

Impact of Social Isolation due to the COVID-19 Pandemic in Patients With Pediatric Disorders: Rehabilitation Perspectives From a Developing Country

André Luís Ferreira Meireles, Louisiana Carolina Ferreira de Meireles

The novel coronavirus (COVID-19) appeared in Wuhan, China, in December 2019. It quickly spread across the globe and was declared a worldwide pandemic by the World Health Organization (WHO) 3 months later. COVID-19 can lead to acute respiratory distress syndrome, pneumonia, and other important complications, including death, especially in high risk groups.¹ Among pediatric patients, according to the literature, COVID-19 appears to be less severe than in adults and the elderly, and approximately 90% of pediatric patients are diagnosed with asymptomatic, mild, or moderate disease.^{2,3} Even so, 6.7% of cases may be severe in children with serious underlying conditions such as neurologic and neurodevelopmental disorders.⁴ Respiratory complications are a major cause of death in the chronic neuropsychiatric population.⁵ Moreover, COVID-19 treatment may be more challenging in these children. For instance, prone ventilation, which is often practiced in patients with COVID-19,⁶ is difficult to perform in individuals with cerebral palsy and advanced neuromuscular conditions. Hydroxychloroquine and azithromycin are being indicated in treatment protocols of countries such as Brazil; however, a case report on an adult patient taking chloroquine for presumable reticular erythematous mucinosis indicated that the drug induced myasthenic syndrome, suggesting that the drug might affect neuromuscular junction transmission and might adversely affect children with myasthenia.⁷ Considering the absence of vaccines and effective antiviral therapies, the only strategies that have been shown to be effective in the reduction of cases and deaths in most countries are rigid public health measures such as social distancing.^{8,9}

Despite its importance in the control of the pandemic and in the protection of groups who are at risk, social distancing seems to impact the lives of patients with neuropsychiatric conditions in a biopsychosocial manner. Analyzing this issue from a social perspective, children with disabilities in social isolation, especially in developing countries, may have problems in accessing the necessary therapies. Panda and Sharawat¹⁰ mentioned that due to strict isolation measures in some countries, children with epilepsy and neuromuscular disease may be deprived of their drug treatment.¹⁰ In addition, economic damage caused by pandemic has a negative impact on household income, which is already limited in these

families due to the high costs of medication, support technologies, and physical therapies. Unfortunately, this vulnerable population has not received any special economic or sociopolitical support in most developing and underdeveloped countries.

Other important negative effects of social isolation in children and adolescents during a pandemic are in the area of mental health.^{11,12} School closures and lack of access to day care centers and parks may exacerbate children's feelings of loneliness, depression, and anxiety.¹³ Most schools have adopted the recommendation of United Nations Educational, Scientific, and Cultural Organization (UNESCO) and are using distance learning programs and open educational opportunities that can connect teachers and students remotely and limit the disruption of education; however, in most cases, this is not a reality for children with disabilities.

Physical health is also negatively impacted by social isolation. Evidence shows the importance of physical rehabilitation for pediatric patients with chronic neurological conditions^{14,15}; however, these activities must be interrupted during a pandemic. Rehabilitation staff, such as speech-language pathologists and physical therapists, are at increased risk of self-contamination and may contaminate others, because they are exposed directly to respiratory droplets from patients with neurological conditions. The absence of rehabilitation may lead to soft tissue contractures, bone deformities, regression in motor milestones, dysphagia, and respiratory difficulties in addition to other complications. Pediatric patients with neurological conditions also may experience declines in motor function.

One modality of rehabilitation assistance that has been discussed and adopted in this period of social isolation is telerehabilitation, wherein rehabilitation professionals' interactions with patients take place at a distance, through telecommunications devices, to provide rehabilitation assistance.¹⁶ In contrast to countries such as the United States, United Kingdom, Japan, and Canada, the use of telerehabilitation in Brazil was prohibited by the National Council of Physiotherapy and Occupational Therapy (COFFITO) and National Council of Speech Therapy (CFFA); however, in March 2020, due to the pandemic,

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both institutions published resolutions authorizing professionals to assist the population via telerehabilitation.

For Brazilian rehabilitation therapists, and for many of the world's physical therapists, the possibility of telerehabilitation was something extremely new and challenging. Telerehabilitation particularities, such as data privacy, prior programming of the session environment and material, internet quality, specific applications for telerehabilitation, and legal aspects of this type of service are being discussed strongly among regional councils and associations representing different specialties in Brazil. The treatments and interventions for rehabilitation of children and adolescents with neuromuscular disabilities comprise techniques that involve touch, handling, performing of specific tasks, correction of activities during execution, and use of machines or apparatuses, such as treadmills, suit therapy protocols, and virtual reality.^{14,17} Thus, the adoption and performance of attendance by telerehabilitation in neuropsychiatric patients may be a complex process.

In addition, we still need to know more about the effects of telerehabilitation effects in the neuropsychiatric population. In a systematic review, Dos Santos et al¹⁸ discuss 9 studies about telerehabilitation in children and teenagers; 6 of the studies looked at asthma management, but none examined rehabilitation for pediatric neurological disorders.¹⁸ A recent systematic review with similar scope reported 17 studies, 4 of which explored telerehabilitation use in children and adolescents with neurological conditions (unilateral cerebral palsy and acquired brain injury).¹⁹ Even though this systematic review showed some benefits in rehabilitation for children with physical disabilities, the clinical outcomes evaluated were not clearly relevant for clinical practice, and the diseases and outcomes evaluated did not reflect the complexity of neuropsychiatric rehabilitation.

We live in a unique time, and its real impact will be perceived only after the pandemic resolves. Until then, rehabilitation professionals, policy makers, and families of children with neuromotor disabilities should discuss and direct their attention to some key points:

1. Public policies to support families of children with disabilities are needed. In developing countries, the majority of this population is socially vulnerable as a result of the COVID-19 pandemic. Accessibility to public health and information about prevention of COVID-19, financial compensation for families and caregivers of people with disabilities, monthly donations of basic food supplies, endowments of smartphones, and high-quality internet support in remote areas (eg, slums) for transmitting specialized information and educational assistance to children with disabilities are examples of public policies that could better support these families.²⁰

2. As we do not have optimistic estimates for the duration of the pandemic, studies investigating telerehabilitation in neuropsychiatric areas are critical to identify this modality's real efficacy and to better understand the practice, perceptions, and difficulties of rehabilitation staff and parents.
3. To provide psychological and social support to families and help them to deal with this hard time of pandemic and social isolation. In this context, some measures may be adopted, such as maintaining regular routines and programs as much as possible or creating new ones (eg, regular exercising, daily chores, singing, painting, keeping in regular contact with friends and colleagues via telephone, e-mail, social media, or video calls). These strategies might reduce boredom and also help family members integrate themselves. Additionally, low-cost specific psychological support can be provided via teleconsultation from psychology faculty at local universities or nongovernmental organizations or even supported by the local public health system.

Although we will probably will not be able to see the real impact of social isolation on health of children with disabilities until after COVID-19 is gone, pediatric physical therapists must adapt in order to provide the best possible care during this complex social moment that our patients and families are enduring.

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Maternal resistance exercise promotes changes in neuroplastic and epigenetic marks of offspring's hippocampus during adult life

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ABSTRACT

Studies indicate that gestational exercise practice positively impacts the offspring's cognition. Nevertheless, the influence of maternal resistance exercise, different periods of exercise practice, and the inter- and trans-generational effects involved in these responses are not known. This study sought to report the influence of the maternal practice of resistance exercise on offspring's cognitive function, exploring behavior, and neuroplastic and epigenetic marks in the hippocampus. Female Wistar rats were divided into four groups: sedentary (SS), exercised during pregnancy (SE), exercised before pregnancy (ES), and exercised before and during pregnancy (EE). Exercised rats were submitted to a resistance exercise protocol (vertical ladder climbing). Between post-natal days (P)81 and P85, male offspring were submitted to the Morris water maze test. At P85, the following analyses were performed in offspring's hippocampus: expression of IGF-1 and BrdU+ cells, global DNA methylation, H3/H4 acetylation, and HDAC2 amount. Only the offspring of SE mothers presented subtly better performance on learning and memory tasks, associated with lower HDAC2 amount. Offspring from ES mothers presented an overexpression of hippocampal neuroplastic marks (BrdU+ and IGF-1), as well as a decrease of DNA methylation and an increase in H4 acetylation. Offspring from EE mothers (continuously exercised) did not present modifications in plasticity or epigenetic parameters. This is the first study to observe the influence of maternal resistance exercise on offspring's brains. The findings provide evidence that offspring's hippocampus plasticity is influenced by exercise performed in isolated periods (pre- or gestationally) more than that performed continually.

1. Introduction

It is widely recognized that progenitors' habits can affect their offspring's health. Parents' exposure to toxins, diet, and stress are commonly known factors that can interfere in their offspring's development and promote changes in phenotypes during adulthood [1,2]. The progenitor's physical exercise practice has been studied as a possible positive influence factor on offspring's health, and some current reviews attempt to elucidate this topic by exploring how progenitors' physical exercise can influence the epigenetic machinery of their

descendants [3,4].

The epigenetic machinery has been noted to exert a pivotal role in inter- and transgenerational effects in response to the rodent parent's lifestyle [5]. Some epigenetic modifications are related to better performance on learning and memory tests, directly influencing cognitive function [6]. Histone acetylation, the addition of an acetyl group to lysine residues in the N-terminal tails on the surface of the nucleosome, for example, is directly associated with active transcription and with the establishment of long-term memory [7]. The histone level is regulated by the balance of histone acetyltransferase (HAT) and histone

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Impact of World Cerebral Palsy Day on Public Interest in Brazil: Evidence from Internet Search Data

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ABSTRACT

Aim: This study investigated the impact of the World Cerebral Palsy Day (WCPD) campaign on the public interest using Google Trends Analysis data in Brazil.

Methods: Google Trends was used to collect Relative Search Volume (RSV) data for “cerebral palsy” from 2004 to 2011 (control years) and 2012 to 2022 (WCPD years). RSV during the 4 weeks around WCPD (period of interest) was compared with the rest of the year (control period) in each timeframe. Regional RSV, search queries, and main topics were also investigated.

Results: RSV increased by 62.22% from pre-campaign to campaign period. During the WCPD years, a 21.36% RSV increase occurred in campaign weeks, with an average difference of 12.16 (95% CI: 1.74, 22.58); notably in the last five years in the southeast 9.47 (95% CI: 2.93, 16.01) and south 8.66 (95% CI: 1.66, 15.66) macro-regions.

Conclusion: The campaign has fulfilled its role, but targeting more vulnerable areas could further amplify its impact.

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KEYWORDS

Internet; cerebral palsy;
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Background

Cerebral Palsy (CP) is an umbrella term that defines a group of permanent disorders of the development of movement and posture, causing activity limitations that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain.^{1,2}

CP is one of the most frequent causes of motor disability in children. It is estimated that in high-income countries, the birth prevalence of cerebral palsy (CP) is 1.6 per 1000 live births. In low- and middle-income countries, although not precisely estimated, the birth prevalence is notably higher than in high-income countries.³

Due to a very etiologically and clinically heterogeneity, it is expected that individuals with CP will require the assistance of different healthcare professionals during their childhood and, in more severe cases, during adolescence and adulthood.⁴ Therefore, accurate information about such a complex condition as CP is important for professionals involved in the treatment of these patients, for parents and families of children, and for society.^{5,6}

Information on diagnosis, clinical presentations, prevention, treatment, and advocacy solutions can be disseminated to the population through the development of National or International Campaigns to raise awareness about specific diseases or health conditions.⁷ Several campaigns have been

created for this purpose, such as campaigns for autism, cystic fibrosis, stroke, and breast cancer.^{7,8}

Since 2012, the Cerebral Palsy Alliance has organized the World Cerebral Palsy Day awareness campaign on October 6th. Awareness, education, and support activities for patients, families and stakeholders take place on this day in various countries around the world.⁹ In Brazil, the campaign began in 2012–2013 with discreet promotion by social media, webpages, some medical associations, and news sites. However, the campaign gained more visibility in the last six years when the nonprofit organization *Nossa Casa Institute* initiated its promotion.^{10,11}

The quantification of the impact resulting from the proposed activities in these health campaigns is not always straightforward, at least in terms of its real impact.¹² This complexity may be related from the diverse range of activities proposed and their extensive deployment throughout the country, which are inherent characteristics of public initiatives and communication strategies.^{13,14} In recent years, several studies have investigated the usefulness and impact of cancer campaigns and some other diseases using data provided in applications such as Google Trends.^{15,16} Nonetheless, the impact of this type of campaign involving Cerebral Palsy has not yet been investigated.

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The study aimed to examine the main characteristics of clinical trials of motor interventions in physical therapy in children with cerebral palsy (CP). The Physiotherapy Evidence Database (PEDro) was used to collect information on clinical trials regarding motor outcomes in physical therapy in children with CP. Two reviewers independently screened, selected the studies, and extracted data. The characteristics extracted were CP subtype; age group; gross motor function and manual motor ability; methodological quality; open access status; 2020 journal impact factor, Consolidated Standards of Reporting Trials (CONSORT) endorsement; primary outcome; intervention adopted, and assessment instruments. The search strategy resulted in 313 articles from 120 different journals. Most of the clinical trials included participants with spastic bilateral subtype, aged between 6 and 12 years old, and with fewer limitations in gross and manual motor abilities. The most used primary outcomes covering the International Classification of Functioning, Disability and Health (ICF) domain of activity were gross motor function (18.8%) and upper limb and hand function (16.3%), with the Gross Motor Function Measurement being the most frequently used instrument (19.8%). Articles with better scores on the PEDro scale

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Cerebral palsy (CP) is an umbrella term used to describe 'a group of permanent disorders of the development of movement and posture, causing activity limitation, which are attributed to non-progressive disturbances that occur in the developing fetal or infant brain' [1]. Although CP is a non-progressive condition, the clinical manifestations are diverse and changing over time such that movement capacity often decreases at Gross Motor Function Classification System (GMFCS) levels III–V in later childhood, adolescence, and young adulthood [2,3]. As a chronic health condition with a variety of clinical and etiological aspects that affect multiple domains related to children's health, CP treatment tends to require management with an interdisciplinary or transdisciplinary approach. Among the professionals involved

Although the number of randomized clinical trials (RCTs) on physical therapy has been increasing exponentially in recent years, the wide variability of methodology quality imposes a barrier to understanding and interpreting information in clinical practice [10,11]. In studies on children and youth with CP, this is amplified because of the heterogeneity of the clinical phenotype of CP, the variable

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Characteristics and perceptions of telerehabilitation consultations by neuropsychiatric physical therapists during the COVID-19 pandemic

Características e percepções das consultas por telereabilitação pelos fisioterapeutas neuropsiquiátricos durante a pandemia da COVID-19

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Abstract

Introduction: The COVID-19 pandemic brought a strong discussion about telerehabilitation, especially in countries where its practice was not allowed previous the pandemic. In the neuropsychiatric rehabilitation field evidence of the effectiveness of this modality of assistance and data about provider and family's perceptions are scarce. **Objective:** To evaluate the characteristics of telerehabilitation physical therapy consultations for children with neurological diseases during the COVID-19 pandemic and report the perceptions of physical therapists about this modality of assistance. **Methods:** An online survey was created and administered to Brazilian neuropsychiatric physical therapists. The survey consisted of demographics data, questions about the characteristics of telerehabilitation consultations, and physical therapists' perception of telerehabilitation assistance. **Results:** From July to September 2020, 394 physical therapists responded to the questionnaire. The most of them took 21 to 30 minutes per telemonitoring session (26.9%), offered one session per week (61.0%), and used electronic messages as the main method of delivery (39.9%). The main difficulty reported was caregivers' lack of understanding about handling during sessions (41.2%) and problems with internet connection (16.7%). Additionally, most of them reported that it is highly important to provide healthcare via telerehabilitation to the economically disadvantaged. **Conclusion:** The findings of this study provide insight into the complex and challenging process of telerehabilitation assistance during the first wave of the COVID-19 pandemic. Despite the reported challenges, telerehabilitation can be an opportunity to better understand children's activities and participation in home context.

Keywords: COVID-19. Rehabilitation. Telerehabilitation. Pediatrics.

Original Article

Strength training during pregnancy influences hippocampal plasticity but not body development in neonatal rats

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Abstract

Objective: To describe the effects of strength exercise practice during pregnancy on the offspring's development parameters: growth and motor performance, hippocampal neuroplasticity, and stress levels. **Methods:** Pregnant Wistar rats were divided into two groups: sedentary and exercised rats. Exercised pregnant rats were subjected to a strength training protocol (vertical ladder climbing) throughout the gestational period. Male offspring's body weight, length, and head size were evaluated during the neonatal period (postnatal days [P]2–P21), as well as motor milestones during P0–P8. At P8, a set of male pups were subjected to global hippocampal DNA methylation, hippocampal cell proliferation, and plasma corticosterone concentration. **Results:** Offspring from trained mothers presented a transient change in body morphometric evaluations, no differences in milestone assessments, enhancement of cell proliferation in the dentate gyrus of the hippocampus, and decreased global hippocampal DNA methylation compared with the offspring from sedentary mothers. Furthermore, strength training during pregnancy did not change the corticosterone concentration of exercised mothers and their offspring. **Conclusions:** These data indicate that strength training can protect offspring's development and could impact positively on parameters linked to cognitive function. This study provides a greater understanding of the effects of strength exercise practiced during pregnancy on the offspring's health.

Keywords: Epigenetics, Neural Plasticity, Neurogenesis, Physical Activity

Introduction

The gestational period is considered a critical development window, and environmental influences, such as physical exercise practice and diet, in this period can be important

for offspring's health outcomes¹. However, the influence of progenitor's health habits on descendants is more studied in diseases scenarios².

The healthy lifestyle of parents could influence offspring by programming somatic cells in utero, influencing the development of tissues and organs, such as the brain³. One of the mechanisms involved in the programming of somatic cells is epigenetic, which can be defined as changes to gene expression that are independent of sequence modifications and that are mitotically stable and, in some cases, heritable^{3,4}. One of the epigenetic marks is DNA methylation. This modification leads to a conversion of cytosine to 5-methylcytosine, with reduced accessibility of the DNA to transcription factors. Inhibition of DNA methyltransferases

The authors have no conflict of interest.

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REVIEW ARTICLE

Chronic inflammatory demyelinating polyradiculoneuropathy – a narrative review

Polineuropatia desmielinizante inflamatória crônica – uma revisão narrativa

André Luís Ferreira Meireles

Meireles ALF. Chronic inflammatory demyelinating polyradiculoneuropathy – a narrative review / *Polineuropatia desmielinizante inflamatória crônica – uma revisão narrativa*. Rev Med (São Paulo). 2021 Jan-Feb;100(1):57-61.

ABSTRACT: *Introduction:* Chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) is an autoimmune disease generated by cellular and humoral immune responses, that act in a synergistic way, will act against antigens of the peripheral nerves, generating a progressive clinical feature of sensorimotor weakness that will change the quality of life of this patient. *Aim:* Summarize the basic and actual concepts of CIDP, such as etiology, disease subtypes, clinical features, pathogenesis, pharmacological and non-pharmacological treatment. *Material and Methods:* This is a narrative systematic review. Medline (Pubmed), Embase and PEDro databases were used to summarize the review' topics. The studies used in this review were selected by convenience. *Results:* CIDP can affect children and adults, and male gender is the most affected. The clinical picture of CIDP is composed of numbness, paresthesia, sensory changes, muscle weakness, hyporeflexia or areflexia, fatigue and balance changes, this picture has a progressive or relapsing character, symmetrical and with slow evolution. The disease has an autoimmune character generated by cellular and humoral immune responses, which will act against peripheral nerve antigens, generating demyelination and axonal degeneration. The treatment of CIDP aims to reduce or attenuate the evolution of symptoms. The main types of treatments are the intravenous of immunoglobulins, corticosteroid, and plasma transfer administration. *Conclusion:* Studies exploring more deeply the pathophysiological mechanisms of CIDP and optimization of diagnosis, are important points that should be investigated to improve care and assertiveness in the treatment of these patients.

Keywords: Acute inflammatory demyelinating polyneuropathy; Physiotherapy; Guillain-Barre syndrome.

RESUMO: *Introdução:* A Polineuropatia Desmielinizante Inflamatória Crônica (PDIC) é uma doença de caráter autoimune gerada por respostas imunes celulares e humorais que, atuando de forma sinérgica, irão agir contra antígenos dos nervos periféricos, gerando um quadro progressivo de debilidade sensório-motora que irá alterar a qualidade de vida de seus portadores. *Objetivo:* Sumarizar os conceitos básicos e atuais da PDIC, como etiologia, subtipos da doença, quadro clínico, patogênese e o tratamento farmacológico e não farmacológico. *Material e Métodos:* Trata-se de uma revisão sistemática narrativa. As bases de dados Medline (Pubmed), Embase e PEDro foram utilizadas para sumarizar os tópicos dessa revisão. Os estudos que compuseram os tópicos dessa revisão foram selecionados por conveniência. *Resultados:* A PDIC pode acometer crianças e adultos, e o sexo masculino é o mais afetado. O quadro clínico da PDIC é composto de dormência, parestesia, alterações sensoriais, fraqueza muscular, hiporeflexia ou arreflexia, fadiga e alterações de equilíbrio, esse quadro tem caráter progressivo ou recidivante, simétrico e com evolução lenta. A doença tem caráter autoimune gerada por respostas imunes celulares e humorais, que irão agir contra antígenos dos nervos periféricos, gerando uma desmielinização e degeneração axonal. O tratamento da PDIC visa reduzir ou atenuar a evolução da sintomatologia. Os principais tipos de tratamentos são a administração intravenosa de imunoglobulinas, corticosteroides e transferência plasmática. *Considerações Finais:* Estudos explorando mais profundamente os mecanismos fisiopatológicos da PDIC e otimização do diagnóstico, são pontos importantes que deverão ser investigados para a melhora da assistência e assertividade do tratamento desses pacientes.

Palavras-chave: Polineuropatia desmielinizante inflamatória aguda, fisioterapia, Síndrome de Guillain-Barré.

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**PERFIL DE ATENDIMENTO REMOTO A CRIANÇAS COM DESORDENS NEUROLÓGICAS NA REDE APAE DURANTE A PANDEMIA DA COVID-19
UM ESTUDO DO TIPO SURVEY**

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Resumo: Devido à adoção de medidas de isolamento e de distanciamento social como meios de controlar a disseminação da Covid-19, diversas profissões da área da saúde tiveram que se adaptar ao novo cenário. Assim, como forma de manter a assistência, mesmo que de forma remota, foi aprovado o uso do telemonitoramento por fisioterapeutas. Dessa forma, o presente estudo tem como objetivo reportar as características do telemonitoramento adotado por fisioterapeutas às crianças com desordens neurológicas vinculadas à Rede de Associação de Pais e Amigos dos Excepcionais (APAE). Este trabalho é caracterizado como um estudo transversal do tipo survey, realizado a partir de um questionário eletrônico a fisioterapeutas neuropediátricos brasileiros constituintes da REDE APAE. O questionário da pesquisa foi composto por duas partes principais: a) dados demográficos e profissionais e b) questões sobre as características da assistência de telemonitoramento. No total, 318 fisioterapeutas responderam ao questionário, a maioria mulher (84,34%) e da região sudeste do país (46,67%). O número de atendimentos semanais foi menor no período pré-pandemia (30 ou mais atendimentos (35,44%) quando comparado ao período da pandemia (6 a 10 crianças (21,38%). Os recursos mais utilizados para auxiliar no atendimento foram o uso de bolas, rolos e bancos (69,11%). Tratando-se de questões referentes às principais dificuldades reportadas pelos fisioterapeutas houve maior destaque quando à falta de compreensão por pais ou responsáveis em manuseios específicos e problemas de conexão com a internet. Este estudo adiciona informações importantes sobre o uso da telerreabilitação pela fisioterapia na população neuropediátrica. Dessa forma, os resultados são úteis para o planejamento, bem como auxílio na elaboração e adequações das consultas via telemonitoramento, por profissionais e tomadores de decisão na área da reabilitação pediátrica.

Palavras-chave: Paralisia cerebral. Fisioterapia neuropediátrica. Telerreabilitação.

Abstract: Because of isolation and social distancing measures to control the spread of Covid-19, several healthcare professionals had to adapt to the new scenario. Thus, to maintain care, even if remotely, the use of telemonitoring by physical therapists was approved. Because of this, this study aims to report the characteristics of telemonitoring adopted by physical therapists for children with neurological disorders linked to the Associação de Pais e Amigos dos

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Prevalência de estresse e de ansiedade em uma amostra de estudantes universitários submetidos à apresentação de trabalho de conclusão de curso

Prevalence of stress and anxiety in a sample of college students submitted to undergraduate thesis presentation

RESUMO

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OBJETIVO: Reportar os níveis de ansiedade e de estresse em uma amostra de estudantes universitários de uma instituição privada de ensino superior previamente às suas apresentações de trabalho de conclusão de curso (TCC).

MÉTODOS: Trata-se de um estudo transversal, quantitativo de caráter analítico. A amostra foi composta por 76 graduandos do último período de diversos cursos de graduação, com média de idade de 22,98 ($\pm 0,22$) anos e de ambos os sexos. Uma semana antes da apresentação oral dos TCCs, os seguintes instrumentos avaliativos foram aplicados: avaliação estruturada, contendo dados sociodemográficos, qualidade do sono e níveis de atividade física; Escala de Percepção de Estresse (EPS-10); versão abreviada do Inventário de Ansiedade Traço-Estado (IDATE), que avalia a ansiedade enquanto estado (IDATE-E) ou traço (IDATE-T). Os dados foram analisados no software SPSS 24.0, usando os seguintes testes: Wilcoxon, Pearson e qui-quadrado. O nível de significância adotado foi de 5%.

RESULTADOS: O escore do estresse percebido da EPS-10 foi de $24,80 \pm 6,44$. Tanto na IDATE-T quanto na IDATE-S, os alunos apresentaram médias de pontuação acima de 50 ($52,28 \pm 0,45$ e $58,22 \pm 0,48$), sendo essas médias estatisticamente diferentes. Foi observada correlação positiva moderada entre ansiedade e estresse; assim como associação significativa entre qualidade do sono e níveis de ansiedade.

CONCLUSÕES: A prevalência de estresse e de ansiedade apresentada pelos estudantes foi elevada. Esse resultado pode ter sido potencializado pela associação do fato dos alunos estarem no último ano de faculdade e a proximidade da apresentação oral do TCC.

PALAVRAS-CHAVE: Depressão. Educação. Qualidade de vida.

ABSTRACT

OBJECTIVE: Report the anxiety and stress levels of a sample of college students on a private educational institution, previously to their undergraduate thesis presentation.

METHODS: This is a cross-sectional, quantitative, analytical study. The sample consisted of 76 undergraduate students from the last period of their courses, with an average age of 22.98 (± 0.22) years and both sexes. One week before the oral presentation, the following assessment tools were applied: Patient clinical assessment, containing sociodemographic data, quality of sleep and levels of physical activity. Abbreviated version of the State-Trait Anxiety Scale (STAI-S) - perception of anxiety at that moment - and (STAI-T) - anxiety perception generally -, and Perceived Stress Scale (PSS-10). The data were analyzed using SPSS 24.0 software, using the following tests: Wilcoxon, Pearson and Chi-Square test. The level of significance adopted was 5%.

RESULTS: The PSS-10 perceived stress score was (24.80 ± 6.44). In both STAI-T and STAI-S, students had score averages above 50 (52.28 ± 0.45 and 58.22 ± 0.48), these averages being statistically different. A moderate positive correlation was observed between anxiety and stress; as well as a significant association was also observed between sleep quality and anxiety levels.

CONCLUSIONS: The prevalence of stress and anxiety presented by students was high. This result may have been enhanced by the association of the students were in their last year of college and the proximity of the oral undergraduate thesis presentation.

KEYWORDS: Depression. Education. Quality of life.

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Uso do óleo essencial derivado da *Alpinia Zerumbet* na espasticidade decorrente de lesão nervosa central – Uma revisão sistemática

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RESUMO

A espasticidade é um fenômeno que ocorrerá devido a lesão no neurônio motor superior, e pode ser definida como uma hiperexcitabilidade do reflexo de estiramento. Recentemente um óleo essencial derivado de uma planta conhecida como *Alpinia Zerumbet*, e comercializado como fitoterápico, vem sendo usado para modular a espasticidade causada por doenças neurológicas como o Acidente Vascular Encefálico (AVE) e Paralisia Cerebral (PC). O objetivo desse estudo foi sumarizar as evidências sobre os efeitos do óleo essencial derivado da *Alpinia Zerumbet* (OAZ) em pacientes com espasticidade. Trata-se de uma revisão sistemática. Artigos que envolvessem o uso do OAZ no tratamento da espasticidade em doenças neurológicas foram pesquisados nas seguintes bases de dados: Scielo, Lilacs, Pubmed, PEDro, EMBASE e Google Acadêmico. Estudos que investigassem a ação do OAZ sobre lesões nervosas periféricas ou condições não neurológicas, estudos de revisão e estudos pré-clínicos, foram excluídos desse estudo. A escala PEDro e a ferramenta *Quality assessment tool for before-after (pre-post) studies with no control group* foram utilizadas para avaliação metodológica dos estudos. Cinco estudos foram selecionados seguindo os critérios de inclusão. Desses, dois ensaios clínicos controlados randomizados, dois ensaios clínicos quase-experimentais e um era uma série de casos. As populações estudadas nesses artigos foram AVE, PC e lesão medular, e os principais desfechos avaliados foram espasticidade e função motora. A administração do OAZ associada a cinesioterapia foi capaz de diminuir a espasticidade muscular e melhorar função de pacientes neurológicos. Entretanto, devido a fragilidade metodológica encontrada nas atuais evidências, ainda não é possível atestar sua eficácia.

Application of *Alpinia Zerumbet* essential oil in spasticity after central nervous injury – A systematic review

ABSTRACT

The spasticity occurs due to lesion in upper motor neuron and could be defined as a hyperexcitability of the stretch reflex. Recently an essential oil extracted from a plant known as *Alpinia Zerumbet*, and marketed as an herbal medicine, it has been used to modulate spasticity caused by neurological diseases such as Stroke and Cerebral Palsy (CP). The objective was to summarize the evidence about the effects of *Alpinia Zerumbet* essential oil (OAZ) in patients with spasticity. It is a systematic review study. Studies exploring the use of OAZ in spasticity management of neurological diseases were searched in the following databases: Scielo, Lilacs, Pubmed, Science Direct, PEDro, EMBASE e Google Academic. Studies exploring the action of OAZ in peripheral nerve injuries or in non-neurological conditions, review studies and basic studies, were excluded. PEDro scale and *Quality assessment tool for before-after (pre-post) studies with no control group* tool were used to assess the quality of methodology in the studies. Results: Five studies were selected following the include criteria. Of these, there were two were clinical randomized trials, two were quasi-experimental trials, and the last one it was a case series study. Stroke, CP and spinal cord injury patients were the studied population, and the mainly outcomes evaluated were muscular spasticity and motor function. The administration of OAZ associated with kinesiotherapy was able to decrease the muscular spasticity and improve the motor function in neurological patients. However, due to the methodological weaknesses founded in actual evidence, it is not yet possible to attest to its effectiveness.

Keywords:

Phytotherapeutic

drugs; muscle

hypertonia;

physiotherapy;

cerebral palsy.

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