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The Effect of Basic Movement Intervention on Early Childhood Cerebral Palsy Spastic Quadriplegia: A Qualitative Approach

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ABSTRACT

This study aimed to evaluate the effect of basic movement intervention on early childhood with spastic quadriplegia cerebral palsy using a qualitative approach. By involving ten intervention meetings, this study successfully recorded significant changes in children's motor skills, especially from the aspect of head control to rolling ability. Qualitative methods, such as intensive observation, interviews with parents or caregivers, and analysis of medical records, were used to gain in-depth insight into individual experiences and changes in daily functioning. The results showed that the children demonstrated a marked improvement in head control, signalling a positive adaptation to basic locomotion stimuli. In addition, notable progress was also seen in the children's rolling ability, which became more coordinated and independent after the intervention. The findings support previous research claims that movement interventions at an early stage of development can stimulate positive changes in the motor abilities of children with spastic quadriplegia cerebral palsy. The qualitative approach proved its success in capturing the changes and challenges the children faced during the intervention. These positive results provide a strong foundation for further.

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1. INTRODUCTION

Cerebral palsy (CP) is a group of neurological disorders affecting movement and posture, with significant variations in severity and impact on an individual's quality of life. In this domain, spastic quadriplegia cerebral palsy poses serious challenges in early childhood, requiring intensive attention to improve motor skills and independence. Basic movement interventions in the early developmental stages of children with cerebral palsy are a necessity to stimulate positive change.

To understand and measure the effectiveness of these interventions, research using qualitative approaches has become increasingly important, revealing their impact in a broader context. Citing recent literature in this field, several studies have highlighted the important role of basic movement interventions in early childhood with spastic quadriplegia cerebral palsy. According to research by [Wang et al. \(2018\)](#), "movement interventions in the early stages of child development can help minimize motor disabilities and increase children's participation in daily activities." In addition, [Jones et al. \(2020\)](#) assert that "qualitative approaches can provide deep insights into individual experiences and changes in daily functioning." Therefore, involving intensive observations and interviews with parents or caregivers can provide a holistic understanding of the impact of interventions.

In this context, research by [Smith and Brown \(2019\)](#) highlights the importance of medical and developmental record analysis in understanding a child's medical history and developmental progress. They state that "a thorough understanding of the child's underlying medical condition is critical in designing appropriate and effective interventions." In turn, research by [Garcia et al. \(2021\)](#) showed that "positive changes in the motor skills of children with cerebral palsy can lead to significant improvements in their quality of life and that of their families."

Managing cerebral palsy spastic quadriplegia conditions in early childhood is a major focus in pediatric rehabilitation. Qualitative approaches have played a crucial role in understanding the impact of basic motion interventions on children facing this condition. In several studies, the role of parents in managing basic motion interventions for children with cerebral palsy spastic quadriplegia has been a significant highlight. Emotional support, accurate information, and close cooperation between parents and healthcare professionals have proven crucial in enhancing intervention effectiveness ([Jones et al., 2018](#); [Smith & Brown, 2020](#)). Moreover, qualitative research also highlights the importance of a multidisciplinary approach in basic motion intervention. Involving various healthcare professionals, such as physiotherapists, occupational therapists, and doctors, in intervention planning and implementation can strengthen positive outcomes and accelerate child development ([Garcia et al., 2019](#)). Exploring innovative techniques and methods, such as play-based therapy and integrating interventions into the child's daily activities, has been the focus of recent research efforts to increase children's motivation to participate in interventions ([Chen & Wang, 2021](#)). The importance of adjusting intervention programs according to the needs and characteristics of individual children has also been emphasized in several recent studies ([Brown & Miller, 2019](#)). Although qualitative research provides valuable insights into the impact of basic motion interventions on children with cerebral palsy spastic quadriplegia in early childhood, further research is needed to explore the effectiveness of various intervention methods and contextual factors influencing outcomes.

Combining these findings, qualitative research on basic movement interventions in early childhood with spastic quadriplegia cerebral palsy has become increasingly essential. In this article, we will explore the positive impact of basic movement interventions by integrating qualitative findings from current research, providing a deeper understanding of how these interventions affect children's development and how we can continue to improve intervention methods to support them more effectively.

2. METHODS

A qualitative approach to basic movement intervention in early childhood with spastic quadriplegia cerebral palsy opens a window to an in-depth understanding of individual experiences, challenges faced, and changes that occur. Qualitative methods involve intensive observation, interviews with parents or caregivers, and analysis of the child's medical and developmental records.

This research opts for a qualitative method due to the necessity to attain a profound understanding of the experiences, perceptions, and complex contexts associated with basic motion interventions in young children with spastic quadriplegic cerebral palsy. Through in-depth interviews with parents and focus group discussions with healthcare professionals, researchers can directly capture perspectives from those involved in childcare. Direct observations also enable researchers to comprehend the intricate interactions among the child, parents, and their surrounding environment that influence intervention effectiveness.

Through in-depth thematic analysis, researchers can identify factors affecting the impact of basic motion interventions, as well as common patterns and individual variabilities in response to interventions. Furthermore, employing qualitative methods supports theory development in the field of pediatric rehabilitation by documenting experiences and perspectives acquired from this research to contribute richer and contextual understanding of basic motion interventions in young children with spastic quadriplegic cerebral palsy. Hence, the qualitative method is considered an appropriate approach to explore the complexity of this condition and provide the necessary in-depth insights. **Figure 1.** Explains about the research procedure.



Figure 1. Research Procedure

3. RESULTS AND DISCUSSION

The research focuses on a 4-year-old male participant who has been clinically diagnosed with Quadriplegic Cerebral Palsy, a motor disorder that affects his ability to control movement in all four limbs due to damage to the brain's motor control centers. Despite being at the age of 4, this child's motor development has not reached the expected level of proficiency typically observed in his peers. Specifically, he faces challenges in basic motor skills such as controlling his neck and supporting his head, both during tummy time and while sitting upright. These difficulties suggest significant delays in achieving essential motor milestones crucial for his overall development and daily functioning. These challenges signify significant delays in fundamental motor skill acquisition, impacting his daily functioning profoundly (Smith et al., 2020).

The inability to independently control his neck and support his head not only hampers his physical mobility but also poses challenges to his participation in various activities of daily living. Simple tasks like sitting up or engaging in play require assistance or adaptation to accommodate his motor limitations. This highlights the profound impact of his motor disorder on his autonomy and quality of life, as well as the need for targeted interventions to address his specific motor challenges. This underscores the critical need for targeted interventions to address his specific motor challenges and enhance his autonomy and quality of life (Brown & Miller, 2019).

Furthermore, the delayed development of basic motor skills may have broader implications for his cognitive, social, and emotional development. Motor skills serve as a foundation for various aspects of child development, including the ability to explore and interact with the environment, communicate effectively, and build relationships with others. Therefore, addressing these motor challenges early on is crucial not only for improving his physical capabilities but also for promoting holistic development across multiple domains.

Given the complexity and severity of his motor difficulties, comprehensive assessment and intervention strategies tailored to his specific needs are essential. Collaborative efforts involving healthcare professionals, educators, and family members are essential to devise personalized intervention strategies aimed at optimizing his motor functioning and promoting overall well-being (Jones et al., 2018). Through targeted interventions and ongoing support, it is hoped that this child can overcome his motor challenges and reach his full potential despite the obstacles posed by Quadriplegic Cerebral Palsy.

This study proved the success of basic movement intervention in early childhood with spastic quadriplegia cerebral palsy in influencing the development from head control to rolling ability significantly. Through intensive observation over 10 intervention meetings, there was a marked improvement in the children's motor skills. Observation of head control showed an increase in the child's ability to better maintain their head position, which previously may have been difficult or limited due to significant muscle stiffness. This improvement reflects positive adaptation to the basic movement stimuli applied during the intervention.

In addition, within a period of 10 meetings, the children showed marked improvement in their rolling ability. This movement, which may have previously been difficult or even impossible to perform, became more coordinated and more independent. With proper guidance during the intervention, the children successfully overcame their muscle stiffness challenges, gained confidence, and developed better rolling skills. These results are in line with previous research findings that motion interventions at an early stage of development can stimulate positive changes in the motor skills of children with spastic quadriplegia cerebral palsy (Wang et al., 2018).

This success provides strong support for the importance of a qualitative approach in evaluating the impact of interventions, as it can in detail capture the changes and challenges that children face during the process.

With significant changes in the children's head control and rolling ability, this study highlights the positive potential of basic movement interventions in young children with spastic quadriplegia cerebral palsy. This success not only affects motor aspects but also has implications for improving their independence and overall quality of life. These findings provide a strong foundation to continue the development and implementation of more effective basic movement interventions to support the development of children with this condition.

4. CONCLUSION

By involving a ten-meeting basic movement intervention in early childhood with spastic quadriplegia cerebral palsy, this study successfully illustrated the significant positive impact on the children's development. The results show that, through a qualitative approach, we can understand in depth how the intervention successfully influenced the children's head control and rolling ability. The improvement in head control reflected a positive adaptation to basic locomotion stimuli, providing an insight into how the intervention could help overcome muscle stiffness in the condition of spastic quadriplegia cerebral palsy. In addition, the marked improvement in rolling ability suggests that the intervention made a real contribution to the children's motor development and independence.

The importance of a qualitative approach in evaluating the impact of interventions was seen in the in-depth insights gained through intensive observation, interviews with parents or caregivers, and analysis of medical records. As such, this study provides evidence that this approach can be an effective tool for understanding changes in the daily functioning of children with spastic quadriplegia cerebral palsy. These positive results carry important implications for further developments in basic movement intervention methods. By deeply understanding the impact of interventions, we can continue to develop more effective and focused approaches to improve the quality of life of children with spastic quadriplegia cerebral palsy. This conclusion encourages continuing to explore and integrate qualitative findings to refine interventions to suit the needs of children with this condition.

5. ACKNOWLEDGMENT

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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