. Community Dentistry.

Approval CEPE/CEUA: 52383821.0.0000.5495

Acknowledgments: UNIFRAN and CNPq.



DENTISTRY FOR VULNERABLE POPULATIONS IN THE MUNICIPALITY OF FRANCA: PATHS OF UNIVERSITY EXTENSION

Ana Flávia de Pádua Castro¹, Maria Rita Santos Bronzati¹, Ana Elisa Rodrigues Alves Ribeiro¹

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

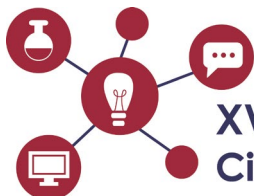
E-mail: anaflavcastro@gmail.com

Purpose: Inequalities in health can be justified by the impact of social determinants of health on the conditions and exclusion of groups in situations of vulnerability. The project proposes student contact with reality, enabling a differentiated training in this context and applying their knowledge in health. **Methods:** This study had a mixed approach, generating both quantitative and qualitative data, referring to health education and dental care for vulnerable populations. **Results:** Acting positively on political-social issues, oral health care and the training of dentists, this study took place in conjunction with the local social assistance apparatus, "POP" Center, the health service "Consultório na Rua" proposal of Brazilian Unic Health System to homeless people group, and a Basic Health Unit. A theoretical-practical construction on health issues was developed by four dental students about population of extreme vulnerability. Firstly, they constructed a revision article about vulnerabilities in dentistry in Brazil, then they could develop health education activities, about the health impacts of drug consumption, health harm reduction policy, specific oral hygiene actions and distribute hygienic supplies. Finally, they performed clinical care under supervision. As quantitative results, were performed three health education meetings with twenty participants, almost forty dental appointments, of which one hundred were non-outpatient procedures and twelve outpatient procedures. As qualitative result, the university education experience was assessed through student reports experience, to future professional and personal skills. **Conclusion:** This extension path was able to collaborate with the formation and with a greater inclusion of these users, often excluded from health services.

Keywords: dental care, social determinants of health, vulnerable populations, harm reduction, community dentistry.

Approval CEPE/CEUA: 52383821.0.0000.5495

Acknowledgments: UNIFRAN and CNPq.



ASSESSMENT OF DEATH CONSCIOUSNESS AND FINITUDE OF LIFE: IMPLICATION WITH HEALTH PROFESSIONALS IN ONCOLOGY PALLIATIVE CARE

Ana Júlia Gouvêa¹, Nadine Xavier da Silva¹, Lígia Peres Tozati¹

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

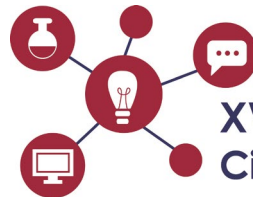
E-mail: anajuliagouvea@hotmail.com

Abstract: This present research proposed a quantitative study, with a descriptive lineation and cross section in Institute IANSA, host institution for patients receiving câncer treatment in the Cancer Hospital, in the Franca city since 2011. This institution has a multidisciplinary team, so the sample was composed of professionals of both sexes and aged between 30 and 50 years old, who deal daily with patients in palliative cancer care. The survey has been submitted for approval by the University of Franca Research Ethics Committee. The researchers compromised to respect the guidelines standards for research involving human subjects according to resolution 466/2012 of the National Health Council of the Ministry of Health of December 12, 2012. To participants, all volunteers, were guaranteed the rights to receive information and clarification of doubts during the procedures, even if this implies their willingness to continue participating. The security of not being identified, as well as the confidentiality of the information given, were also highlighted. Considering all ethical character, was applied, individually, the Coping with Death Scale, aiming at measuring and comprehension how these professionals understand death and the finiteness of life, such as the way that the direct contact with the other's death points to the comprehension of their own finitude and affects their perspectives of life. The analysis of the quantitative data was carried out in a descriptive way through the standardized scores by the scales. After data collection, the analysis and interpretation of the obtained results was carried out, in addition to data tabulation, in order to build a statistical analysis. From the results obtained, concludes the importance of studies on the subject, so that it does not generate doubts or difficulties in coping with death, mainly for health professionals in palliative care.

Keywords: Death Awareness, Multiprofessional Team, Palliative Care

Approval CEPE/CEUA: 05/2021.

Acknowledgments: FAPESP, CAPES and CNPq.



DENTISTRY FOR VULNERABLE POPULATIONS: CLINICAL CASE REPORT

Guilherme Cândido Barbosa¹, Ana Elisa Rodrigues Alves Ribeiro¹

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

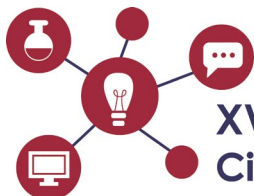
E-mail: guilhermecandido17@hotmail.com

Purpose: Social determinants of health impact on the conditions and exclusion of groups in situations of vulnerability. This work proposes to report one of the almost forty clinical cases attended in a project of scientific initiation of dentistry for populations that are in vulnerability, more specifically homeless people. **Methods:** Clinical case report in dentistry using quantitative and qualitative data. **Results:** Female patient initials E.P., 44 years old, white skin, user of the local social assistance apparatus "POP" Center, and subsidized housing program. This case report sensitized the dental students, due to her life story told in anamneses: a person that was trying to get out of homeless situation to try a better life, was pregnant and was planning her wedding. When doing health and dental anamnesis, it was reported that she was in treatment with anticonvulsants and due a fall had broken her teeth. She was not smiling because of her ashamed of their teeth, putting her hand in the mouth region when talking to people. Oral exam revealed four broken teeth, two teeth lost due caries and other two with caries. She attended four consultations to make the restorations and gingival scraping, three in social assistance apparatus "POP" Center, with non-ambulatory Atraumatic Restorative Treatment technique, and one in Heath Unit. **Conclusion:** By solving the patient's case, a very significant impact on health, well-being and living conditions was obtained, and for students was possible to experience social determinants on oral health.

Keywords: Dental Care, Social Determinants of Health, Vulnerable Populations, Homeless Persons, Community Dentistry.

Approval CEPE/CEUA: 52383821.0.0000.5495

Acknowledgments: UNIFRAN and CNPq.



TRAINING IN DENTISTRY FOR VULNERABLE POPULATIONS: THE STUDENTS' EXPERIENCE

Francisco Lindicar Porfírio Pereira¹, Ana Elisa Rodrigues Alves Ribeiro¹

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

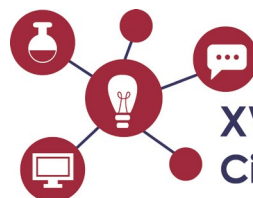
E-mail: lindicar@icloud.com

Purpose: It is known that, according to the latest oral epidemiological surveys in Brazil, there is a polarization of oral conditions according to the socioeconomic profile and disadvantages of access to main services, needing new strategies and professional skills. This work proposes to report the student view of their experience on dental training for vulnerable populations. **Methods:** Through an experience report about a scientific initiation project, four dentistry students could share how this unusual subject, could favor their training and contribute to current health panoramas. **Results:** To the students, the performance in this area was very rich, as each case has its own particularity. Homeless people don't have full access to oral hygiene supplies and health services, and when received health care, demonstrated respect and gratitude, showing that for them each procedure had more impact than usually. The project allowed to learn how to offer the best to the patient even in non-ambulatory conditions, promoting health, preventing diseases and reducing damages. Students comprehended that most patients are in this situation for reasons such as unemployment, drugs, loss of family or family support and these reasons lead them to give priority to other needs instead of oral health. **Conclusion:** For dental students, it was a very rewarding experience, because they were able to put into practice knowledge and skills that goes beyond the dental clinic, involving the humanization of health, understanding of contexts and expanded concepts of health.

Keywords: Homeless Persons, Social Determinants of Health, Vulnerable Populations, Clinical Skills, Community Dentistry.

Approval CEPE/CEUA: 52383821.0.0000.5495

Acknowledgments: UNIFRAN and CNPq.



BENEFITS OF TRAINING HEARING SKILLS IN THE REHABILITATION OF INDIVIDUALS WITH APHASIA: INTEGRATIVE REVIEW

Amanda Veronez Pereira¹, Mônica Pires de Castro¹

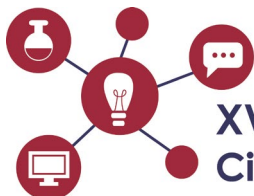
University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: amandaveronez@live.com

Purpose: Oral and written language allows the individual to develop communicative skills, in addition to establishing their social integration. One of the clinical conditions which can change language and communicative behavior is aphasia, defined as an acquired language disorder, caused by brain injury, which may be associated with changes in hearing skills. **Objective:** To characterize the benefit of training hearing skills in the speech therapy rehabilitation process of individuals with aphasia, as well as to identify and verify the efficiency of the most used hearing training protocols. **Methods:** An integrative review study, based on the survey of articles, by means of the search in Virtual Health Library (Bireme) and Brasil Scientific Electronic Library Online (SciELO) databases, with the following inclusion criteria: articles that describes the use of training of hearing skills in the rehabilitation process of individuals with aphasia, published in English and Portuguese, for the last ten years. **Results:** Initially, 41 articles were found about hearing training and/or aphasia, hearing processing and/or hearing skills. From the reading and analysis of the articles, the sample of the present study consisted of 20 articles that are in descriptive analysis regarding: publication date; place where the research was carried out; research objectives; results and conclusions. The descriptive analysis will be represented in tables, which compose the results. In the discussion, a comparative analysis will be carried out between the findings and conclusions of the articles in the sample, in order to identify the benefit of using hearing skills training in individuals with aphasia, as well as which training protocols have shown greater effectiveness.

Keywords: Aphasia, language, hearing perception, nervous system diseases.

Acknowledgments: CNPq



IMPACT OF COVID-19 ON THE COMMUNICATIVE INTERACTION OF INDIVIDUALS WITH HEARING LOSS

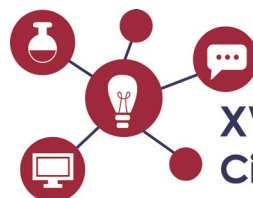
Loren Garcia Vicente Vieira¹, Mônica Pires de Castro¹

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

E-mail: lorenvieira1@hotmail.com

Purpose: With the outbreak of the Covid-19 pandemic and the large number of infected individuals, restrictive measures were adopted to contain the spread of the disease. The implementation of protective measures, such as social distancing and the use of masks, demonstrated benefits for the control of the disease, however, it brought harm to the communicative interaction of individuals with hearing loss, non-users of sign languages, who use support of orofacial reading to understand what is being said. **Objective:** The objective was to identify and describe the impact that protective measures for Covid-19 had on the communicative interaction of individuals with hearing loss. **Methods:** The present research is an integrative review study, whose development followed the following steps: elaboration of a research question; survey of primary studies; selection of relevant studies to the inclusion criteria; analysis and synthesis of sample data and presentation of results. By means of the search in Bireme database, articles in English, Spanish and Portuguese, published from 2020 to July 2021 and using the keywords: infections by coronavirus; hearing; communication barriers; Hearing Loss. **Results:** After the initial bibliographic survey and the selection of articles with the desired criteria, the sample consisted of 48 studies that address the proposed theme. In this period, the articles are undergoing descriptive analysis, in order to characterize the sample in terms of: publication date; place where the research was carried out; research objectives; results and conclusions. The descriptive and comparative analysis, which make up the results and discussion of the present study, aims to identify how the restrictive measures imposed by Covid-19 impacted the communicative interaction of individuals with hearing loss, and consequently, to know the effects caused in their social life.

Keywords: Coronavirus infections; Hearing; Communication barriers; Hearing Loss



QUALITY AND ADEQUACY ASSESSMENT OF ONCOTIC CYTOLOGY SAMPLE IN A TEACHING OUTPATIENT DEPARTMENT

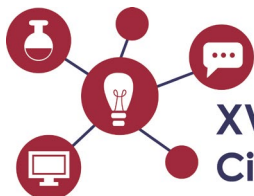
Renata Fukuda¹; Bianca Pereira Bachião¹; Sarah Daniela Rosa Brito¹; Eugenia Eduarda Ferrante¹; Livia Tomazelli¹; Loren Cardoso Worws¹; Elisabete Lilian Dair¹

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

E-mail: re_fukuda@hotmail.com

Purpose: To compare the quality of cervical oncotoc cytology samples collected by medical students in 2019, In a teaching outpatient department. **Methods:** A analytical and retrospective study was developed during 2021 and reports of oncotoc colpocytology collected in 2019 were evaluated, analyzing whether the sample was satisfactory, the amount of epithelium, the presence of cellular changes and/or pathological agents. Also, the most prevalent pathologies and the number of normal reports. The associations of the main variables throughout the semester were analyzed using the Qui-quadrado test. **Results:** From 1055 samples, 354 fit the target public. According to the results obtained, there was a significant difference between the two semesters, in relation to the samples quality of glandular epithelium, which was more representative in the first semester. The vaginal flora was also important in the results, especially for Lactobacilli and nonspecific flora. Thus, there was significance at p* values lower than 0.05 (5%). **Conclusion:** The results demonstrate that the teaching applied to the students training has been effective. The theoretical approach related to the collection of oncotoc cytology must be reiterated throughout the medical school year, as the student's confidence and technique must be based on scientific evidence related to gynecology.

Keywords: Vaginal smear; Prevention of cervical cancer; women's health



XV Encontro de Iniciação Científica da UNIFRAN

ASSESSMENT OF SPIRITUALITY, PSYCHOLOGICAL WELL-BEING/ MENTAL HEALTH AND QUALITY OF LIFE OF HEALTHCARE PROFESSIONALS ON THE FRONT LINES AGAINST COVID-19

Tauany Laura Lima¹, Kelly Yoshida de Melo¹, Julia Mendes Silveira Lemos¹, Noemi Marchini de Souza Couto¹, Daniela Aparecida de Brito Cervilha¹

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

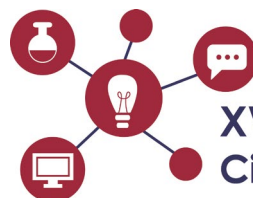
E-mail: tauanylauralima@gmail.com

Purpose: The general objective of the study was to analyze the quality of life (QOL), psychological wellbeing/mental health and spirituality of health professionals working on the front line against Covid-19. **Methods:** A questionnaire was applied via google forms to these health professionals, of both sexes, aged over 18 years, who treated patients with covid-19, admitted to hospitals in the city of Franca-SP. The questionnaire consisted of biosociodemographic information, the General Health Questionnaire (QSG-12) and QOL (WHOQOL for short), and the Spirituality Self-Assessment Scale. **Results:** 33 health professionals were evaluated, 4 men and 29 women, aged 32.45+7.35 years, 60.6% single. It was found in that GHQ-12, men showed better quality of mental health in relation to women. In the QOL questionnaire, it was observed that in all domains the participants presented values above 60%, which corresponds to a good QOL. In the Spirituality Scale, 90.9% of professionals reported that faith/belief helped them through difficult times; 57.5% saw the future with hope, and 54.5% reported that their life got worse. **Conclusion:** The Covid-19 pandemic has negatively impacted the psychological well-being and QoL of healthcare professionals who are on the front lines of Covid-19. As well, it also directly influenced the spirituality aspect, since these professionals felt hopeless for a better future and feeling that their life has changed for the worse.

Keywords: spirituality, quality of life, covid-19, health professional.

Approval CEPE/CEUA: 092745/2021.

Acknowledgments: FAPESP, CAPES and CNPq.



PHYSICOCHEMICAL AND MICROBIOLOGICAL ANALYSIS OF COLOSTRUM AND MILK OF CANINE FEMALES

Mario Rodrigo Romero¹, Valeska Rodrigues¹, Raimundo Nonato Rabelo¹

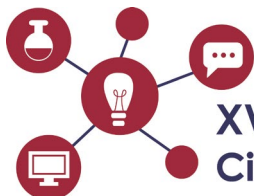
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

E-mail: mariorodrigo_r@yahoo.com.br

Purpose: Being a fluid composed of nutrients synthesized by the mammary glands from precursors derived from food and metabolism, milk is involved in a large process. Firstly, there is the formation of milky secretion (colostrum), which is highly energetic and rich in nutrients, formed through the transfer of immunoglobulins from the maternal circulation to these secretions, transmitting passive immunity to the neonate. At the end of colostrum lactation, from 3 to 10 days, it turns into milk, transmitting its entire nutritional load to the neonate, provided that the mother is healthy. **Methodology:** Colostrum and milk will be milked by lactation stage and litter size. The collections will be properly stored and refrigerated. In the laboratory of the University of Franca - UNIFRAN, the samples will follow the protocol of physical-chemical and microbiological analyzes possible and provided for in the legislation, among them, titratable acidity, pH, cryoscopic index, relative density, fat content, total protein, solids total, defatted solids, lactose and the presence or absence of microorganisms *Staphylococcus aureus*, *Yersinia enterocolitica*, *Escherichia coli* e *Campylobacter jejuni*. **Result:** 23 collections were carried out in the city of Franca and region, being colostrum (10 days), intermediate milk (50 days) and mature milk (100 days), according to the project schedule. The samples were stored in eppendorf containers, in an adequate volume and temperature, without any impact on their constitution. Due to administrative and financial problems, it was not yet possible to analyze the samples to verify the health status of lactating females and their respective neonates. **Conclusion:** It was possible to collect colostrum and milk from lactating canine females and in the future the analyzes will be performed as described in the methodology.

Keywords: colostrum, milk, female canine, quality.

Acknowledgments: UNIFRAN



ASSESSMENT OF PSYCHOLOGICAL WELL-BEING/MENTAL HEALTH AND QUALITY OF LIFE OF UNDERGRADUATE PHYSIOTHERAPY STUDENTS AGAINST THE COVID-19 PANDEMIC

Ana Laura Ferreira Lima¹, Amanda Rodrigues¹, Lilian Guimarães Silva¹, Daniela Aparecida de Brito Cervilha¹, Noemi Marchini de Souza Couto¹

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

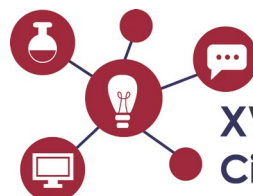
E-mail: analauraflima@gmail.com

Purpose: The aim of this study was to assess mental health (SM), quality of life (QoL), depression and anxiety in undergraduates who were in the new remote model of teaching and learning. **Methods:** A questionnaire was applied via google forms to undergraduate physiotherapy students, over 18 years old, of both sexes, enrolled at UNIFRAN, and who were in classes in the remote/synchronous environment due to the Covid -19 pandemic. The questionnaire was composed of biosociodemographic information, the General Health Questionnaire (QSG-12) and QOL (WHOQOL abbreviated), and the Anxiety and Depression Assessment Scale (HAD). **Results:** 77 students were evaluated, 58 female and 19 males, aged 22.63 ± 4.9 years, 87.07% single and all Brazilians. In the GHQ-12, in the negative item, referring to sleep loss, women had worse results compared to men. In the positive item, in which it says about being able to concentrate well on what they do, it was observed that they obtained better results. On the HAD scale, women had a higher rate of depression and anxiety. Overall, 51 participants had anxiety and 41 had depression. In the Whoqol scale, the physical domain has the best percentage (64.80%) and the psychological domain the worst (56.93%), in terms of self-assessment, it presented a good QOL (72.75%). **Conclusion:** Students had affected QOL and SM due to the pandemic situation they faced.

Keywords: quality of life, covid-19, depression, anxiety, distance education.

Approval CEPE/CEUA: 092738/2021.

Acknowledgments: FAPESP, CAPES and CNPq.



EVOLUTION TO NEUROLOGICAL SEQUELAE AND DEATH IN PATIENTS WITH ACUTE COMMUNITY BACTERIAL MENINGITIS ADMITTED IN A SUS HOSPITAL IN SÃO PAULO, FROM 2010 TO 2020.

Gabriela Crespo Pereira¹, Diego Roberti Capuzzo², Caio Smanio Guimarães¹, Maria Auxiliadora M. C. Pedigone¹

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

²University of Málaga, Málaga, Spain, 29016

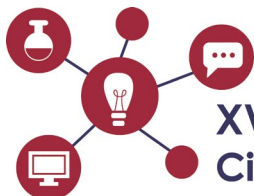
E-mail: gabicrepo5@yahoo.com.br

Purpose: The purpose of this study was to characterize and identify the risk factors for an unfavorable outcome in patients admitted at Santa Casa de Franca-SP, with Acute community bacterial Meningitis diagnose. **Methods:** It is about a retrospective, descriptive and analytical study, covering the period of January 2010 to December 2020. Descriptive analysis was performed and an association with death and sequelae was made using demographic, clinical, laboratorial and therapeutic data, besides from logistic-regression. Statistical significance for $p < 0,05$. **Results:** Ninety nine cases were analysed with a 50% superior predominance of cases in children and young adults, median=16 years, and 27,2% of the patients presented with previous underlying disease. Etiological diagnosis was realized in 69 patients: *Streptococcus pneumoniae* (28,28%), *Neisseria meningitidis* (17,17%) and *Haemophilus influenzae* (1,01%). Nineteen patients (19,19%) evolved into death and 6 (6,06%) developed admission or long-term sequelae, with median age of 38 and 21 years, respectively. Hyperproteinorrachia was associated with higher chances of developing neurological sequelae ($p=0,0461$), while death was associated independently to the presence of coma in clinical admission ($p < 0,0001$). **Conclusion:** The risk factors found are not modifiable, but preventable through early diagnosis and prophylaxis with vaccination, in addition to serving as a warning sign for unfavorable outcomes.

Keywords: bacterial Meningitis, Community bacterial Meningitis, sequelae, death.

Approval CEPE/CEUA: 003/14.

Acknowledgments: FAPESP, CAPES andCNPq.



THE EFFECTS OF WHOLE-BODY VIBRATION ON COGNITION: A SYSTEMATIC REVIEW

Ana Clara de Souza Freitas¹, Juliana Ferrari Gaspar¹, Giovanna Calixto Rossi Marques de Souza¹, José Hugo Inamonico¹, Cynthia Kallas Bachur¹, Ana Carolina Coelho-Oliveira², Danúbia da Cunha de Sá Caputo², Redha Tair³, Mario Bernardo Filho², Anelise Sonza⁴, José Alexandre Bachur

¹ Universidade de Franca;

² Universidade do Estado do Rio de Janeiro;

³ Université de Reims Champagne-Ardenne;

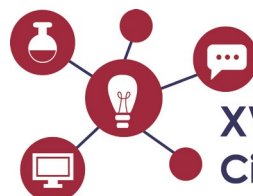
⁴ Universidade do Estado de Santa Catarina

E-mail: srcallegarif@gmail.com

Purpose: To systematically review the mechanisms by WBV improves the ability to learn, think, memorize and all other processes involving cognition. **Methods:** The present study collected data from three databases using the keywords "whole-body-vibration" and "cognition". Randomized clinical trials focusing on the association of WBV and cognition were considered. The study was registered in the database of systematic reviews protocols PROSPERO. All included studies used healthy patients, exposed to WBV. The included articles were obtained regarding the risk of bias according to the Cochrane Collaboration criteria, level of evidence and strength of recommendation following the GRADE and Oxford classification. **Results:** Of the 89 articles published to the eligibility criteria, four were submitted to data extraction. Cognitive parameters were improved in relation to attention, memory or learning in almost all articles evaluated in this systematic review. **Conclusion:** Intervention with WBV would positively effects on individuals' cognitive ability, although further randomized investigations must be conducted.

Keywords: exercise, learning, memory, attention, vibratory.

PROSPERO registration number: CRD42020203679



IMPACT OF EDENTULISM ON THE QUALITY OF LIFE OF ADULT AND ELDERLY PATIENTS - A SYSTEMATIC REVIEW

Lorena Cristina Moreira Silva¹, Luciana Assirati Casemiro¹

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

E-mail: lorena.cristina381@hotmail.com

Purpose: The objective of this study was to carry out a systematic review on the impact of edentulousness on the quality of life of the adult and elderly population. **Methods:** The PICO strategy was used, as presented below: P (Patient) – adults and elderly aged between 40 and 80 years; I (Intervention) – assessed oral health condition (edentulism); C (Comparison) – assessment of observed data using the OHIP-14 questionnaire; O (Outcome) – impact of edentulism on the quality of life of the target population. The question that guided the study was: Does edentulism affect the quality of life of adults and the elderly? The survey was carried out in the Pubmed database without setting limits as to the date of publication, using the descriptors “quality of life and edentulism”. Data from 12 selected articles were evaluated for methodological and evidence quality, and synthesized. **Results:** According to the literature, physical pain was the most impacted among the seven dimensions evaluated in the OHIP-14 questionnaire. The dimension least affected by total or partial edentulousness was the handicap. The dimensions of social disability and physical disability were similarly impacted, as were psychological discomfort and psychological disability. **Conclusion:** Partial or total edentulousness has a negative impact on people's quality of life in different dimensions. Thus, there is a need to develop and implement collective and individual health promotion measures, with the aim of minimizing tooth loss.

Keywords: quality of life, edentulism, elderly.

Acknowledgments: UNIFRAN.