

Abstracts of the Connect Medical Students' Congress (Connect MSC) 2021

01. COVID-19 DIAGNOSIS AND ITS IMPACT ON THROMBOTIC RISK IN A COHORT OF CONSECUTIVE PATIENTS HOSPITALIZED DUE TO ACUTE RESPIRATORY DISTRESS SYNDROME

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INTRODUCTION: Previous evidence suggest that the thromboembolic risk is greater in COVID-19 than in other types of acute respiratory distress syndrome (ARDS). However, such comparison has been mainly evaluated in historical cohorts. **METHODS:** We have selected consecutive patients admitted from March to June 2020 at the UNICAMP Clinical Hospital who met the ARDS clinical criteria established by the Brazilian Ministry of Health and the Berlin Definition. COVID-19 diagnosis was confirmed by reverse transcription polymerase chain reaction or enzyme-linked immunosorbent assay. Descriptive analysis, chi-square and t-tests were used to compare COVID-19 and non-COVID-19 patients. **RESULTS:** Of the 377 patients admitted during this period, 100 COVID-19 patients and 100 non-COVID-19 patients were included in this study. 67% and 55% were men (P=0.08), respectively. The median age was 57.36 years (interquartile range [IQR] 45.84 to 65.83) in the COVID-19 group and 53.87 years (IQR 43.94 to 68.91, P=0.3) in the non-COVID-19 group. Both groups had a similar baseline risk of thrombosis, assessed by: previous thromboembolic events; recognized "thrombophilia"; infarction, stroke, trauma and/or surgery within the past 4 weeks. Oxygen saturation at admission was lower in COVID-19 patients (92% IQR 90% to 97%) than in non-COVID-19 patients (95% IQR 89% to 96%, P=0.03); accordingly, the need for invasive oxygen support was greater and more lasting (44%; 16.00 days IQR 8.50 to 22.50) in the COVID-19 group than in the non-COVID-19 group (33%, P = 0.05; 12.50 days IQR 4.75 to 21.25, P=0.002). Coagulation markers such as activated thromboplastin time, prothrombin time, platelet count and D-dimer levels (1,700.00ng/mL IQR 752.00 to 3,417.00 non-COVID-19; 1,426.50ng/mL IQR 744.25 to 3,461.00 COVID-19, P=0.17) were similar between groups. Although thromboprophylaxis was more frequently administered to COVID-19 (76%) than non-COVID-19 patients (42%, P<0.0001), thrombotic events were more recurrent in the former group: 28 events were reported in 22 COVID-19 patients while 14 events were reported in 12 non-COVID-19 patients (P=0.06). The most common events in the COVID-19 group were pulmonary embolism (46.43%) and thrombosis in unusual sites (25%), which represented 50% (P=0.07) and 7.14% (P=0.03) of non-COVID-19 thrombotic events, respectively. **DISCUSSION:** The obtained results suggest that the frequency of thromboembolic events is greater among COVID-19 patients than among those with other ARDS, even though both groups showed similar thrombotic risk at baseline and COVID-19 patients received anticoagulants more frequently. Classic coagulation markers were not able to differentiate the thromboembolic risk between the two study populations. This indicates the need to improve clinical screening and treatment for thrombosis in COVID-19 in order to prevent its occurrence and reduce disease mortality. **CONCLUSION:** In this study, we provide clinical evidence that the thromboembolic risk is greater in COVID-19 than in other ARDS. D-dimer level analysis was not able to differentiate such risk between the study groups.

Key words: COVID-19, Thrombosis, Infection, Blood Coagulation, Acute Respiratory Distress Syndrome.

02. HEALTH PROFILE OF GESTATIONAL AND CONGENITAL SYPHILIS IN BRAZIL BETWEEN THE YEARS 2015 TO 2019

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INTRODUCTION: When the diagnosis of syphilis is made during pregnancy, prenatal care is extremely important in order to prevent the congenital form of the disease from occurring in the child, since the agent can infect the fetus through the placenta. **OBJECTIVE:** To show the number of cases of gestational and congenital syphilis in Brazil between the years 2015 to 2019. **METHOD:** It is a retrospective and cross-sectional study. The population referring to the research is composed of 313,043 people, all of whom were notified either by syphilis during pregnancy or by congenital syphilis up to 1 year of age. The data obtained were collected through the DATASUS website, stored and analyzed by Excel tools. An epidemiological profile was outlined evaluating the age range of pregnant women and children affected, and a comparative analysis was carried out between the number of cases and the year of diagnosis. **RESULTS:** According to the analyzed data, notifications of syphilis in pregnant women totaled 209,147 in the period from 2015 to 2019. The year 2018 was the one with the most cases in all trimesters of pregnancy, when compared to the other years, totaling 62,583 notifications. While in 2017 and 2019 there were 25,009 and 11,824 cases, respectively. Regarding the age group, the most affected patients are between 20 and 29 years old, with 53.08% of cases, followed by the age group between 15 and 19 years old, 13.27%. Regarding congenital syphilis, about 104,190 cases were analyzed between the years 2015 to 2019. The year 2018 was the year with the highest involvement of this disease, totaling 26,307 cases. When the affected age groups are analyzed, it is observed that children under 7 days have a higher incidence of the disease, totaling 100,573 cases, that is, 96.5%. As for the classification of congenital syphilis, among the analyzed period, the recent one has a total of 97,214; while the late one has only 191. There is a considerable amount of abortion and stillbirth due to syphilis, with the values of 3,600 and 3,187 being found, respectively. **DISCUSSION:** Although the treatment of syphilis is easy to manage, a significant increase in its incidence has been demonstrated. The result found in relation to the age group affected in pregnant women is endorsed by Cardoso et al. (2018), in which he found in his research carried out in Ceará that the age group most affected is 20 to 29 years old because it is the peak of reproductive life, followed by the age group 15-19 years old, due to the fact that adolescents start your sexual activity early. Therefore, adequate prenatal care is a tool for reducing cases. **CONCLUSION:** Thus, it can be concluded that prenatal care is the main form of assistance for syphilis in pregnant women. It is necessary to carry out new strategies for the effectiveness of the prenatal care provided and the consequent reduction in the incidence of congenital syphilis.

Key words: Syphilis, Health Profile, Prenatal Care, Primary Health Care, Disease Prevention

03. **ANALYSIS OF THE INCIDENCE OF LEPTOSPIROSIS CASES AND THE MADEIRA RIVER FLOOD**

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INTRODUCTION: The historical flooding of the Madeira River in 2014 showed problems involving social determinants of health, due to the incidence of illnesses spread by contact with wetlands, especially peri-urban areas. As an example, there is Leptospirosis, an acute febrile bacterial disease, with a means of infection from contact with reservoir animals' urine, which has a benign course or progresses to severe forms. May be due to the unregulated urbanization and incipient basic sanitation of the State added to a high rainfall index. **METHODOLOGY:** Quantitative study of notification of Leptospirosis cases in the state of Rondônia, using secondary data from DATASUS, from the years 2012 to 2016. The variables studied were: age range, sex, color / race, education, analysis of the means of infection: character of the infection site related to the area and to the environment, cases per year. **RESULTS:** In the period from 2012 to 2016, 471 cases of leptospirosis were reported in Rondônia, of which the largest number of cases was registered in 2014 (39.70%). The months of March, April and May from 2014 had the highest records of that year (50.80% of the cases), with a percentage increase of 280% compared to the same period in 2013. As for the infection site, 47.34% of the cases occurred in the urban area and 50.95% in the home environment. Leptospirosis cases were more prevalent in men (64.97%), young adults, aged 20 to 39 years (46.71%), brown (55.41%), with low education (41.82% were illiterate or with incomplete elementary education). **DISCUSSION:** Leptospirosis is contracted through contact with the urine of infected animals, mainly synanthropic rodents, when the microorganism penetrates through mucous membranes, injured skin or intact skin immersed in contaminated water for long periods. Thus, more infections consequently occur in rainy periods, in urban environments with poor garbage collection and basic sanitation. Such situations were observed in the present study, highlighting the year 2014 when the flood of the Madeira River occurred, reaching its highest level in the month of March, the month of May was the second rainiest of the year, and in that time span the highest number of cases was recorded. According to data from the 2008 IBGE, only 5 of the 52 municipalities in the state had a sewage network, in 2017 there were 10 municipalities, 4 which justifies the high rates found. Furthermore, the profile of those infected coincides with the group of greatest social vulnerability, who are unaware of the disease means of contamination, live in unhealthy places and have low access to health services. **FINAL CONSIDERATIONS:** In view of this situation, it is important the execution, in fact, of basic sanitation and health education measures for the community, since the responsibility for raising cases of Leptospirosis in 2014 was not only due to the influence of climate factors, but by the historical neglect of the population's basic rights.

Key words: Leptospirosis; Weil disease; Epidemiology; Floods, Basic Sanitation

04. **THE COEXISTENCE OF TWO MAJOR GLOBAL DISASTERS: THE RELATIONSHIP BETWEEN COVID-19 AND THE INCREASE IN DOMESTIC VIOLENCE**

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INTRODUCTION: Considered a global phenomenon - and a disaster -, violence against women has deep roots in the social inequality existent. The Brazilian popular maxim "em briga de marido e mulher, não se mete a colher" is an example of how we naturalize such violence, in which the victim goes through a process of dehumanization and is now seen as a possession of men in the eyes of society. The result of such a patriarchal line of thinking can be seen in the statistics: one out of three women of reproductive age was once physically or sexually violated by their partner. With the COVID-19 pandemic, an already worrisome reality became worse: with the obligatory social distancing, various countries have registered an increase in the number of occurrences of domestic violence - such as China, Italy, and France. In Brazil, there has been an increase in denunciations, estimated at

50%, when compared to the numbers registered before social isolation. Such facts defy the idea that home is a safe ambiance for everyone, because, for numerous women, a home is a place of fear and abuse - which allows the domestic violence scenario to perpetuate through the centuries. In the present days, women have now to face two great challenges: survive the COVID-19 pandemic and the daily conviviality with their partner. **OBJECTIVE:** Expose and discuss the aggravation of domestic violence suffered by women in the context of the coronavirus pandemic. **REVIEW:** As advocated by the World Health Organization (WHO), isolation and social detachment are fundamental in combating the pandemic, to contain the rising rates of contagion as well as not to overload the health system. However, organizations that protect women and fight domestic violence are seeing increasing numbers of aggression, due to the forced cohabitation. It is known that some social indicators, such as poverty, unemployment and decreasing prospect of improving the financial situation are aspects aggravated and strengthened throughout the pandemic. These factors interfere with relationships within members of the same family and may become a starting point for situations of domestic violence. Furthermore, the rise in the aggressor's stress levels, which may be triggered by the fear of getting infected with the virus and the reduction of social conviviality, is considered as an aggravating factor for domestic violence. In addition, since the victim's social contact with other family members and friends is also reduced, their chances of developing or strengthening a support network and seeking help out of the situation are diminished. In other words, the COVID-19 pandemic can be considered an obstacle as to the protection of the victim's rights, as well a factor which increases its vulnerability. **CONCLUSION:** Concomitantly to the aggravation of violence, the victim's access to supportive services is reducing. Therefore, we conclude that the current context of social distancing imposed by the coronavirus pandemic and, consequently, the seclusion of vulnerable groups in their home ambiance is propitious to the increasing cases of domestic violence.

Key words: Violence; Domestic violence; Pandemics; Coronavirus; COVID-19.

05. **NUCLEAR ACCIDENTS: ANALYSIS OF THE MAIN STOCHASTIC EFFECTS**

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INTRODUCTION: Throughout history, several nuclear accidents have occurred, resulting in several deaths and sequelae among the world population. Among the main ones, it is worth mentioning the episode that occurred in Goiânia, Brazil, in 1987, resulting from the improper disposal of a radiotherapy device. This resulted in the handling of Cesium-137, a radioactive isotope, by the lay population. This episode resulted in 4 short term deaths and more than 151 direct contaminations. Other major disasters were the explosion of a nuclear reactor in the city of Chernobyl in 1986 and the leak of radioactive material in the city of Fukushima in 2011. Exposure to ionizing radiation (x-rays and gamma rays) can generate deterministic effects, that is, acute manifestations after the application of a dose above a threshold, generating predetermined repercussions, or stochastic effects, that is, random late repercussions, which do not depend on the radiation dose, but are proportional to it, notably cancer and mutations. **OBJECTIVE:** To review the stochastic effects caused by human exposure to ionizing radiation, highlighting the long-term physiological consequences. **METHOD:** Systematic review based on articles from Scielo and PubMed databases (titles until 2019) in English and Portuguese, using the descriptors: stochastic effects, non-stochastic effects, ionizing radiation, radiation protection, cesium-137, Fukushima, Chernobyl. **REVIEW:** It is characteristic of nuclear accidents that individuals are exposed to high doses of radiation in a short period of time, which can trigger the Acute Radiation Syndrome. The damage of this syndrome is related to deterministic effects, that is, the radiation dose reaches thresholds beyond which lesions occur in certain organs and systems, the gastrointestinal, hematopoietic, cutaneous and neurovascular being the most affected. However, those individuals who survive are affected for life, due to the stochastic effects of ionizing radiation. The large increase in the incidence of papillary thyroid carcinoma in people affected in the Chernobyl and Fukushima accidents has been evidenced, reflecting the possibility of radiation-induced carcinogenic mutations in DNA. The main oncogenes altered in the individuals affected by this pathology were RET, BRAF, and RAS. Furthermore, the incidence of childhood leukemia increased in the cities affected by Chernobyl radiation, as did the rates of breast cancer, which started to appear earlier than in

the years before the accident. As far as the accident in Goiânia is concerned, there are no relevant studies proving the increase in the incidence of diseases in the affected people. Conclusion: Lifelong medical follow-up is recommended for victims of nuclear accidents, since stochastic radiation effects may appear years after exposure, and are common in such accidents. Finally, further studies should be carried out in the population affected by Cesium-137, in order to verify the incidence of diseases in victims in relation to the non-exposed population.

Key words: ionizing radiation; stochastic effects; nuclear accident; carcinoma; deterministic effects.

06. **COVID-19 AND NEUROLOGICAL COMPLICATIONS: A REVIEW OF THE PREVALENCE OF THE MAIN SYMPTOMS AND THE PERSPECTIVE OF PATIENTS' PROGNOSIS**

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INTRODUCTION: The Covid-19 pandemic has been reported since late 2019. In March 2020, the World Health Organization declared a public health emergency of international concern due to Sars-Cov2 aggressiveness and rapid spread. Several studies have been published on the disease. Despite all the information revealed, there are significant knowledge gaps in the pathogenesis of COVID-19. Neurological complications were well explored after a few months of the virus worldwide spread and the research data indicate that headache, dizziness, myalgia, smell and taste disorders, and stroke are common clinical manifestations in Sars-Cov-2 infections. **OBJECTIVE:** Analyze the prevalence of neurological complications in patients with COVID-19 and the possible association between these manifestations and a poor prognosis. **METHOD:** The Pubmed database was consulted, filtering searches from January 2020 to April 2021 for randomized and non-randomized clinical trials, cohort studies, cross-sectional studies, and case-control studies carried out in humans and published in English. The search was directed by consulting the MeSH, using the descriptors: "COVID-19" and "Anosmia" or "Ageusia" or "Headache" or "Dizziness" or "Myalgia" or "Stroke". 228 articles were considered relevant to the context, of which 52 were selected for analysis considering the inclusion criteria: (1) correlation between Covid-19 and disorders of smell, taste, headache, dizziness, myalgia, and stroke (2) neurological manifestations and Covid-19; and exclusion: (1) Covid-19 and vaccine; (2) sample with patients who exhibited only a specific symptom or specific condition. **REVIEW:** The most common symptom, headache, had an average prevalence of 32,67%, with a standard deviation (SD) of 23,34%, and values in the range of 4,69% and 78,8%. Regarding olfactory disorders, it was found an average prevalence of 27,33% (SD = 18,04%), with maximum and minimum values of 59,26% and 0,5%, respectively. As for taste, the average prevalence was 28,03% (SD = 20,28%), with maximum and minimum values of 60,99% and 2,82%, respectively. Myalgia showed the average prevalence of 19,12% (SD = 20,32%), with maximum and minimum values of 70,27% and 2,80%, respectively. Dizziness presented the average prevalence of 8,39% (SD = 10,47%), with maximum and minimum values of 26,21% and 1,41%, respectively. Finally, relating to strokes, it was found an average prevalence of 2,2% (SD = 76,58%), with maximum and minimum values of 27% and 0,1%. The heterogeneity of the results can be explained by the peculiarities of the methodology of each study and the differences in the profile of the studied groups. Considering the analyzed studies, 14 connected the presence of specific neurological symptoms to the worsen prognosis in COVID-19, especially in cases of stroke. **CONCLUSION:** Neurologic manifestations are frequent in COVID-19 patients. Identifying these manifestations, especially the most prevalent ones, can assist in early diagnosis and patient isolation. In addition, in some cases, they seem to be associated with a worse prognosis, but further research is needed to certify this association.

Key words: COVID-19; Neurologic Manifestations; Headache; Anosmia; Ageusia.

07. **VITAMIN D DEFICIENCY AS A RISK FACTOR FOR SEVERE CASES OF COVID-19: A NARRATIVE REVIEW**

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INTRODUCTION: The COVID-19 pandemic is a global public health threat caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). SARS-CoV-2 can infiltrate the respiratory tract, triggering immune responses and leading to tissue destruction. A dysregulated response, such as a cytokine storm, may increase the severity as well as the extension of lung inflammation and multisystemic effects. Since vitamin D modulates both innate and adaptive immunity, much research has been developed on its use for COVID-19 treatment and prophylaxis. Furthermore, due to the social isolation context imposed by the pandemic, people have been less exposed to sunlight, and thus more prone to have lower vitamin D levels. **OBJECTIVE:** To investigate the relation between vitamin D deficiency and severe cases of COVID-19 in a global pandemic and social isolation setting. **METHOD:** This review was conducted using the search terms "coronavirus", "vitamin D deficiency", "prophylaxis" and "treatment" in the PubMed database. The search was done in April of 2021, including articles that appeared in 2020 and 2021 in the English language. **REVIEW:** This search yielded 44 results, but only 37 were contemplated. Lower vitamin D levels have been associated with a higher Case Fatality Rate (CFR) from COVID-19 and an increase in Acute Respiratory Distress Syndrome (ARDS). This correlation is probably due to the biological effects of vitamin D and the pathophysiology of the SARS-CoV-2 infection. The virus uses the angiotensin-converting enzyme 2 (ACE2) receptors to invade host cells, thus reducing the expression of this enzyme. This downregulation disrupts the ACE/ACE2 balance leading to a state of heightened angiotensin II activity. The exacerbated production of angiotensin II stimulates the cytokine storm and compromises the host's immune system, facilitating virus propagation and increasing the likelihood of acute lung injury. As shown in some pre-clinical studies, calcitriol (the active form of vitamin D) has a pronounced endocrine impact intensifying the expression of ACE2. Besides this role, calcitriol also has direct effects on the immune system, due to a broad expression of vitamin D receptor (VDR) on most immune cells, such as macrophages, dendritic cells, and lymphocytes. For this reason, vitamin D can regulate the innate and adaptive immune responses by suppressing the release of inflammatory cytokines and chemokines, which may help reduce the cytokine storm present in some COVID-19 patients. **CONCLUSION:** In a social isolation setting, obtaining vitamin D through endogenous synthesis may be more difficult due to lack of ultraviolet B (UVB)-radiation exposure. Therefore, exogenous sources, such as supplementation, may be an alternative to resolve potential vitamin D deficiencies. Even though there is strong evidence linking vitamin D to COVID-19, no consensus has been reached regarding the potential of vitamin D as prophylaxis or treatment of the SARS-CoV-2 infection. Most of the studies depicted here were observational and retrospective; none of them were randomized controlled trials. Thereby, further studies on the role of vitamin D in the development of COVID-19 represent opportunities to discover a new form of treatment for the SARS-CoV-2 infection.

Key words: COVID-19, vitamin D, immune system, cytokine storm, ACE2 enzyme.

08. **THE IMPORTANCE OF AN EFFICIENT PRE-HOSPITAL CARE NETWORK FOR MAJOR BURNS**

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INTRODUCTION: In December 1961, one of the former workers of the Gran Circo Norte Americano, installed in Niterói, Rio de Janeiro, used gasoline to set fire to the circus canvas made of Nylon and coated with paraffin, starting one of the biggest fires in history of Brazil, totaling 503 fatalities and more than a thousand injured, more than double of the 189 victims of the great fire at the Joelma Building in 1974 in São Paulo, and the 242 victims of the Boate Kiss in 2013 in Rio Grande do Sul. The screening carried out by the

doctor Ivo Pitanguy in the fire of the Gran Circo Norte Americano can be considered a milestone in the history of the management of multiple burn victims, standing out for the speed of clinical reasoning and evaluation of the victims during on-site care, despite the inexistence of a formal response plan by the government agencies of the time. After the occurrence of these great fires in Brazil, greater attention was paid to this danger. Burns are one of the most frequent health problems in urgent and emergency services, and the correct initial care is decisive in reducing the morbidity and mortality of these patients, as well as possible late complications. Therefore, an efficient pre-hospital care network (PHCN) for major burns is extremely important. **OBJECTIVE:** Understand the dynamics of PHCN in burn victims, in order to expedite the emergency care of victims of major disasters such as that of Gran Circo Norte Americano and Boate Kiss. **METHOD:** Integrative literature review of complete articles, with descriptive and qualitative analysis, available in SciELO databases, using the keywords "burns", "pre-hospital care", "first aid", in addition to Google Scholar data sources, considering articles published in the period from 2017 to 2021. **DISCUSSION:** The PHCN approach consists of first removing the victim from the flames and, then, proceeding to the primary assessment of the airways, with endotracheal intubation in patients with decreased level of consciousness or signs of smoke inhalation, guaranteeing a good ventilatory parameter; Calculate the burned body surface (BBS) and hydration, using the Rule of Nine or the Lund-Browder Diagram by removing all the patient's clothes and irrigating the burned area with physiological solution at room temperature, the ice being discouraged; After wrapping the patient in clean, dry sheets to avoid hypothermia, therapeutic planning and wound care are carried out, in addition to neurological assessment. The primary assessment aims to analyze the injuries suffered and treat them according to the order of priority, obeying the ABCDE of the trauma and the priorities with the care of possible complications in each item. **CONCLUSION:** It is evident, through the results of the studies analyzed, that the PHCN is essential for a good prognosis of burn victim patients, requiring a good clinical assessment, skills and specific knowledge about first aid for a good prognosis, being of great national interest. the creation of local response plans, which aim to standardize and optimize the response to civil disasters.

Key words: Burns; Fires; Injuries; Emergencies; First aid.

09. NATURAL DISASTERS AND EPIDEMIOLOGICAL OUTBREAKS: UNDERSTANDING THE CHOLERA EPIDEMIC IN POST-EARTHQUAKE HAITI

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INTRODUCTION: In 2010, a high magnitude earthquake struck Haiti, causing over 250,000 deaths, 300,000 injuries and leaving more than 1.3 million people without shelter and, the country more fragile than ever. After nine months, numerous cases of acute watery diarrhea had been reported and, in October of the same year, the Ministry of Public Health and Population (MSP) declared a cholera epidemic in the region. In this sense, it is important to evaluate how a given natural catastrophe, that destroyed a national infrastructure that was previously vulnerable, created a scenario ripe for the disease's proliferation. It is, therefore, urgent to find ways to prevent future cholera epidemics in disaster areas. **OBJECTIVES:** To understand the correlation between the earthquake that struck Haiti in 2010 and the consequent cholera epidemic that spread throughout the country in the same year. **METHODS:** This is a qualitative literature review with a descriptive feature, which seeks to explore the theme. In this paper, we highlighted some major findings from articles indexed in the databases: Pubmed and Scielo, by applying the descriptors: "Haiti", "earthquake", "cholera" and "epidemic". **REVIEW:** Cholera is a serious intestinal infection caused by *Vibrio* bacteria strains, which is transmitted via oral-fecal dissemination, through contaminated water and food. The symptoms can include intense diarrhea, vomiting and deep shock and, when not treated, is deadly in 25% of the cases. This disease has been frequently associated with outbreaks after natural disasters. The 2010 Haitian earthquake is a prime example. Approximately 9 months after the earthquake, Haiti acknowledged a cholera epidemic in the country. Epidemiologists came up with numerous hypotheses to explain the emergence of the pathogen and its severity, in a territory where no serious cases of this infection had been registered in over a century. Genetic sequencing of the bacteria revealed the *Vibrio cholerae* O1 strain of exogenous origin. As a result, studies

showed that the microorganism had been imported to the country by the Nepalese army that came to the region to provide aid to the victims of the earthquake. The initial dissemination of this strain was caused, above all, due to sharing of non-treated water between the military camps and the natives, besides the mass displacement from the capital to the rural areas due to the earthquake. The overcrowded accommodations, built to receive unsheltered Haitians, was also an aggravating factor. These factors, combined with the devastation of a previously precarious national infrastructure, including problems with basic sanitation and poor drinking water supply further intensified the unfavorable conditions leading to a serious cholera epidemic, which, in turn further contributed to an already critical situation in post-earthquake Haiti. **FINAL CONSIDERATIONS:** In conclusion, there is a consensus, from the literature studied, about the importance of water and sewage management to prevent the proliferation of cholera in natural disasters. Furthermore, to avoid new contaminations or the potential for contamination, it is important to control against the importation of possible strains.

Key words: epidemic, cholera, Haiti, earthquake, natural disaster

10. OUTBREAK OF DIETHYLENE GLYCOL POISONING IN BELO HORIZONTE, MINAS GERAIS

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INTRODUCTION: Diethylene glycol (DEG) is a chemical compound used in several processes, such as automotive antifreeze, in paint formulations and in the food refrigeration process. In 2019, in the city of Belo Horizonte - MG, due to an error in the brewing process, this compound was added to the composition of the drink, causing serious complications in those who consumed the contaminated batch. After ingestion, gastrointestinal, neurological and renal manifestations were observed, and many evolved with severity and death, mainly due to low diagnostic suspicion leading to late treatment. **OBJECTIVES:** To identify the consequences of ingesting diethylene glycol and the need for a quick diagnosis in order to reduce the damage caused to the body. **Methods:** The literature review was performed by an electronic search in the Pubmed and Scielo database. The terms used were ethylene glycol, diethylene glycol, intoxication, neurotoxicity, nephrotoxicity and gastrotoxicity. Initially, 28 articles were selected, of which only 4 were used, which included criteria of intoxication in humans and the toxicokinetics of the substance. **REVIEW:** DEG intoxication leads to specific clinical syndromes, the severity of which depends on the amount ingested and the time of exposure to the compound. After ingested, the compound is widely distributed, reaching the kidneys, brain, spleen, liver, muscles and fat quickly. Metabolism occurs mainly via the liver, by oxidative method, and the main route of excretion are the kidneys. Thus, clinical manifestations can be observed, divided into well-established phases: (1) gastrointestinal symptoms, (2) acute kidney and liver damage, (3) neurological symptoms. The first phase manifests within the first 48 hours and consists of gastrointestinal symptoms, an altered mental state and the development of metabolic acidosis. In the second phase, liver and kidney lesions appear, which, if not reversed, can lead to death. Individuals who survive the initial stages may progress to the third stage, which consists of neurological damage, mainly to the peripheral nervous system, which can lead the patient to show areflexia, motor deficit, loss of visual and auditory functions. The treatment of DEG intoxication consists of the use of ethanol, which is inexpensive and is more available in clinical centers and can be administered intravenously or orally. In addition to this, fomepizol can be administered, however, it has a high cost and is not easily found in our country. In some cases hemodialysis therapy is performed, but its benefit is still controversial. **CONCLUSION:** Poisoning by diethylene glycol was responsible for outbreaks of poisoning associated with beer consumption. This led to serious consequences, including death and disabling conditions. Knowledge of the intoxication syndrome and its suspicion in emergency care are key factors for an adequate early therapy and a better clinical outcome for the victims.

Key words: diethylene glycol, intoxication, fomepizole, neurotoxicity, poisoning

11. **THE SKIN AFTER THE RADIOLOGICAL ACCIDENT: A REVIEW OF THE CHARACTERISTICS AND TREATMENT**

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INTRODUCTION: Ionizing radiation was a topic that gained prominence during the last century, for being a great technological advance, but also for its high destructive power, with known accidents occurring in Goiânia, Chernobyl and the cases of Japan. The study evaluated the current evidence of local dermatological consequences of such accidents. **OBJECTIVE:** To analyze the clinical characteristics, propaedeutics, diagnosis and therapy adopted on the skin of patients who suffered major radiological accidents. **METHODS:** A search was conducted in electronic databases, such as LILACS, PubMed, Scielo and MEDLINE. The eligible studies were from 1994 to 2019, in English, Spanish or Portuguese. Among them were case reports and quantitative studies, discovered by the terms "radioactive", "accidents" and "skin injury", with a Boolean operator "AND". We used the standard method of systematic review for study selection, data abstraction and risk of bias. **BIBLIOGRAPHIC REVIEW:** Studies found demonstrated the phases of a dermatological radioactive lesion, its clinical presentations and characteristics, such as slow evolution, different resistance of the distinct layers of the skin, atrophy of vessels and tendency to necrosis and ulceration. Certain studies have shown how these behave in the long term and other damaging effects, cancerous or not, that radiation could cause to the skin. We also found different types of treatment, some less conservative, such as total excision of the lesion, others more like palliative care, and some biotechnological innovations, such as the use of mesenchymal stem cells to help in the healing of the injury. **FINAL CONSIDERATIONS:** We conclude that the diagnostic and therapeutic approach with which are treated the victims of radioactive accidents with focal lesions on the skin, has undergone an evolution and improvement process over the years, but still requires more controlled studies to determine the most appropriate techniques. In case a new major radiological disaster were to happen again.

Key words: skin injury, radioactive, accident, skin assessment, therapeutics

12. **MENTAL HEALTH IN MAJOR DISASTERS: IS IT POSSIBLE TO PREDICT OUTCOMES?**

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INTRODUCTION: Traumatic event associated with their psychological repercussions present themselves as a feeling of extreme helplessness, as well as a rupture of expectations and beliefs. In this sense, the images created of oneself and the environment do not adjust adequately to this new reality. Therefore, the relationship between mental health disorders and the exposure to disasters is mediated by emotions such as anger, associated to the main life stressors capable of reducing quality of life in post-trauma, which justifies the higher incidence of post-traumatic stress disorder (PTSD) in survivors of major disasters. **OBJECTIVE:** This review aims to analyze how social, individual, and environmental factors impact in the outcome of massive disasters. **BIBLIOGRAPHIC REVIEW:** One's social environment is a decisive factor in the development and the protection from psychiatric disorders. Disasters impact on the social environment, which leads to increasing levels of suffering and physical and emotional wear and tear on individuals. On the other hand, societies with stronger peer links and greater engagement in social activities create more stable support networks. Results include an inversely proportional relationship between these factors and the development of psychological disorders. Resilience appears as an individual protective factor as analyzed in a study conducted with Hurricane Katrina survivors, individuals with lower scores on questionnaires that assessed this parameter showed higher rates of post-traumatic stress disorder and suicidal ideation after the event, in addition

to presenting faster psychic deterioration. Low income is a prominent risk factor: a study on the UK winter floods found that victims without home insurance at the time of the event were more inclined to experience depression, anxiety, and PTSD two years after the original flood than those who had insurance or financial conditions to outcome the material damages. Another risk factor is conditioned by the environment, as disasters are inevitable stressors, but the eventual locations of these events inevitably deal with the simultaneous exposure of the entire population that lives there, taking the oil spill in the Gulf in 2010 in the USA as an example. In this perspective, studies carried out with the affected population showed that these individuals had at least one physical symptom after direct contact with oil, such as respiratory problems, muscle pain, nausea, and vomiting. In concern to mental health, there was a considerable increase in rates of anxiety, depression, and PTSD as well as high numbers of domestic violence, abuse of alcohol and other substances, chronic stress, and a significant decline in social relationships. **FINAL CONSIDERATIONS:** Major disasters can destabilize the mental health of the victims by means of changes in individual, social and environmental circumstances involved. Therefore, it is possible to establish risk and protective factors for mental health damage following great disasters. However, it is needed to point out the importance of more research regarding this subject in order to establish proper public policies for the contexts in question.

Key words: mental health; risk factors; natural disasters; outcomes; review

13. **POSTTRAUMATIC STRESS DISORDER IN NATURAL DISASTER SURVIVORS: REVIEW**

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INTRODUCTION: Climatic instabilities have generated an increase in the incidence and severity of natural disasters. Health problems caused by these scenarios can lead to residential vulnerability, which adversely affects mental health and well-being, leading to numerous mental illnesses. In the face of a considerable incidence of post-traumatic stress disorder (PTSD) in survivors of natural disasters, it is important to systematically highlight its preponderance among the various groups in society, in order to enable more assertive interventions to support victims. **OBJECTIVE:** To compile the available knowledge about the occurrence of post-traumatic stress disorder (PTSD), in order to understand the risk factors and assist assertive interventions and improve the prognosis. **METHOD:** The database of the BVS portal was used to perform a literature review, with a search conducted with the following keywords: "natural disasters", "psychosocial", with the publication interval in the last five years (2017 to 2021), applying the filters: disasters, post-traumatic stress disorders, survivors, earthquakes, psychological stress, natural disasters, depression, mental health, floods, tsunamis, anxiety, mental disorders, anxiety disorders, disaster planning. 177 articles were excluded by title, 91 by abstract and, finally, 29 selected articles. **BIBLIOGRAPHIC REVIEW:** PTSD can occur at any age from the first year of life, and symptoms usually manifest in the first 3 months after the traumatic event, being characterized by involuntarily reviving spontaneous and distressing memories, as well as negative cognitions and mood, as guilt, isolation and mistrust, or hypervigilating, aggressive and self-destructive behavior, accompanied by sleep disorders, anxiety and depression. More than a third of natural disaster survivors are susceptible to the development of PTSD, and this disorder is a predictor of the increased incidence of suicidal ideation. On the other hand, it was seen that greater social support and resilience act as protective factors for their development, as they preserve the individual's well-being during stressful conditions. In addition, there are risk factors for PTSD: female gender, extremes of age, low family income, low education, poor health perception, traumatic experiences, clear trauma memory and previous mental health disorders, among them depression can increase the risk by 3.5x. **FINAL CONSIDERATIONS:** It was found that factors related to the individual are more useful in diagnostic screening than the impact of the disaster itself. It is important to emphasize that immediate interventions in people with high levels of peri-traumatic suffering can be effective for the reduction and better treatment of mental disorders. On the other hand, when not attended to, these people may miss a critical opportunity, resulting in years of suffering and a possible suicidal ideation. Future psychosocial support plans for disaster survivors may include physical and mental care in the transition from the acute to the recovery phase, facilitating supportive interpersonal relationships for survivors during the medium-term recovery phase, and

providing long-term psychological support for the most traumatized survivors, even if they appear to be functioning normally.

Key words: Stress Disorders, Post-Traumatic; Mental Health; Protective Factors; Psychosocial Support Systems; Disasters

14. **THE CORRELATION BETWEEN TYPE 2 DIABETES MELLITUS AND WORSENING COVID-19**

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INTRODUCTION: It is known that patients with type 2 diabetes mellitus (DM2) have important systemic repercussions. Clarifying that, we resorted to the pathophysiology of DM2. This is associated with some factors: a general activation of the innate immune system, which has a chronic state of inflammation mediated by cytokines, hyperglycemia and chronic hyperinsulinism, being the source of abnormalities in all stages of coagulation. In the current pandemic scenario, we often see worse prognosis in diabetic patients infected with the SARS-CoV-2. Therefore, it is necessary to clarify the relationship between the two diseases in order to understand the reason for the increasing number of complications. **OBJECTIVE:** This review aims to determine the correlation of DM2 with increasing complications in patients with COVID-19 with a focus on the pathophysiology of diabetes and the increasing mortality due to the consequences generated by this disease together with COVID-19. **METHOD:** This article is an integrative bibliographic review, which the search for studies was carried out following the inclusion criteria: articles written in English and Portuguese, published in the years 2020 and 2021, indexed on the LILACS and PUBMED platforms. To perform the search, combinations between the following DeCs (Health Sciences Descriptors) and MeSH (Medical Subject Heading) descriptors were used: Covid-19 (Covid-19); Type 2 Diabetes Mellitus (Type 2 Diabetes Mellitus), and the qualifiers: Mortality and Complications. Such terms were crossed as descriptors and, in addition, in the LILACS database, the descriptor Diabetes Mellitus type 2 was also crossed as a title, to obtain more articles. 21 scientific articles were obtained from the PUBMED database and 4 from LILACS, which were read in full, 14 of which were selected for answering the guiding question of this study and 4 used on that review. **RESULTS AND DISCUSSION:** It is already determined that diabetic patients are more susceptible to infections in general and, when infected, have a worse prognosis compared to non-diabetics. This combination is a result of the damage that hyperglycemia brings to the control of viremia and inflammation. Patients with DM2 have impaired polymorphonuclear function, T lymphocyte function and dysregulation of nitric oxide production. They also have a reduced antiviral response, evidenced by decreased production of IFN-alpha, suppression of IFN-1 and other pro-inflammatory cytokines. SARS-CoV-2 uses the angiotensin-converting enzyme (ACE) receptor to penetrate cells. As hyperglycemia can increase the expression and enzyme activity of this receptor, a greater amount of virus can enter cells and, consequently, determine the severity of the infection. In type 2 diabetes, there is a prothrombotic state, since chronic hyperglycemia and hyperinsulinism lead to abnormalities in the coagulation phases. Therefore, coagulopathy was seen as a key risk factor in the worsening of diabetics infected with SARS-CoV-2. **FINAL CONSIDERATIONS:** In this study, the correlation between the pathophysiology of DM2 and the worst prognosis of COVID-19 was clear. In addition to the innate immunological changes present in these patients, important glycemic fluctuations also increase morbidity and mortality, requiring constant glycemic control in order to minimize the impact of this infection on these chronic patients.

Key words: Diabetes Mellitus type 2; COVID-19; Physiopathology; Mortality; Complications.

15. **COVID-19 AND CARDIOVASCULAR EFFECTS**

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INTRODUCTION: COVID-19 consists of an infection of the upper airways, caused by the SARS-CoV-2 virus, popularly known as the new coronavirus. The transmissibility of this pathology is extremely high and can cause everything from mild to severe symptoms, causing an excessive demand for intensive care and millions of deaths. Since March 2020, this stir has added up to more than 155 million cases and 3.2 million deaths worldwide. Several individuals are asymptomatic, while others, especially senile and with previous illnesses, manifest critical conditions. In this context, although the disease predominantly affects the pulmonary system, it can manifest itself with varied cardiac complications, corresponding to a systemic approach disease. **OBJECTIVE:** To understand the main cardiovascular complications of COVID-19. **METHOD:** This is a literary review, with an exploratory character and a qualitative approach. Studies on COVID-19 and its cardiac complications were selected and analyzed, using the databases of the United States National Library of Medicine (PubMed), and the Scientific Electronic Library Online (SciELO). **BIBLIOGRAPHIC REVIEW:** The clinical repercussions of COVID-19 are very similar to those of other respiratory viruses, being characteristic, in most cases, mild symptoms such as fatigue, fever, dry cough, and in more severe cases, dyspnea, pulmonary bleeding, lymphopenia severe and severe acute respiratory syndrome. On the other hand, damage to the cardiovascular system started to draw attention, differentiating SARS-CoV-2 infection from the others. These cardiac disorders are probably of multifactorial origin since they can result both from an imbalance between high metabolic demand and low cardiac reserve, as well as by the virus itself, which leads to systemic inflammation and thrombogenesis, with elevated inflammatory markers (CRP, procalcitonin, d-dimer, IL-6, ferritin, DHL), and direct myocardial injury due to myocyte invasion may also occur, predisposing to varied disorders such as acute heart failure, myocarditis, Takotsubo syndrome (ST), thrombosis, arrhythmias and cardiogenic shock. These disorders occur mainly in patients with cardiovascular risk factors such as: obesity, systemic arterial hypertension, diabetes mellitus, advanced age or with any previous cardiovascular disease. In this sense, COVID-19 can cause new cardiac injuries and act to precipitate the worsening of underlying cardiovascular pathologies. It can be seen, then, that cardiovascular comorbidities associated with increased biomarkers of myocardial injury and cardiac decompensation during this condition are significant predictors of morbidity and mortality, being associated with a higher rate of hospitalizations in intensive care units and high percentages of death, being necessary special attention to these at-risk patients, in addition to proper management of their complications, with rapid identification and implementation of appropriate treatment. **CONCLUSION:** Thus, the symptoms of COVID-19 have a wide spectrum, which can cause cardiovascular complications. Knowledge about such cardiac disorders is crucial, since it can assist the profiling of interventions and guide health professionals more effectively, in order to recognize and intervene in advance in these disorders that aggravate and hinder the resolution of the infectious condition.

Key words: COVID-19; Coronavirus Infections; SARS-CoV-2; Cardiovascular Diseases; Cardiology.

16. **SUSCEPTIBILITY AND SEVERITY OF COVID-19 IN PEOPLE LIVING WITH HIV: A NARRATIVE REVIEW**

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INTRODUCTION: In face of the COVID-19 pandemic, the follow-up of several comorbidities was impaired, such as the infection by the human immunodeficiency virus (HIV). Furthermore, questioning arises about potential worse outcomes in people co-infected with HIV and SARS-CoV-2, considering the immunological and clinical specificities of people living with HIV (PLHIV). **OBJECTIVE:** To analyze, based on the literature, the association between HIV infection, susceptibility and severity of COVID-19. **LITERATURE REVIEW:** Ssentongo et al., in a systematic review and meta-analysis, showed that HIV infection is a risk factor for the development of COVID-19, besides higher mortality rates related to coinfection. Other studies also found worse outcomes of COVID-19 in PLHIV, such as increased mortality and disease severity. It is noteworthy that PLHIV may present risk factors that alone influence the prognosis of COVID-19, such as advanced age, hypertension and diabetes. In a review involving nearly seven thousand patients, Johnson et al. showed that HIV infection is associated with more diagnoses of COVID-

19, however, in terms of severity, comorbidities present in these cases may be more relevant than characteristics intrinsic to the HIV. Lee et al. and Sarkar et al., also in systematic reviews and meta-analyses, did not find worse clinical outcomes in the HIV and SARS-CoV-2 co-infection, although they included studies from a shorter period of time and fewer patients compared to the meta-analysis of Ssentongo et al. Contradictory results have also been found in other studies, in relation, for example, to susceptibility, mortality and risk of intubation. It is noteworthy that some of these had a reduced number of patients and included only hospitalized individuals, with a potential influence on the results. Thus, there are controversies, but it is possible that in fact there is a greater susceptibility and severity of COVID-19 in PLHIV. In addition, a cohort study by Tesoriero et al found greater hospitalization for COVID-19 in those patients diagnosed with HIV without suppression of viral load and in those with reduced TCD4+ lymphocyte count, although certain studies have not confirmed an association of the disease stage with higher mortality and/or severity. Regarding the use of antiretroviral therapy (ART), the findings are inconclusive and do not allow a confirmation of a direct influence on the prognosis of COVID-19 yet. However, the benefit of ART and the control of the HIV infection is undoubted, despite having repercussions on the prognosis of COVID-19 or not. **FINAL CONSIDERATIONS:** The literature is controversial and further studies on the topic are required. Thus, it is not possible to rule out an increase in the susceptibility and severity of COVID-19 in PLHIV, either due to the direct influence of HIV infection or due to the comorbidities present. Therefore, it is important to maintain longitudinal monitoring of these patients, ART and the management of other comorbidities, in addition to these individuals being evaluated as possible priority groups in the vaccination against COVID-19. Finally, it is essential to maintain screening for HIV infection during the pandemic.

Key words: HIV, HIV infections, Betacoronavirus, Coronavirus infections, Pandemics

17. **TOXIC GASES INHALATION IN THE KISS NIGHTCLUB DISASTER: CONSEQUENCES OF FIRES IN CLOSED ENVIRONMENTS**

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INTRODUCTION: Disasters, whether natural or man-made, result in major economic and / or social losses. Among the major disasters, we can mention the Kiss nightclub fire that occurred in January 2013, in Santa Maria (RS), in which there were 236 deaths and 169 hospitalizations, with the majority of the victims died from smoke inhalation and not due to burns, as in most fires. In the accident that occurred, the injuries from smoke were numerous, however, it is important to highlight the high toxicity of the gases carbon monoxide (CO) and hydrogen cyanide (HCN) that have compromised many victims. Both CO and HCN are formed by incomplete combustion and are classified as asphyxiating gases, and CO, due to its high affinity with hemoglobin, reduces the release of oxygen to the tissues, leading to hypoxia. HCN, on the other hand, blocks the respiratory cycle from its connection with the enzyme cytochrome C oxidase, which leads to the excessive production of lactic acid, which might lead to death by anoxia. **OBJECTIVE:** To identify the consequences of inhaling toxic gases CO and HCN in fires in closed spaces, with reference to what happened at the Kiss nightclub. **METHOD:** The integrative review was carried out through research in the Scientific Electronic Library Online database (SciELO). The following descriptors and Boolean operator were used: intoxication AND carbon monoxide and Kiss nightclub. Eight and six results were found respectively. No filters were used since all the results obtained from the descriptors were reviewed. Among the previous studies, six of them were used to prepare the review. **BIBLIOGRAPHIC REVIEW:** The main consequences provoked by the intoxication of CO and HCN gases are due to hypoxia, which leads to a systemic condition, whose clinical symptoms are usually nonspecific. Among the signs and symptoms, the following stand out: tachypnea and tachycardia - as compensatory mechanisms -, dizziness, headache, lowering of sensory, generalized inflammatory processes, and pathological breathing sounds. In addition, the high concentrations of lactic acid resulting from severe HCN poisoning lead to a clinical picture of metabolic acidosis, which might cause renal overload, protein denaturation, and impaired metabolic pathways, which can quickly lead to death. Thus, it is important to identify the signs and symptoms as early as possible in order to start treatment based on oxygen therapy, antidote administration, and the use of protective mechanical ventilation, in addition to observe the neurological and pulmonary functions. **FINAL CONSIDERATIONS:** The Kiss nightclub accident

demonstrates how disastrous fires can be indoors and exemplify the consequences of exposure to toxic gases. Therefore, the integrative review of the previous studies shows that an immediate and systematic management is essential, both in the ABCDE of trauma for the reception of victims, and in hospital treatment, in order to reduce the consequences provoked by the inhalation of toxic gases, as well as the rates of mortality. Finally, it is worth mentioning that the individuals who survived the gas poisoning in question have higher mortality rates compared to the population.

Key words: toxic gases, intoxication, Kiss nightclub, fire and disaster.

18. **ANALYSIS OF THE EFFECTS OF TRANSCRANIAL DIRECT CURRENT STIMULATION ON COVID-19 PATIENTS**

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INTRODUCTION: COVID-19 is a disease caused by SARS-CoV-2 virus, of *Coronaviridae* family, and has become a serious global health problem. Different forms of treatments have been used to treat specific symptoms, among them non-invasive neuromodulation, especially the Transcranial Direct Current Stimulation (tDCS). tDCS induces changes in neural excitability through a current flow from an anode electrode to a cathode electrode, both placed on the scalp. **OBJECTIVES:** This study aims to analyse the effects of tDCS when used on COVID-19 patients. **METHODS:** Integrative review obtained through PUBMED, Web of Science and BVS databases using the following keywords combined: "transcranial direct current stimulation" AND "COVID-19" and "tDCS" AND "COVID-19". The inclusion criteria were studies published in English and clinical studies published in peer-reviewed journals. The exclusion criteria were articles published in languages other than English, duplicates and articles that didn't answer the guiding question (*what are the effects of tDCS on COVID-19 patients?*). Initially, 43 articles were found and after the reading of the title and the abstract the new sample included 3 articles. Among the 40 articles that were excluded, 3 were duplicated and 37 didn't answer the guiding question. **BIBLIOGRAPHIC REVIEW:** Non-invasive neuromodulation is an alternative to pharmacological approaches, which can assist in four main ways. The first one would be improving musculoskeletal pain; the second one, in prevention of neuroinflammation by stimulating the regulatory regions of the systemic anti-inflammatory process; third one, in therapy for psychological disorders generated by pandemic stress; the fourth one, assisting in the process of physical and cognitive rehabilitation after COVID-19. Studies suggest that COVID-19 causes an autonomic imbalance, producing important alterations on vagus nerve activities, which is responsible for inflammation control. It may have its activity increased due to influence of the left dorsolateral prefrontal cortex (DLPFC) or temporal cortex. By stimulating, with tDCS, the left DLPFC, it was found an increase of the vagal activity and a reduction of the systemic inflammation, as well as helping with neuropsychiatric problems related to infection. Furthermore, the application of tDCS in the temporal cortex, in patients undergoing respiratory physiotherapy, can be used to increase the efficacy in pulmonary rehabilitation. tDCS, in both anodal and cathodal modalities, reduces the excitability of the diaphragmatic corticospinal pathways in healthy individuals. Based on this information, it was verified the hypothesis that it could also be used on the relief of dyspnea in COVID-19 patients that requires mechanical ventilation in the Intensive Care Unit (ICU). However, there isn't enough evidence about it to prove this hypothesis. Regarding the improvement of anxiety and stress, there have been no major conclusions in studies applying tDCS, however, randomized clinical trials have shown a significant improvement in physical stress. **CONCLUSION:** tDCS is a promising treatment that can auxiliate in many ways in the symptomatic treatment of COVID-19, although more studies are needed to clarify its effectiveness and evaluate its other uses.

Key words: COVID-19, Neuroinflammation, Neuromodulation, SARS-CoV-2, Transcranial direct current stimulation.

19. **THE GREAT DISASTER OF THE COVID-19 PANDEMIC AND ITS ASSOCIATION WITH DEPRESSION AND ANXIETY AMONG THE ELDERLY: AN INTEGRATIVE REVIEW**

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INTRODUCTION: The COVID-19 pandemic became one of the greatest unprecedented disasters of recent times. Social isolation, resulting from protective measures against the virus, have been investigated by researchers in its connection with the population's mental health, especially the elderly, once they are a major risk group for severe forms of the disease. Studies concerning the consequences of the SARS outbreak in 2003 showed an increase of psychiatric conditions and suicide rates among the geriatric population, elucidating the importance of studying the mental impact caused by the ongoing pandemic aiming to anticipate and minimize adverse evolutions on the geriatric population. **OBJECTIVE:** Identify, according to recent literature, the impact of the COVID-19 pandemic and the consequent social isolation in depression and anxiety rates within the elderly population. **METHODS:** This is an integrative review. The research was done in the Virtual Health Library (VHL) with the following descriptors: COVID-19, Mental Health and Elderly. Subsequently, the following filters were applied: full text, MEDLINE, Lilacs, SciELO, anxiety, depression, risk factors, observational study, incidence study, english and portuguese. Following the selection of the articles by its titles, the abstract from the studies as well as the full text were analyzed. Included articles were those that studied individuals over 60 years old and that investigated the pandemic and social isolation's effects on depression and anxiety. The articles were excluded if the study population was selected exclusively from specific groups or individuals with underlying chronic diseases. **REVIEW:** The search resulted in 79 articles: 28 were excluded according to the title, 44 by the abstract and two by the full text. Therefore, 5 articles were included in our review. It has been stated that one's subjective feeling of loneliness would have more impact on depression and anxiety rates than social isolation itself. Liang et al. (2021) reported that 30.8% of the study population had compatible findings for depressive symptoms during the COVID-19 pandemic; however, this was less evident among the elderly that had adopted preventive measures against the virus continuously. The uncertainty of the pandemic's progression increases the elderly concerns of being infected and corroborates the fear of the uncontrollable consequences, possibly influencing their mental health. Having symptoms of COVID-19 for over 14 days or having an infected family member proved to be associated to both anxiety and depression. One of the studies concluded that the elderly are less vulnerable than the youth in suffering from depression and acute stress, probably due to their greater resilience in addition to greater experience with adverse life events. Nevertheless, socioeconomic challenges and the rise in anxiolytic use appeared to be correlated to higher levels of anxiety and depression within the geriatric population. **CONCLUSION:** Social isolation and the pandemic's uncertainty possibly impact in depression and anxiety rates among the elderly. Thus, more studies and the elaboration of preventive measures towards these psychiatric conditions are expected in order to mitigate the hazards to the older one's mental health.

Key words: Aged, Anxiety, COVID-19, Depression, Mental Health.

20. **ACUTE RADIATION SYNDROME IN MAJOR RADIOLOGICAL DISASTERS**
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INTRODUCTION: Acute radiation syndrome (ARS) is characterized by a variety of symptoms that indicate damage to an organ or its system when the body is exposed to a radiation rate greater than 1 gray (Gy) in a period of time that varies from minutes to months. The study of this disease is of great relevance, given the various events of radioactive exposure that have already occurred in the world, such as the bombings of Hiroshima and Nagasaki and the disasters of Chernobyl and cesium-137 in Goiânia, and their management is little known by most health professionals. **OBJECTIVE:** To analyze and discuss a compilation of scientific studies on acute radiation syndrome in major radioactive disasters. **METHOD:** It consists of a bibliographic review of scientific articles in Portuguese and English indexed

in the Scielo, PubMed and Cochrane databases between the years 2007 and 2020. **BIBLIOGRAPHIC REVIEW:** ARS has three chronological phases after acute radiation exposure: prodromal phase, which occurs in minutes - when the individual absorbs doses of 10 Gy or more than 20 Gy - or up to 2 days after exposure, has nonspecific initial symptoms, such as fever, anorexia, nausea, vomiting, diarrhea, fever and headache; latent phase, which consists in the improvement of the patient's condition, for a few hours, after 2 to 20 days of exposure, the decrease in symptoms is related to a greater degradation of pluripotent stem cells compared to more differentiated cells; and the manifest illness, which occurs after 21 to 60 days of exposure to radiation, and may last for days or months. In addition, the severity of ARS varies according to the radiation dose absorbed, influenced by the distance from the radioactive source and the exposure rate, that determines sub-syndromes of this disease. Cutaneous syndrome occurs between the first 2 days of exposure, with lesions ranging from erythema to blisters. The hematopoietic syndrome occurs after exposure above 2 Gy and can generate pancytopenia, leading to possible spinal aplasia. The gastrointestinal syndrome leads to the destruction of intestinal crypts, which can occur in organ failure, occurring at exposures greater than 5 Gy. Neurovascular syndrome, on the other hand, results from an exposure greater than 10 Gy, resulting, in its majority, in death. Treatment is based on the patient's clinical condition and gives him a longer survival. In cases of non-treatment, the lethal dose in 60 days is 4 Gy, however with the provision of intensive care units, antibiotics, reverse isolation and bone marrow transplantation, this exposure can rise to up to 9 Gy. **CONCLUSION:** ARS is little known by the majority of health professionals and even fewer of these professionals have experience with its management. Assertive medical treatment after acute exposure to large doses of radiation is essential to reduce mortality and morbidity in exposed patients and, therefore, your knowledge of ARS is essential.

Key words: Acute Radiation Syndrome; Absorption, Radiation; Chernobyl Nuclear Accident; Atomic Bomb Survivors; Man-Made Disasters

21. **POST COVID-19 PARKINSONISM: A BIG CHALLENGE FOR THE FUTURE?**

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INTRODUCTION: In the 20th century, after the occurrence of an outbreak of influenza, several cases of post-encephalitis parkinsonism were observed. Although the studies weren't clear about this relation, it was possible to realize that viral infections can be a risk factor for the development of Parkinson's disease (PD). With the pandemic of COVID-19, declared by the WHO in 2020, it has returned to thinking about the relationship between a serious viral infection, currently, by SARS-Cov-2 and the development of neuropathologies such as PD. **OBJECTIVES:** The study aims to analyze whether there is a possible relationship between Sars-Cov-2 infection and the development of PD due to the inflammatory responses caused by the infection in the Central Nervous System (CNS). **BIBLIOGRAPHIC REVIEW:** One third of patients hospitalized due to COVID-19 have neurological symptoms. SARS-CoV-2 uses the angiotensin-converting enzyme 2 (ACE2) to enter cells and perpetuate the infection. It is known that ACE2 is present, at significant levels, in various tissues such as the respiratory tract, kidney, myocardium and neuronal. In addition, the presence of anosmia or hyposmia can be considered common pre-motor changes at the beginning of PD. It is supposed that the affection of the CNS occurs in two ways: by the direct action of the virus or in an indirect way, resulting from the immunological and inflammatory activity of the infection. The direct form would be related to the entrance of SARS-Cov-2 through the olfactory bulb and the rupture of the blood-brain barrier (BBB) through the hematological route. The indirect would be caused by the induction of a systemic inflammatory state, as an attempt by the body to fight infection. It is known that the production of cytokines is essential in combating the virus, but an exacerbated release of interferons (IFNs), interleukins (IL), tumor necrosis factor (TNF) and chemokines may occur, which can cause a deleterious effect to the SNC. Some symptoms can occur years after infection. The virus is believed to cause changes in the production of energy and in the folding of neuron proteins. A delayed neurodegeneration would arise due to incorrect unfolding and the aggregation of proteins such as α -synuclein in these patients. It is estimated that, among the neuronal population, dopaminergic neurons are more susceptible to degeneration, since they have high energy rates and proteostasis. Thus, the accumulation of α -synuclein could be

facilitated in these cells. It is known that the pathophysiology of PD is related to progressive motor and non-motor disorders, due to the loss of dopaminergic cells in the substantia nigra pars (SNpc) and to the accumulation of Lewy bodies positive for α -synuclein (α -syn). **FINAL CONSIDERATIONS:** It appears that there is a probable relationship between the infection by COVID-19 and the development of PD, however, there was no clarity about the mechanisms through which this occurs due to the lack of data and to the fact that these consequences will come in the long run. However, the possibility of an increase in cases of PD in the future cannot be ruled out, as was the case with influenza previously.

Key words: COVID-19; Parkinson's disease; Viral infection; Neuropathies; Central Nervous System.

22. IMPACT OF THE FUKUSHIMA NUCLEAR ACCIDENT ON THE THYROID CANCER OUTBREAK

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INTRODUCTION: An earthquake, in 2011, caused an accident in usinuclear at the Fukushima Daiich whose dispersion materials radioactive concerned by its possible effects on the health of the local population. Although considered low, the level of radioactive exposure in Fukushima was considered a risk factor for thyroid cancer, especially in younger individuals. **OBJECTIVE:** To analyse epidemiological and clinical- pathological aspects of thyroid cancer related to the Fukushima nuclear accident. **METHOD:** An integrative literature review was carried out, whose database for the search for articles was PubMed, based on the descriptors "Fukushima Nuclear Accident", "Public Health", "Accidents", "Radioactive Hazard Release" and "Thyroid Cancer", according to the Medical Subject Headings (MeSH). In order to verify the relationship between the studies, the Boolean AND operators were used. By the inclusion criteria, the articles from the last five years were selected, which related ac indenting nuclear Fukushima and. manifestation of thyroid cancer have been eliminated, the exclusion criteria, by reading titles and abstracts, articles related to other problems of the thyroid and did not meet the objectives of this work. So found - if 34 articles and selected - is 15. **LITERATURE REVIEW:** the correspondence between radiation exposure and thyroid cancer has been suggested from studies that linked this ne malignant aplasia to radiotherapy used to treat some childhood diseases, such as enlarged thymus, in the twenties and sixties. Regarding the minimum latency period of thyroid cancer, the variation is from 5 to 10 years. In studies focusing on the Fukushima accident, this pattern was noticed, however, are as with iodine deficiency tend to present a higher frequency early. In addition, it was noticed, when evaluating inhaled and ingested radiation, that the impact of external radiation was more significant, despite the fact that local evacuation occurred. From this, it is suggested that the stress caused by the change works with the risk factor for thyroid cancer. With regard to pathological aspects are the most histological type. Identified is the carcinoma to papillary thyroid and mutation most prevalent is in the BRAF gene closely related to cervical lymph node metastasis. However, there are precopation the overdiagnosis, since the prognosis of papillary cancers of the thyroid does not necessarily improve with early diagnosis. In this sense, higher screening criteria and reduced sensitivity were established for asymptomatic individuals. In this context, it is indicated, first, to palpate the thyroid and, in case of suspicion, refer to the ultrasound. As for the screening ultrasonogrã they are, should be included tumors between 10 and 15 mm. **FINAL CONSIDERATIONS:** In the Fukushima nuclear accident, although the level of exposure was low, cases of malignant thyroid cancer were identified, in which papillary carcinoma was the most frequent and the most prevalent mutation in the BRAF gene. Despite these dicoverly tas, it is critical to prevent the overdiagnosis, which requires diferente criterion for screening, depending on the symptoms. In this context, long-term studies are necessary, since current knowledge is more focused on acute exposure.

Key words: Public Health; Accidents; Radioactive Hazard Release; Fukushima Nuclear Accident thyroid cancer

23.

EBOLA VIRUS: A NEGLECTED AND UNDERREPORTED DISEASE

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INTRODUCTION: Ebola virus disease (EVD), first identified in 1976 (Zaire) and responsible for an outbreak in West Africa in 2014, was declared by WHO as a global public health emergency. EVD is a neglected and underreported tropical disease that was responsible for the death of 11,310 people between the years 2013 to 2016. In addition, this in association with the poverty and malnutrition that affect the African region caused secondary comorbidities such as HIV, measles, malaria, tuberculosis, pneumonia, cancer and cardiovascular diseases, with consequent deaths. **OBJECTIVE:** To analyze the impacts of Ebola virus disease on the health of the affected populations and the consequences of neglect in the face of this disaster. **METHOD:** Bibliographic review in the Scielo and PubMed databases with articles from 2014 to 2020, in Portuguese, English and Spanish, in addition to recent news from 2020 and 2021, in Portuguese and English. **BIBLIOGRAPHIC REVIEW:** Ebola is an RNA virus, with high virulence, a member of the Filoviridae family and which has five isolated species, with a mortality rate of approximately 65%, depending on the species: Zaire ebolavirus (ZEBOV), Sudan ebolavirus (SUDV), Bundibugyo ebolavirus (BDBV) Tai Forest ebolavirus (TAFV) and Reston ebolavirus (RESTV). The number of fatal EVD cases reported across countries varies widely and this is due to differences in health systems, outbreak response mechanisms and the severity of the Ebola virus species involved - ZEBOV considered the most serious, followed by SUDV and the BDBV, the least serious. The Ebola virus has an incubation period ranging from 2 to 21 days. Its transmission between humans occurs through direct contact with blood, organs and body fluids of people or contaminated surfaces. The first clinical manifestations are non-specific of the flu and progress quickly to bleeding, shock and multiple organ dysfunction, due to the intense inflammatory response, immune system failure and vascular coagulation changes. In addition to the consequences for public health, the virus had economic implications in view of the strong impact generated by fear, the paralysis of trade and the death of workers. Data estimated by the World Bank estimated the loss of GDP in Guinea, Liberia and Sierra Leone at US \$ 2.8 billion by 2015. **FINAL CONSIDERATIONS:** Given the above, it is possible to conclude that the reality of the viral outbreak overloads the health system and culminates in a lack of assistance to those affected by the disease, as well as to those with other comorbidities. Forty-three years after the virus was discovered, it was possible to develop a vaccine only for the ZEBOV species, the most serious. Meanwhile, local African populations have been poorly vaccinated, which implies the need for investment in amplified vaccination aiming to circumvent the severity of the disease and local impacts, minimizing damage to countries that are already suffering from external strangulation by countries hegemonic.

Key words: Ebola virus; hemorrhagic fever; ebola virus disease; ebola infection; neglected disease.

24.

A FORENSIC VIEW ON THE KISS NIGHTCLUB FIRE

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INTRODUCTION: The Kiss Nightclub fire occurred in the city of Santa Maria in Rio Grande do Sul in 2013, leaving 680 injured and 242 dead, caused by sparks from a flare used as an attraction in the presentation of a band in the nightclub. There was an investigation by the regional Civil Police, which found irregularities at the venue. **OBJECTIVE:** This paper aims to analyze, from the forensic point of view, the findings found in the autopsy of the bodies in the fire, through a literature review. **METHOD:** To address the issue a literature review was conducted, using the electronic databases PubMed and Scielo, with the descriptors in English and Portuguese - alone and in combination - "Asphyxia", "Forensic Toxicology", "Intoxication by carbon monoxide", "Obstruction of the airways", "Hydrogen Cyanide" with search in

the last eight years covering a current literature on the object of research. **LITERATURE REVIEW:** In the fire that occurred in Kiss Nightclub, the causes that led to the death of 242 people are trampling, burns, respiratory tract injuries and asphyxiation by toxic smoke. According to the bulletin of the Legal Medical Institute (IML), about 90% of the deaths in the fire were due to asphyxiation caused by cyanide and carbon monoxide inhalation (CO). Asphyxia is defined as disturbance resulting from oxygen deprivation, and can be classified as complete or incomplete (depending on the severity of the situation), fast or slow (according to the speed of onset), and internal or external (depending on the cause). Asphyxiation by CO occurs due to its high affinity for hemoglobin. This substance binds to hemoglobin preventing hematoxis, thus characterizing asphyxia at the tissue level. Hydrocyanic acid, on the other hand, is a water-miscible gas that diffuses rapidly to the tissues, making it a powerful asphyxiant, resulting in severe hypoxia due to inhibition of cytochrome oxidase, preventing the use of oxygen by the tissues. In the case of trampling, there is mechanical asphyxiation produced by impeding the passage of breathable air by direct or indirect means of obstruction. **FINAL CONSIDERATIONS:** On the forensic aspect in a necropsy, the expected anatomopathological findings resulting from asphyxia by inhalation of toxic gases, such as cyanide and carbon monoxide, are: dilated pupils, pallor, pinkish tint of the face, early rigidity, cyanosis in the extremities, clear hypostatic stains (livor mortis) and late putrefaction. Some bodies may have facial burns from the fire. The internal signs of the victim would be pinkish flowing blood, polyvisceral congestion due to heart failure, and tardive or echymosis visceral spots located mainly in the subconjunctival, subpleural, and subepicardial regions. In asphyxia caused by trampling one expects to find lesions in the thoracic skeleton and viscera, the echymotic face mask (Morestin's echymotic mask), distended lungs (Valentin's sign), congested liver, and a heart with dark and fluid blood. Finally, it is important to emphasize that there are no pathognomonic signs of asphyxia, but rather recurrent findings, according to those mentioned above.

Key words: Asphyxia, Forensic Toxicology, Carbon monoxide intoxication, Obstruction of the airways, Hydrogen Cyanide

25. THE IMPACT OF THE SAMARCO TAILINGS DAM RUPTURE IN MARIANA-MG ON THE MENTAL HEALTH OF THOSE AFFECTED

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INTRODUCTION: On the afternoon of November 5, 2015, the tailings dam at Fundão broke in the city of Mariana, causing the biggest environmental disaster in Brazil of mining origin. As a result, 40 cities were affected, 663 km of rivers directly impacted, 19 fatalities and markers of displaced families. Faced with a context of loss of social and symbolic ties, the mental health condition of the affected population is a cause of concern, due to their greater vulnerability. **OBJECTIVE:** To investigate the impact of Mariana's disaster on residents' mental health. **METHODS:** During the month of April 2021, a descriptive study was carried out, utilizing the MedLine and SciELO database, using the descriptors: "Disaster"; "Man-made Disaster"; "Health condition"; "Environmental Health"; "Mental Health"; and its variations, obtained through MeSH. Studies published in the last five years and in the English language were included. **RESULTS:** Six articles were selected to be part of the scope of this review. The loss of routine, mourning, a little feeling of belonging, as well as the fear of not being able to rebuild life projects and not being in contact with their community, provoke signs and symptoms in the residents, such as isolation, depressed mood, anguish and anxiety, which are accentuated mainly in the elderly. An exploratory, cross-sectional and descriptive study conducted self-assessment interviews after Mariana's disaster in 507 participants and concluded that 35% of them consider their health worse after the dam burst. Regarding emotional or behavioral symptoms, 83.4% of the interviewed population reported having them, with insomnia being the most frequent (36.9%), followed by worry or tension (21.7%), feeling sad (18.1%), being easily scared (17.8%); altered mood, irritability or aggression (15.6%); more frequent crying (12.6%); difficulty making decisions (10.5%), apathy (10.1%) or drowsiness (9.5%). Alignment, the Survey on the Reality of Mental Health in Mariana, through the application of questionnaires, observed that the quality of sleep in 52% of the interviewees was impaired. In addition, 28.9% of the assessed population was diagnosed with depression; 32% with anxiety disorder, 12% with post-traumatic stress disorder, and 16.4% were identified with risk of suicide. It is noteworthy that the use of benzodiazepine anxiolytic drugs to

sleep was found in 18.2% of the population and the use of antidepressants in 16.9%. **CONCLUSION:** Faced with a scenario of so many losses and impacts not only environmental, but also economic, social and patrimonial, there is a deterritorialized and mentally vulnerable population, which reports signs and symptoms of fragile mental health and that needs treatment and attention in the public sector.

Key words: Disaster; Man-made Disaster; Health condition; Environmental Health; Mental Health

26. THE RELATIONSHIP BETWEEN COVID-19 AND AUTOIMMUNE DISEASES: NARRATIVE LITERATURE REVIEW

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INTRODUCTION: The disease caused by the SARS-CoV-2 virus, named COVID-19, was reported in December 2019 in Wuhan, China, as a new infection causing Severe Acute Respiratory Syndrome (SARS) that quickly spread across the globe and was declared as a pandemic by the World Health Organization (WHO) in March 2020. An asymptomatic evolution or presentation of severe forms of the disease is possible, with an exacerbated participation of the innate and adaptive immune response, contributing to the formation of the "cytokine storm" observed in these patients. Several studies indicate that COVID-19 and autoimmune diseases have numerous clinical and immunological similarities. The damage to the different organs that occur in both diseases is caused by an uncontrolled immune response with activation of leukocytes and formation of neutrophil extracellular traps (NET), thrombus propagation and breaking of immune tolerance with the production of autoantibodies. **OBJECTIVE:** The objective of this narrative review was to assess whether SARS-CoV-2 infection could act as a trigger for the development of autoimmune diseases and to assess the role of COVID-19 in the course of pre-existing rheumatological diseases. **BIBLIOGRAPHIC REVIEW:** Several studies have shown an association between infection by the SARS-CoV-2 virus and the development of clinical manifestations of autoimmune diseases, such as Cold Agglutinin Disease, Guillain-Barré Syndrome, Antiphospholipid Antibody Syndrome, Arthritis, Vasculitis, Lupus Systemic Erythematosus and Macrophage Activation Syndrome. It is important to note that the likelihood of developing autoimmunity phenomena is also based on genetic predisposition, gender effect, age, family and individual history of autoimmune diseases. On the other hand, patients who already have rheumatological diseases and the use of immunosuppressants, especially cyclophosphamide, are more susceptible to infections. In relation to COVID-19, studies show an infection rate similar to the general population, but this may be related to the preventive measures adopted. However, studies have shown that the use of high doses of glucocorticoid may be associated with greater severity of the infection, resulting in greater hospitalization. In addition, the evidence points to the possibility of infection by SARS-CoV-2 triggering new manifestations, such as joint pain, skin lesions and hemolytic anemia, in patients whose rheumatic disease was previously controlled. Thus, the recommendations involve keeping track of the activity of rheumatological diseases to prevent worse outcomes. **FINAL CONSIDERATIONS:** SARS-CoV-2 infection is associated with endothelial damage, exacerbated production of inflammatory cytokines, thrombotic events, changes in immune tolerance and production of autoantibodies, similarly to what occurs in immune-mediated diseases. In addition, the treatment of patients who already have rheumatological diseases can make individuals more susceptible to infection, mainly due to the use of immunosuppressants. Evidence also points out that SARS-CoV-2 infection may trigger new manifestations in these patients. Nevertheless, it is worth mentioning that many of the studies were based on case reports and observational studies. Therefore, given the complexity and relevance of the topic, further studies are needed to better elucidate the mechanisms in which COVID-19 interacts with autoimmunity.

Key words: COVID-19; autoimmune diseases; rheumatic diseases, SARS-CoV-2; immunosuppression

27. **ASSOCIATION OF COVID-19 WITH ANDROGENETIC ALOPECIA**
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INTRODUCTION: On December 2019 there were described the first cases of infection from SARS-CoV-2, which had a possible origin in the market in the city of Wuhan-China. Since then, it has been observed a fast dissemination, with more than 141 million cases in the worldwide and approximately 3 millions deaths, what made it being declared a pandemic by the World Health Organization (WHO). Epidemiological studies has shown cases are less frequents in children also there are higher numbers of mortality rates in men, who tend to be more related to the androgenic sensibility of the virus. It has also been observed that patients who had shown androgenetic alopecia (AGA) had aggravations from COVID-19. **OBJECTIVES:** The aim of the study is to produce a literature review about the correlation between the presence of AGA in the carriers infected from Sars-Cov-2 virus. **METHOD:** Integrative review of literature based on article from the PubMed, Mendeley, BVS and Scielo, using the descriptors in Portuguese and English: "alopecia"; "androgen receptors"; "COVID-19"; "Sars-Cov-2" and "dermatology". As the inclusion criterium, there were selected articles published between 2020-2021 in English. **BIBLIOGRAPHY REVIEW:** Although it may exist a relation between a AGA and the gravity of the cases COVID-19, this hasn't been totally clarified. The greater prevalence and gravity in men from the infection by COVID-19 are related to behavior factors, due to the fact that most male are more likely to the risk factors, exemplified by the group of smokers or those who carry hearth diseases. Furthermore, the molecular mechanism of viral infectivity helps the affection of men, as the entrance of in cell depends on transmembrane protease serine 2 (TMPRSS2), a protein transmembrane which is regulated by androgens. The androgenetic alopecia, also known as baldness, is a demonstration of genetics heritage dermatology, unchained by hyperactivity from androgen receptors. So it is possible that it can be used to identify patients a high risk to a worse prognosis. **FINAL CONSIDERATIONS:** Epidemiological studies has shown that some patients are more likely to evolve worse symptoms from COVID-19, some of them are: pregnant, over 60 years old and people with comorbidities, like immunosuppression and obesity. The susceptibility to androgens also seems to be an indicative of gravity from the infection by COVID-19, since then it was described others pathologies related, which can aggravate the case, as the benign prostatic hyperplasia, the polycystic ovary syndrome and the use of anabolic steroids. Moreover, the worst prognosis in male are relevant, once that men have more reluctance in selfcare and greater predisposition to AGA. The pathophysiology of COVID-19 has not described in its totality yet, thus, more studies are necessary to confirm the association between COVID-19 and AGA in attempt to identify the possible risk factors to a worse prognosis of the illness.

Key words: alopecia; androgen receptors; COVID-19; Sars-Cov-2; dermatology.

28. **MULTISYSTEMIC INFLAMMATORY SYNDROME IN CHILDREN (MIS-C) TEMPORALLY ASSOCIATED WITH COVID-19: A LITERATURE REVIEW**
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INTRODUCTION: The COVID-19 pandemic, decreed by the World Health Organization in March 2020, represents one of the biggest health crises of all time, being responsible for more than 3 million deaths worldwide. Initially, children were considered to be a lower risk group, since most of them had mild conditions. Serious complications began to be reported in April 2020, when healthy children were hospitalized with cardiogenic shock or presentations similar to Kawasaki's disease with temporal association with COVID-19. In May 2020, the CDC published a definition for Multisystemic Inflammatory Syndrome in Children (MIS-C). MIS-C was hypothesized as being mainly post-infectious and distinct from COVID-19. In Brazil, according to the Epidemiological Bulletin No. 45 of the Ministry of Health, by October

2020, 511 cases of the disease had already been confirmed in the country. **OBJECTIVES:** Gather updated data on clinical presentation, diagnostic criteria and treatment of MIS-C. **Methodology:** Research was carried out in the Pubmed database using the descriptor "pediatric multisystem inflammatory disease, COVID-19 related" taken from the Medical Subject Headings (MeSH) platform and a filter for systematic reviews. **LITERATURE REVIEW:** The literature search identified 9 articles. After methodological screening, 5 studies were considered eligible for this review. 2410 patients aged 0 to 20 years were evaluated in these studies, with an average age of 8.68 years, predominance of healthy patients and association of severity with ethnicity, especially blacks and asians. The pathophysiology of MIS-C related to COVID-19 is still unknown. Possible mechanisms involved include direct systemic action of the SARS-CoV-2 virus and the post-infection hyperinflammatory state, with increased cytokines. Common clinical presentations are fever, gastrointestinal symptoms, skin rashes, conjunctivitis, shock, ventricular dysfunction, cheilitis, edema and erythema of extremities. The condition also meets clinical criteria for the diagnosis of Kawasaki Disease. Among the most frequent complications are myocardial dysfunction and dyspnea, requiring ventilatory support, and acute kidney injury. Thromboembolic events are uncommon, probably due to the use of anticoagulant therapy. The treatment for MIS-C involves the use of intravenous immunoglobulin, associated with inotropic support and anticoagulant therapy. Other medications used are corticosteroids, immunomodulators and antibiotic therapy. Despite the low mortality observed in cases of MIS-C, the need for hospitalization in intensive care units is high, leading to an increase in the occupancy rate of pediatric ICU beds. In addition, treatments, although efficient, still have little scientific evidence and high cost. **CONCLUSIONS:** With the aim of bigger understanding of this correlation with SARS-Cov-2 and better planning of prophylactic strategies, the importance of long term studies is highlighted. The deepening of research is essential to reduce the impacts of MIS-C in the public health system, both in ICU uses and in hospitalization time. Another relevant point is the fact that MIS-C can lead to chronic conditions, especially cardiac ones, showing other tangency point with the urgency of a long term and multidisciplinary treatment.

Key words: pediatrics; COVID-19; pediatric multisystem inflammatory disease, COVID-19 related.

29. **LITTLE MAJOR DISASTERS: THE IMPACT OF THE LOCKDOWN DURING THE COVID-19 PANDEMIC ON DOMESTIC ACCIDENTS IN THE PEDIATRIC AGE GROUP.**
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INTRODUCTION: The COVID-19 pandemic resulted in the implementation of the lockdown strategy in several countries around the world, which implies that children and adolescents remain at home more prolonged than usual. In this context, domestic accidents in the pediatric age group emerge as a public health problem with a major impact on children's morbidity and mortality, and it is necessary to establish efficient prevention practices to ensure the proper development of these individuals. **OBJECTIVE:** To discuss the impact of lockdown during the COVID-19 pandemic on home security in the pediatric age group and its disastrous consequences on family life. **METHOD:** This is an integrative review, made through a meticulous evaluation of articles that portray the topic at hand. We opted to search the Scientific Electronic Library Online, PubMed and Virtual Health Library databases and select the journals using the descriptors "domestic accidents" and "children" in English and Portuguese, using the Boolean operator "AND". The articles used were published in the period 2020-2021. **RESULTS:** The scientific literature shows an increase in the number of cases of domestic accidents in the pediatric age group during the lockdown period. Among the accidents observed, the most prevalent were trauma (7.4%), poisoning (28%), burns (16.6%) and ingestion of foreign bodies (12.5%), with a large part of these injuries in the environment domestic or in the immediate vicinity (garden, yard, garage). Domestic accidents occur in about 84% of children up to 1 year of age, 75% of children between one and two years of age, and more than 50% up to 5 years of age. This phenomenon results in a 20% increase in the rate of admissions for domestic accidents in the period March-April 2020, when compared to the same period in 2019, in addition to the rate of hospitalization due to accidents there being the growth of 400% in the same period. **BIBLIOGRAPHIC REVIEW:** As previously presented, it is appropriate to point out the vulnerability that children in lockdown have to suffer domestic accidents,

something that requires its due importance, since it has seen higher rates of home injuries when compared to the number of confirmed cases of pediatric patients with COVID-19 and an exponential increase after the beginning of the SARS-CoV-2 pandemic, resulting in a 400% increase in the level of hospitalizations. However, this scenario can be avoided when environmental risk factors are identified and eradicated. Unfortunately, there was a scarcity of literary productions and epidemiological data on the subject in the scientific community, being imperative the need to pay attention to this problem, to reduce the disastrous endings that domestic accidents can lead to. **FINAL CONSIDERATIONS:** Finally, it is notorious to conclude the negative impact of the lockdown on home security in the pediatric age group. The increased incidence of domestic accidents should be seen as yet another side effect of the SARS-CoV-2 pandemic, and a closer look is warranted.

Key Words: home accidents, pediatrics, pandemics, households, COVID-19.

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ISSN 2076-6327

This journal is published by the [University Library System, University of Pittsburgh](#) as part of the [Digital Publishing Program](#) and is co-sponsored by the [University of Pittsburgh Press](#).

