

EPIDEMIOLOGICAL PROFILE AND MOTOR AND COGNITIVE DEVELOPMENT IN HIPPOThERAPY PRACTITIONERS WITH NEUROPEDIATRIC DISORDERS

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ABSTRACT

Hippotherapy is an equine-assisted therapy that began in 1989 by the National Association of Hippotherapy (ANDE), which uses the horse in direct contact with the child, contributing positively to the improvement of the practitioner and fostering greater biopsychosocial development. Hippotherapy is used in the treatment of various sensory-motor pathologies such as cerebral palsy, sensory deficits, maturational delay, and others. The objective of this study was to survey the epidemiological profile of hippotherapy practitioners and the motor and cognitive development of practitioners with neuropediatric disorders, in the rehabilitation phase at a hippotherapy center in the municipality of Ceres-GO. This is a cross-sectional study, of an exploratory and descriptive nature, regarding the epidemiological profile and motor and cognitive development of Hippotherapy practitioners in the rehabilitation phase. Data collection was performed using a sociodemographic questionnaire and the Pediatric Evaluation of Disability Inventory (PEDI). Twenty-nine practitioners were studied, with a majority being male (79.6%), with a mean age of 8.65 (± 10.55). The most prevalent diagnosis was Autism Spectrum Disorder (ASD) with 55.2% of practitioners, followed by attention deficit and hyperactivity disorder (ADHD) with 20.7%. The practitioners presented moderate impairment in motor and cognitive development, with ASD showing the greatest impairment in social function. The survey made it possible to draw a detailed map of neurological, cognitive, and physical dysfunctions, which supports decision-making and directs safe intervention for practitioners, and greater efficacy of hippotherapy.

Keywords: Hippotherapy; Motor Development; Cognitive Development; Neurological Dysfunctions.

INTRODUCTION

Hippotherapy is an intervention that uses the horse for a more humanized therapy, working on body and mind, contributing to greater biopsychosocial development, as hippotherapy is formed by a multidisciplinary team enabling the

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practitioner to have greater development; the therapy began in Brazil in 1989 by the National Association of Hippotherapy (ANDE, 2019).

Hippotherapy originated in Greece, where it was used to cheer up patients, and after a few years this therapy gained strength in treatments with children where direct contact with the equine's skin positively affected the patient with improvements in physical, cognitive, and psychosocial performance (LOVRIĆ *et al.*, 2020).

Hippotherapy encompasses several areas and different professionals; among these professionals, the physiotherapist plays a fundamental role in the patient's improvement as it is they who prescribe the conducts and perform the patient's physical and motor rehabilitation. Practice with the equine allows the practitioner to have greater interaction with the animal, performing playful activities that involve the practitioner. In addition to being a multiprofessional therapy with different areas such as psychology and speech therapy specialists, to help this interaction of the practitioner in the social environment, aiming at improvement in the cognitive aspect (MORAES, 2014).

The intervention can be used in the treatment of various sensory-motor pathologies such as Cerebral Palsy (CP), sensory deficits, maturational delay, inflammatory processes of the central nervous system, and others. However, the most common psychosocial disorders are autism spectrum disorder (ASD), attention hyperactivity disorder (ADHD), learning difficulties, and behavioral changes (SILVA, 2019).

Neuropediatric disorders can benefit from equine therapy, in addition to numerous other disorders that compromise motor and cognitive development. The objective of this study, therefore, was to survey the epidemiological profile of hippotherapy practitioners and the motor and cognitive development of practitioners with neuropediatric disorders, in the rehabilitation phase at a hippotherapy center in the municipality of Ceres-GO.

METHODOLOGY

This is a cross-sectional study, of an exploratory and descriptive nature, regarding the epidemiological profile and motor and cognitive development of hippotherapy practitioners in the rehabilitation phase in the municipality of Ceres-GO.

The study population comprises hippotherapy practitioners in the rehabilitation phase at the Hippotherapy Center, located at the Federal Institute of Goiano, municipality of Ceres-GO. It serves children and adults with various pathologies.

Included were practitioners enrolled and participating in a hippotherapy center in the interior of Goiás who agreed to participate in the research and signed the Free and Informed Consent Term (FICT). Minors who presented the FICT signed by their guardian, and the Free and Informed Assent Term (FIAT) signed by themselves confirmed they were aware and informed of their participation in the research.

The Pediatric Evaluation of Disability Inventory was used, which consists of a questionnaire divided into 3 stages that assess the practitioner's functional skills. The first stage assesses self-care, mobility, and social function; the second stage is related to independence, supervision, and minimal, moderate, or maximum assistance; and the last stage assesses modifications and adaptations in the environment where the practitioner is integrated (TELES *et al.*, 2016).

Data collections were conducted through an interview that included a sociodemographic survey, time practicing hippotherapy, functional skills, mobility area, locomotion methods, and social function area. Data were collected using the Pediatric Evaluation of Disability Inventory (PEDI), a valuable instrument for assessing the motor and cognitive development of practitioners and surveying the correlation between the level of development and severity of dysfunctions in different pathologies.

From the collected data, descriptive and inferential statistical analyses were performed, analyzing the results, where the data were tabulated using Microsoft Excel software. The study was submitted to the Research Ethics Committee under number 82512024.7.0000.5076.

RESULTS

The study included 29 practitioners from the Hippotherapy Center in the interior of Goiás; of the research subjects, 20.7% were female, and 79.6% were male, with a mean age of 8.65 (± 10.55) years and a minimum age of 2 to a maximum of 56 years.

Regarding the epidemiological profile of the diagnosed pathologies of hippotherapy practitioners, ASD stood out with 55.2%, ADHD with 20.7%, and CP with 6.9%, and the other pathologies presented 3.4%. Only 1 practitioner does not present neuropediatric dysfunctions, as it is an adult with a diagnosis of depression. When comparing the epidemiological profile and sex, there was no association, therefore no significant difference is observed between the sexes ($p=0.309$) of the practitioners and the dysfunctions found.

The analysis of motor and cognitive development with the PEDI evidenced a mean self-care score of 46.28 (± 18.9), mobility mean was 51.97 (± 7.36), and social function mean was 35.14 (± 20.02). Knowing that scores below 30 correspond to high motor and cognitive impairment, the studied practitioners present moderate impairment in self-care, mobility, and social function.

Practitioners with ADHD obtained better motor and cognitive performance, with values above 50 in mobility, social function, and self-care, while practitioners with ASD presented greater impairment in social function with values below 30 in the score. Practitioners with CP presented median performance in the sum of social areas, mobility, and self-care, with moderate motor and cognitive impairment.

CONCLUSION

The hippotherapy practitioners in the municipality of Ceres are mostly male, children, and with a clinical diagnosis of ASD, ADHD, and Cerebral Palsy. They present a moderate level of functionality, self-care, and social interaction according to the age and pathology of each practitioner, with moderate impairment in motor and cognitive development. The survey made it possible to draw a detailed map of neurological, cognitive, and physical dysfunctions, which supports decision-making and directs safe intervention for practitioners, and greater efficacy of hippotherapy.

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