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Family-Resourced Early Intervention Program for Motor Development in Cerebral Palsy Children

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ABSTRACT

This research was conducted to determine the results of implementing an early intervention program Family resource for children's motor development applied to cerebral children palsy aged 4 years. The research method used in this research is research. The experiment takes the form of Single Subject Research (SSR) with data collection techniques including GMFM and GMFCS tests, interviews, and observations. The results of this research, this program has successfully demonstrated significant progress in control development better head in children. This increase can be seen from the longer duration in Doing various activities shows that the child has started to have neck strength enough to support the head, especially when sitting with assistance. Results from research It is hoped that this can become a reference for educators, especially in improving motor development of children with cerebral palsy at an early age.

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1. INTRODUCTION

Early intervention programs play an important role in supporting the growth and development of Cerebral Palsy children, especially in improving their motor skills. In recent years, there has been an increasing emphasis on family-based early intervention programs, which involve the active participation and involvement of the child's family in the intervention process. This study aims to explore the effectiveness of early intervention programs which comes from the family for motor development in 4-year-old children with Cerebral Palsy. By examining the importance of family involvement, the benefits of early intervention, and the research studies that support these programs, we can gain a deeper understanding of the impact of these interventions on children with Cerebral Palsy.

Family involvement in early intervention programs is critical for development holistic approach to children with Cerebral Palsy. The family, particularly the parents, is one of the groups that might contribute to a child's more ideal development since they are the ones who are closest to them (Rizqita et al, 2024). Research shows that when families actively participate in therapy sessions and implement strategies at home, children demonstrate greater progress in motor development. Active involvement of parents and Caregivers can increase the effectiveness of interventions by providing consistency and individualized support tailored to the child's needs. In addition, intervention programs Early childhood has been shown to have a positive impact on motor skills, such as balance, coordination, and strength, in children with Cerebral Palsy. Study has shown that children who receive early intervention services achieve results who were better in terms of motor function and daily activities compared to them who do not receive such support.

Developmental barriers in children can be intervened using a family-based early intervention approach (Bela et al, 2024). Successful implementation of early intervention programs that originate from families for Motor development involves various components. This includes development individualized therapy plans that meet each child's specific needs and goals. With tailoring interventions to the child's unique abilities and challenges, the therapist can optimize program results. Additionally, parental education and training play a role important in equipping families with the knowledge and skills to support their child's motor development. Provide resources, guidance, and strategies to parents will empower them to continue the intervention at home, so that extending the benefits of therapy beyond the clinical setting. Although there are benefits from family-based early intervention programs, there are challenges that need to be overcome to increase its effectiveness. Obstacles like limited access to resources, including therapy services and specialized equipment, can hinder the implementation of the program. Additionally, there is a lack of awareness or acceptance.

Early intervention among some families may prevent them from seeking support for their child with Cerebral Palsy. To overcome these challenges, require a multi-faceted approach that involves improving access to resources, raising awareness about the importance of early intervention, and provide support to families to overcome barriers to participation. Forward, it is important to continue research and advocacy efforts to encourage program implementation early intervention that originates from the family and improves outcomes for affected children Cerebral Palsy.

Currently, many studies discuss improving the abilities of children with cerebral palsy, including research on "Family Resourced Early Intervention: Improving Parental Skills Through Parenting Programs for Children with Special Needs" by Shinta Malida Balqis who discussed that there has been an increase in parental skills through parenting programs for children with special needs (Balqis, 2021), research on "The Effect of Family-Based Early Intervention on Child Development with Down Syndrome" by Nisa Nurhidayah which discusses the impact on development of children's abilities and parents' attitudes in handling children with down syndrome (Nurhidayah, 2020) and research on "Resourced Early Intervention Program "Family in Improving Oral Motor Skills in Children with Cerebral Palsy" by Budi Ikbal who discussed increasing parents' understanding in caring for children cerebral palsy (Ikbal, 2023). There is also research on "Early Intervention Programs Family Resources to Optimize Children's Expressive Communication Abilities Autism" by Ermanto Nuroho which discusses improving communication skills expressiveness of autistic children (Nuroho, 2021) and research on the "Early Intervention Program Family Resources for Community-Based Rehabilitation Cadres in Lembang Village Bandung Regency" by Nita Nitiya Intan Tanbrin which discusses functionality family-based early intervention training program for Lembang Village RBM cadres (Tanbrin, 2020). However, until now there has been no research that discusses the "Program Early Intervention with Family Resources for Motor Development in Children with Cerebral Palsy 4 years".

2. METHODS

This research uses a type of experimental research in the form of Single Subject Research (SSR). Experimental research aims to reveal research results in the form of whether there is a causal relationship from the treatment given by the researcher to the subject (Arikunto, 2013). The Single Subject Research (SSR) design form is used namely A-B-A. A1 means the baseline phase or initial ability before obtaining treatment (intervention). B means the treatment phase or abilities during which it is given treatment (intervention). A2 means the baseline phase or observing the subject's abilities by no longer receiving treatment (intervention). In this study it consists of 2 variables, namely the dependent variable and the independent variable. The dependent variable is children's motor development Cerebral Palsy Age 4 Years. Meanwhile, the independent variable is the Early Intervention Program Family Resources. The research subjects were children with Cerebral Palsy Quadriplegia, type male, 4 years old in Bandung.

In this research, the data collection techniques used included tests, interviews, and observation. The tests used are GMF-M (Gross Motor Function Measure) and GMF-CS (Gross Motor Function Classification System). The GMF-M test consists of various items that assess children's gross motor skills, such as sitting, standing, walking and head control. Each item is scored from 0 to 3, where a score of 0 indicates an inability to perform the task and a score of 3 indicates the ability to perform the task fluently. Meanwhile, GMF-CS classifies the level of gross motor limitations in children with cerebral palsy into five levels, from Level I which is the lightest to Level V which is the most severe. In addition, interviews with parents were conducted to obtain additional information regarding the child's condition, interventions that had been carried out, and the family's perception of the child's progress in neck control. These interviews provide deeper context and support the data obtained from the test.

Direct observations are also carried out to monitor the child's behaviour during tests and daily activities, providing a real picture of the child's ability to control his neck and his response to the intervention provided.

The target of this research is the duration of the child's ability to hold or control the neck. Measurements are carried out during the GMF-M test and through daily observations, with the duration calculated in seconds or minutes depending on the child's abilities. Data were analysed to see changes in the duration of children's neck control before and after intervention. The percentage change was calculated to measure the effectiveness of the intervention, providing an overview of the improvement in the child's neck control ability after the family-based early intervention program.

3. RESULTS AND DISCUSSION

The Early Intervention Program with Family Resources (IDBK) was carried out during 6 meetings with a 4-year-old Cerebral Palsy subject with the initials R. In the ROM TEST carried out on the child, the results still met the normal criteria for the degree of ROM in all his limbs provided that the measurements were carried out at the child does not experience stiffness under certain circumstances. The child is at level V GMFCS (Gross Motor Function Classification System) which describes the actual condition of physical impairment limiting the control of voluntary movements and the ability to maintain an anti-gravity head and body posture as well as all areas of limited motor function. In the initial assessment carried out on the subject using the GMFM (Gross Motor Function Measure) instrument, it was found that the child had an overall score of 3.6% out of 100% obtained in the first aspect, namely lying down, and rolling over.

Physical development includes gross motor development such as at calendar age 1-2 years which takes place in a cephalocaudal direction: supine, head raised, prone, sitting, crawling, standing. Therefore, the intervention program was designed with the aim of improving children's ability to physically move, namely, to lift the head and control the neck as an initial step in the foundation phase of the development of motor skills. The Early Intervention Program with Family Resources (IDBK) was carried out over 6 meetings to see the development of children's motor skills, especially the strength of their neck muscles.

Each meeting in this intervention program includes various activities tailored to the subject's needs. The first meeting focuses on developing neck control through tummy time exercises and neck movements to the right, left, up and down. The second to fourth meetings focused on neck muscle strength training with the aim of increasing the subject's neck muscle strength. The fifth meeting involves the mother in stretching the child's limbs and correcting inappropriate body positions. The sixth meeting continued to train the subject's neck muscle strength and entered tummy time training. Overall, this program has successfully demonstrated significant progress in developing better head control in children. This increase can be seen from the longer duration of carrying out various activities, indicating that the child has begun to have sufficient neck strength to support the head, especially when sitting with assistance. During these meetings, mothers provided good feedback and were actively involved in the intervention program.

Mother's involvement here is the second focus raised in this program, to increase the understanding and involvement of R's parents in caring for children with quadriplegia cerebral palsy, it is important to provide simple but effective training, such as stretching training, positioning the child in the tummy time position and sitting position. help with mother at home. The training aims to help parents understand basic techniques that they can apply regularly at home to help improve their child's flexibility and range of movement. Parents are taught to use gentle, steady movements on muscles that tend to stiffen or stiffen in children, focusing on areas of the body that require special attention. This training not only provides parents with practical skills, but also gives them the confidence to be actively involved in their child's care at home, thereby strengthening the parent-child relationship and improving long-term care outcomes.

4. CONCLUSION

This study aims to evaluate the results of implementing an early intervention program based on family on the motor development of a 4-year-old child suffering from cerebral palsy. The method used is experimental research with a Single Subject Research design (SSR), involves collecting data through GMFM and GMFCS tests, interviews, as well observation. The research results show that this program has succeeded in providing progress significant in child head control. This increase can be seen from the longer duration in carrying out various activities, shows a sufficient increase in neck strength to support the head, especially when sitting with assistance. This finding is expected become a reference for educators in efforts to improve children's motoric development early childhood cerebral palsy.

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6. AUTHORS' NOTE

The author ensures that there are no conflicts in this authorship. This writing is free from plagiarism and is compiled based on ethics and rules of writing that should be.

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