THE IMPORTANCE OF PEDIATRIC PHYSICAL THERAPY IN THE TREATMENT OF CEREBRAL PALSY WITH THE THERASUIT METHOD

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ABSTRACT

The TheraSuit method has been studied diligently during the last 10 years aiming mainly at rehabilitation in children with cerebral palsy (CP). It was created in 2001 and approved by the FDA that promotes postural correction and motor development of the body, with the aim of stimulating neural plasticity and functionality through movements. The results show an improvement in gait functionality, balance, and lost basic motor patterns. However, there is still a long way to go, data show us that the lack of approach and standardization protocols make direct comparisons with other methods difficult.

Keywords: Pediatric physical therapy. Cerebral palsy. Therasuit method. Occupational therapy.

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INTRODUCTION

Infantile cerebral palsy (PCI) is a chronic neurological condition that affects approximately 2 to 3 out of every 1,000 births, and is one of the leading causes of motor impairment in children. Characterized by alterations in motor development, coordination, and posture, IPC requires a multidisciplinary approach to ensure the maximum possible independence and quality of life.

In this context, pediatric physical therapy plays an essential role in the treatment and management of PCI, through personalized interventions that aim to improve mobility, prevent complications, and promote motor development. In recent years, the Therasuit method has stood out as an innovative intensive care approach that utilizes a special suit to facilitate rehabilitation. This methodology combines physical exercises with principles of neuroplasticity, stimulating the central nervous system and favoring motor development.

This article highlights the importance of physical therapy in IPC, reviewing the existing literature on its clinical applications and the significant benefits of the Therasuit Method for motor development and quality of life of affected children. In addition, we emphasize that care centered on the relationship between mother-child, father-mother-child, family members, school and community is essential for effective intervention in cases of cerebral palsy.

It is important to note that some authors of this study have clinical and academic experience in the field of Suit Therapy and, based on evidence-based practice methods, have determined that theoretical support is needed to support the use of Suit Therapy as an intensive intervention for children with Cerebral Palsy. Therefore, the aim of this study is to verify the effect of the suit treatment plan on the motor and functional performance of children with Cerebral Palsy in the literature. The treatment of children with CP is carried out by a multidisciplinary team composed of a physician, occupational therapist, physiotherapist, speech therapist and psychologist.

METHODOLOGY

This is a literature review with the theme "The importance of Pediatric Physical Therapy in the Treatment of Cerebral Palsy with the Therasuit Method", published in the last 10 years. For the development of the study, the databases of the Virtual Health Library (BIREME), Google Scholar, PubMed and SciELO were searched.

The data search was carried out using the following keywords: "Pediatric physical therapy, Cerebral palsy, Therapeutic method, Occupational therapy"

The inclusion criteria established for this study involve the selection of articles available in full in the relevant databases, prioritizing those written in Brazilian Portuguese. For data analysis, an interpretative method of thematic analysis was adopted. This approach allowed the identification, analysis and description of patterns, which made it possible to present and organize the data in a synthetic and enriching way.

RESULTS AND DISCUSSION

The analyzed data demonstrate the relevance of the Therasuit and Pediasuit method in the treatment of children with Cerebral Palsy (CP), emphasizing motor and functional improvements. However, the literature also shows gaps and challenges in the use of these techniques. To illustrate the results of the research consulted, the following table summarizes the main findings:

Table 01: Articles selected for literature review

Article	Year	Conclusion	Magazine
The effects of therasuit on gait in children with cerebrovascular paralysis: A systematic review	2023	**In conclusion, the evidence related to Therasuit in children with Cerebral Palsy, although not conclusive, show benefits in terms of gross motor function, balance and gait.**	**A Systematic Review: The Effects of Therasuit on Gait in Children With Cerebral Palsy**
Effects of the use of therapeutic garments in rehabilitation programs for children with cerebral palsy: an integrative review of the literature.	2022	**The findings demonstrated favorable results for the use of therapeutic garments in individuals diagnosed with CP, despite little evidence regarding their superiority over other approaches.**	**Brazilian Journal of Science and Movement**
Pediasuit method in the rehabilitation of children with cerebrovascular paralysis.	2022	**As per the revision of literature presented, the PediaSuit protocol has positive effects in children with CP after a long period of intensive care. However, new research in relation to this matter are necessary in order to Document the results obtained and the importance of this therapeutic resource.**	**Revista Ibero-American Humanities Degree, Science and Education- REASE**
The applicability of elastic garment therapy	2022	**Although there are few articles that directly address the Pediasuit and Therasuit methods in children with**	**Research, Society and Development**

in children with cerebral palsy		**CP, it is identified the existence of gaps that need to be answered in future research, through a control group, comparisons of the techniques and the potential efficacy of the methods mentioned, although it makes us identify the existence of positive gains in child development, intended for motor and postural advances.**	
Effects of the Therasuit method applied to children with Cerebral Palsy	2021	**It was observed that with Therasuit therapy children with Cerebral Palsy have improved motor development, and the importance of public health policies is also highlighted to make this therapy available via SUS, for low-income children and thus they can have better motor development.**	**Portal ULBRA PALMAS**
Therasuit and Pediasuit in Children With Cerebrovascular Paralysis	2019	**It is concluded that in all the studies found, the relevance of physical therapy treatment in TNMI through the Therasuit and Pediasuit protocols is an important therapeutic resource.**	**Journal of References in Health of the Estácio de Sá de Goiás College - RRS-FESGO**
Effects of the pediasuit protocol in the treatment of children with cerebrovascular paralysis	2017	**According to the literature review presented, the Pedia Suit protocol has positive effects in children with Cerebral Palsy. It is observed that this method provides improvements in the aspects of motor function, motor development and posture. It has better effects, especially when it is associated with intensive care and the functional cage. However, further studies on this subject are needed.**	**Multidisciplinary Journal of the Northeast of Minas Gerais – Unipac**
Pediasuit method improves gross motor function in child with ataxic cerebral palsy	2017	**The intervention resulted in improvement of the study participant's gross motor function.**	**Case Study: Pediasuit Method Improves Motor Function Thick of child with ataxic cerebral palsy**
Static muscle activation through the Therasuit vest	2015	**The values of the square roots of the mean values of the electromyography showed that the Therasuit® garment provided changes in the of muscle activities within healthy neuromuscular abnormality parameters with less recruitment of sit-ups for bipedaling**	**Movimenta Magazine**
The Effect of the Therasuit Method on Motor Function of a child with Cerebral Palsy: A case study	2014	**The application of a safe treatment protocol of the Therasuit Method only demonstrated improvement in the motor function of the child with CP in the Lay-Roll dimension.**	**Case Study: The Effect of the Therasuit Method on the Motor Function of a Child With Cerebral Palsy**

Source: The authors.

The analysis of the selected articles on the Therasuit and Pediasuit methods shows a promising, but still evolving, panorama for the treatment of children with Cerebral Palsy

(CP). These methods have as their main focus the improvement of motor functions, balance, posture and quality of life, factors often compromised in children with this diagnosis.

The findings in the literature indicate that both methods have significant therapeutic potential, being recognized for positive results in several aspects. For example, the study *The effects of Therasuit on gait in children with cerebral palsy: A systematic review* (2023) highlights benefits related to gross motor function, balance, and gait. Similarly, *Effects of the use of therapeutic garments in rehabilitation programs for children with cerebral palsy: An integrative literature review* (2022) demonstrates favorable results for the use of garments, although without proof of superiority compared to other physiotherapeutic approaches.

The Therasuit and Pediasuit protocols are often used in intensive treatments, as described in the article *Effects of the Pediasuit Protocol in the Treatment of Children with Cerebral Palsy* (2017). This study details the association of the method with complementary therapies, such as the functional cage, highlighting improvements in motor function and postural control. Similarly, *Pediasuit Method in the rehabilitation of children with cerebral palsy* (2022) confirms considerable progress after prolonged periods of intervention.

A highlight is the inclusion of Therasuit and Pediasuit in the context of public policies. According to *Effects of the Therasuit method applied to children with Cerebral Palsy* (2021), the inclusion of these treatments in the SUS could benefit low-income families, expanding access to therapies and enabling a broader social impact.

On the other hand, the studies also raise important questions about the limitations of the available evidence. For example, *The applicability of elastic garment therapy in children with cerebral palsy* (2022) points out methodological gaps, such as the absence of control groups and the need for more robust comparisons between techniques. In addition, the *Therasuit and Pediasuit study in children with cerebral palsy* (2019) reinforces the importance of further research to validate the observed benefits and establish well-founded clinical guidelines.

Another relevant aspect is the impact of family involvement in treatment. The literature suggests that the active participation of caregivers contributes significantly to therapeutic outcomes, reinforcing the idea that an interdisciplinary and personalized approach is essential for successful treatment.

In the technical sphere, case studies, such as *The effect of the Therasuit method on the motor function of a child with Cerebral Palsy* (2014) and *Static muscle activation*

through the Therasuit vest (2015), demonstrate specific improvements, although they lack broader samples for the generalization of the findings. These limitations are consistent with the need for further studies of high methodological quality.

FINAL CONSIDERATIONS

The analysis of the selected studies shows that the Therasuit method stands out as an innovative and promising therapeutic approach in the treatment of neurological dysfunctions, such as Cerebral Palsy and Chronic Non-Progressive Encephalopathy.

The results observed in the different studies indicate consistent benefits, including normalization of muscle tone, reduction of contractures, improvement in gross and fine motor coordination, reduction of involuntary movements, improvement of body awareness and contribution to the correction of joint deformities.

The TheraSuit Method is an innovative therapeutic approach that has demonstrated significant results in improving the motor function of individuals with neurological conditions, It is recommended to integrate the TheraSuit Method into multidisciplinary rehabilitation programs, and to carry out additional studies to evaluate its effectiveness in different conditions to develop personalized training protocols for each patient.

It is therefore concluded that the TheraSuit Method is a valuable tool for the rehabilitation of individuals with neurological conditions. In addition to offering significant results in motor function, its application can transform the life perspective of individuals with neurological conditions, promoting greater social inclusion and autonomy. The consolidation of this method as a therapeutic resource requires not only more research, but also efforts to make it accessible, enabling its use on a large scale, including its insertion in public health systems.

REFERENCES

1. _____. file:///C:/Users/Eliete/Downloads/Projecto%20-%20Original.pdf

2. _____. file:///C:/Users/Eliete/Downloads/RRS_FESGO_e11_Revis%C3%A3o.pdf

3. _____. file:///C:/Users/Eliete/Downloads/mayarafa,+cnv16n1_3a6689.pdf

4. _____.file:///C:/Users/Eliete/Downloads/efeitos_do_protocolo_pedia_suit_no_tratamento_de_criancas_com_paralisi_93%20(1).pdf

5. _____,file:///C:/Users/Eliete/Downloads/admin,+Journal+manager,+3+-+115+-+127+++ 764%233434+(Est_tica).pdf

6. _____. file:///C:/Users/Eliete/Downloads/25007-Article-294207-1-10-20220108.pdf

7. _____. file:///C:/Users/Eliete/Downloads/13082-Texto%20do%20artigo-62429-1-10-202 20418.pdf

8. _____. file:///C:/Users/Eliete/Downloads/document6313ac7829e82.pdf

9. _____.file:///C:/Users/Eliete/Downloads/000X58-+M%C3%89TODO+PEDIASUIT+NA+ REHABILITATE%C3%87%C3%83O+DE+CRIAN%C3%87AS+COM+PARALYSIS+C EREBRAL.pdf

10. _____. https://www.grupounibra.com/repositorio/FISIO/2022/os-efeitos-do-therasuit-na- marcha-de-criancas-com-paralisia-cerebral-uma-revisao-sistematica91.pdf

11. Barceló, F. (2020). Análisis comparativo de terapias para la parálisis cerebral [Trabalho acadêmico, Repositorio Barceló]. [URL não fornecida; verificar repositório institucional].

12. Moura-Ribeiro, M., & Gonçalves, J. (2023). Plasticidade neural e a integração do TheraSuit no tratamento da paralisia cerebral. Revista Acadêmica. [Informações incompletas; verificar revista, volume, número e DOI/URL].

13. Revista Brasileira de Ciências do Movimento. (2022). Efeitos do uso de vestes terapêuticas em programas de reabilitação de crianças com paralisia cerebral: Uma revisão integrativa. LILACS. [Informações incompletas; verificar autores, volume, número, páginas e URL específica na base LILACS].

14. Silva, M. A. da, & outros. (2022). Os efeitos do TheraSuit na marcha de crianças com paralisia cerebral: Uma revisão sistemática. Revista do Centro Universitário Unibra. https://www.grupounibra.com/repositorio/FISIO/2022/os-efeitos-do-therasuit-na-marcha-de-criancas-com-paralisia-cerebral-uma-revisao-sistematica91.pdf