Background: The New Coronavirus Disease (NCCD-19) has presented itself as an unprecedented challenge to global public health, with the World Health Organization declaring a pandemic emergency in March 2020. The pandemic has challenged the response capacity of health systems and affected the ability of hospitals to provide care, which may have influenced hospitalizations for other causes unrelated to respiratory dysfunctions due to COVID-19, such as circulatory system diseases. These, in turn, cause great impact on public health, because they can generate changes that culminate in sick leave and/or the inability to maintain work activity, besides considerably increasing hospital costs due to the need for expensive hospitalizations, surgeries, and medications.
Objective: To compare hospitalizations for circulatory system diseases in Bahia before and after the emergence of COVID-19 and to observe the most frequent circulatory diseases in 2022 (the year in which the end of the COVID-19 pandemic was decreed.
Methods: This is a retrospective cohort study, of descriptive nature and quantitative approach, based on secondary data, using hospital morbidity data of hospitalizations in Bahia, obtained through the Sistema de Informações Hospitalares do Sistema Único de Saúde (SIH-SUS), available at DATASUS. Data from the pre-pandemic period (2017 to 2019) were compared with the post-pandemic period (2020 to 2022). Data were organized and analyzed using Excel 2010 software.
Results: Between the years 2017 to 2019, 213,632 hospitalizations for circulatory system diseases were recorded, this number represents 8.7% of the total hospitalizations that there were in the State of Bahia in this period. Between the years 2020 to 2022, the recorded number of hospitalizations for diseases of the circulatory system was 201,610, representing 8.9% of the total hospitalizations in the State of Bahia. Despite the reduction in the absolute number of hospitalizations by 5.6%, the percentage of patients hospitalized for circulatory diseases increased from 8.7% to 8.9% when evaluating the total hospitalizations by all causes. In the year 2022, hospitalizations for circulatory system conditions reached the number of 72,722, with stroke, heart failure and acute myocardial infarction being the most frequent, with respectively 20.6%, 18.4% and 12.9% of the total.
Conclusion: The numbers presented and analyzed show a difference, albeit discrete, in the behavior of hospitalizations for circulatory system diseases in the state of Bahia. Moreover, the three circulatory diseases with the highest number of hospitalizations have great potential to generate disabilities, with these patients requiring, therefore, multiprofessional assistance. Thus, the data presented reiterate the impact of circulatory system diseases for public health in Brazil and point to the need for a deeper and more detailed observation to understand the real impact that the pandemic of COVID-19 brought to the epidemiological scenario.
Implications: The data presented has the potential to reinforce the importance of cardiovascular disease prevention, reducing the deleterious impact of functionality, and may generate important health care spending reduction impacts.
Keywords: Public Health, Cardiovascular Diseases, Hospitalization

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THE ACUTE EFFECT OF TDCS COMBINED WITH PHYSIOTHERAPY ON GAIT TURNING IN INDIVIDUALS WITH PARKINSON'S DISEASE: A RANDOMIZED CONTROLLED TRIAL

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Background: Parkinson's disease (PD) is associated with classic motor symptoms such as bradykinesia, rest tremor, muscle rigidity, postural instability, and gait disturbances. They result in reduced gait speed, decreased stride length, increased axial stiffness, and decreased pace that together can trigger difficulties in performing turning. As gait disorders are poorly responsive to levodopa therapy, investigations of additional treatments such as physiotherapy and neuromodulation are of utmost importance. The transcranial direct current stimulation (TDCS) consists of a low intensity electrical current capable of altering the cortical excitability, but its application still brings divergent results and there are no studies that verified the effectiveness of TDCS in turning gait.
Objectives: To verify the effectiveness of transcranial acute anodic direct current stimulation in the motor cortex region (Cz or C3-Cz-C4) combined with physical therapy in improving gait turning in individuals with PD.
Methods: This was a randomized, sham-controlled clinical trial, approved by the Brazilian Registry of Clinical Trials RBR-3mywq86. The sample was composed of 42 individuals diagnosed with idiopathic PD, evaluated in the "on" phase of dopaminergic medication. Participants were divided into four groups: 1) active CBT (Cz) + physical therapy, 2) active CBT (C3-Cz-C4) + physical therapy, 3) sham CBT + physical therapy, and 4) educational lecture + physical therapy. The current intensity was 2mA, applied for 20 minutes prior to the 30-minute physiotherapy session with exercises aimed at improving balance and gait. For the instrumental evaluation of gait turning, the 3D motion analysis system was used in the pre-intervention, post-intervention (immediately after the end of the intervention) and follow up (24 hours after the end of the intervention) moments. For the turning analysis, the patients were instructed to walk at normal speed along a seven-meter walkway and turn around a cone positioned in the middle of the pathway. The following variables were measured: center of mass amplitude, speed, largest radius, number of steps, step length, and cadence. Two-way repeated measures ANOVA was used to compare the groups according to stimulation condition (real, sham, or education), time (pre- and post-intervention), and group vs. time interaction. The significance value adopted was 5%.
Results: No statistically significant differences were found for all gait turning variables when considering the interaction time (pre- and post-intervention) vs. group (active CTE, sham CTE, or Education).
Conclusion: The results of the present study suggest that one session of CBT combined with physical therapy was not effective in improving gait turning in individuals with PD.
Implications: CBT has been used as an additional tool to clinical treatment, but future studies are needed to investigate different stimulation strategies (isolated, combined and multitarget), as well as the frequency, intensity, and duration of treatment in improving gait turning in people with PD.

Keywords: Parkinson's disease, Physical therapy, Transcranial direct current stimulation

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REHABILITATION IN LOW BACK PELVIC PAIN IN PREGNANCY: A BIBLIOMETRIC ANALYSIS

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Background: Pelvic low back pain (PLBP) is a complex and multifactorial pathophysiology, common during pregnancy and postpartum. In the last decade, there has been an increase in research on the rehabilitation of PLBP in pregnancy, seeking to test the effectiveness of treatments and understand the causes of this problem. Therefore, it is necessary to analyze the peer-reviewed literature on the subject to identify different perspectives and gaps on the available field of knowledge.
Objectives: To map the scientific production by analyzing published scientific articles on the rehabilitation of pelvic low back pain in pregnancy.
Methods: The search ((pregnancy OR pregnant AND women) AND (low AND back AND pain OR backache OR lumbar AND pain) AND (physical AND therapy OR exercise OR rehabilitation)) was conducted in March 2023 in the Web of Science and Scopus databases, filtering for primary articles. We identified 294 records in Web of Science and 1,266 in Scopus. The titles and abstracts of the records were analyzed, and 347 articles were excluded according to the criteria: non-primary articles, no relationship between low back pelvic pain, pregnancy and exercise, and duplicate records were also excluded (n=159). Data were analyzed in R (version 4.2.2) with the aid of the bibliometrix package (version 4.1.2).
Results: They have analyzed 1.054 articles from 1980 to 2023 in 454 journals, with an annual growth rate of 6,6%. They have researched on the topic by 3.686 authors, with 3,9% international collaborations. The journals that have published the most on the topic are BMC Pregnancy and Childbirth (n=36) and Spine (n=33). Among the most relevant authors, physical therapist Britt Karin Stuge, a senior researcher at Oslo University Hospital in Norway, was the most productive author on the subject (n = 26). The countries with the most publications in this field of research are the USA (n=239), Sweden (n=158) and Norway (n=138). The most influential study entitled "Prevalence of back pain in pregnancy" by Ostgaard and colleagues (1991), was published in the journal Spine. This is a prospective longitudinal study of 855 pregnant women from the maternity health care system in Gothenburg, Sweden. Due to its long duration, significant sample size, number of questionnaires applied, and observations analyzed, this study is considered the most influential worldwide in this field of research. The authors' keyword co-occurrence analysis resulted in 3 clusters with the themes: low back pain (*"low back pain", "pelvic girdle pain", "pelvic pain", "postpartum", "period postpartum", "disability"*), pregnancy and rehabilitation (*"pregnancy", "exercise", "physical activity", "health women's", "back pain", "rehabilitation"*).
Conclusion: The bibliometric analysis of primary studies on PLBP rehabilitation in pregnancy revealed a marked increase in the last 10 years, evidencing the growing interest in this subject for the prevention and treatment of this pathology. However, it is important to highlight that most of the evidence comes from developed countries.
Implications: Quantitative mapping of the knowledge area can help researchers and health professionals identify more influential experts and sources of information, as well as research gaps in addressing PLBP in pregnancy.
Keywords: Pain, Pregnancy, Exercise

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Social isolation as a risk factor for neck and low back pain: a cotwin design

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Background: Perceived social isolation (PSI) is a personal contextual factor that is associated with morbidity and mortality. It is a factor that contributes to a worse quality of life for individuals, being associated with a worse prognosis for several clinical conditions, including low back pain (LBP) and neck pain (NP). However, information on whether ISP is a possible risk factor for LBP and NP is scarce. The few studies that investigated social isolation in back pain have scope or methodological limitations.
Objectives: To investigate the association between individual ISP and the presence of LBP and NP through a co-twin study.
Methods: Cross-sectional observational study of 141 pairs of complete twins. The sample was taken from the Brazilian Twin Registry. We used self-reported questionnaires to assess the occurrence of LBP and NP (yes or no) and the level of physical activity. The Friendship Scale was used to measure people's PSI. The Peas in a Pod and Pittsburgh Sleep Quality questionnaires were used to determine twin pair zygosity and sleep quality, respectively. Regression models were constructed to investigate whether people's ISP is associated with the occurrence of LBP or NP. Models were adjusted for potential confounders: family factors; age; gender; level of physical activity; and sleep quality.
Results: The sample consisted of adults of good socioeconomic status, mostly female (73.76%). Most had LBP and/or NP (84.75%), social isolation (58.87%), poor sleep quality (62.42%) and did not practice regular physical activity (69.15%). A change of one point in 25 in people's perception of less social isolation represented a 6% reduction in the risk of having NP (OR:0.94; 95%CI:0.84−1.05) and an 8% reduction in risk to present LBP (OR :0.92; 95%CI:0.81−1.05), after adjusting models for possible confounding factors mentioned above, however the confidence intervals included 1.0, so the estimates did not reach significance statistic.