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THE INFLUENCE OF PROFESSIONAL COMPETENCY TRAINING ON MOTHERS OF CHILDREN WITH CEREBRAL PALSY'S MENTAL HEALTH

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Abstract

Cerebral palsy causes many physical and functional limits in children's daily lives, causing them to become reliant on their parents, particularly their mothers. As a result, mothers of these children devote a significant amount of time to raising children. Parents of these children, according to the research, have higher levels of tension, stress, and distress than parents of generally growing children. These mothers' quality of life may be harmed as a result of their stress levels. The purpose of this study was to see how professional competency training, as one of the therapies, affected moms of children with cerebral palsy's mental health. In the present study, 40 mothers of children with cerebral palsy were selected at random to intervention or control groups using a pre-test-post-test design and a control group. The data was collected using questionnaires. The Mann-Whitney test was used to analyse the data. After professional competency training, moms had considerably lower levels of tension, stress, and distress in their post-test scores than in their pre-test scores, according to data analysis. Professional competency training, in combination with other treatments, appears to be a successful intervention for improving the mental health of mothers of children with cerebral palsy and reducing their tension, stress, and distress.

Keywords: Cerebral Palsy; Mental Health; Mann Whitney; Pre-test; Post-test

1. INTRODUCTION

In any case, high parenting stress is an important ecological hazard factor. It has been linked to a variety of troubling outcomes, including parental distress, conjugal conflict, poor physical health, less interesting parenting, and, most importantly for the current study, increased child behaviour concerns (Farajzadeh, et al., 2021). Children with developmental delays are destined to grow up in families where parenting stress is high. Parents of children with developmental delays frequently report higher levels of parenting stress than parents of normally developing children. Even though there is some evidence that the stress experienced by parents of children with formative delays is consistent, there is a marked individual variation in its direction over a wide range of time (Galloway, et al., 2019).

Despite this, excessive parenting stress is a significant environmental risk factor. It's been linked to a slew of negative effects, including parent sadness, marital strife, lower physical health, ineffective parenting, and, most importantly for this study, greater kid behaviour problems (Riquelme, et al., 2021). Children with developmental delays are more likely to grow up in families where the parents are under a lot of stress. Parents of children with delays experience higher parenting stress than parents of children who are growing normally.

Although there is some evidence that the stress experienced by parents of children with developmental delays can be chronic, the trajectory of their stress throughout the course of their lives varies significantly from person to person (Farajzadeh, et al., 2020).

Even while there is some evidence to support a value-based link between parenting stress and child behavioural disorders, few studies have looked into this relationship in groups of children who have experienced consistent subjective improvement. A few studies of children with formative deferrals found that conduct concerns interfered with the link between child improvement and parental stress. When the kid behavioural concerns were reported in these studies, there was never a critical link between child psychological deferral and parenting stress (Shelef, 2021). Furthermore, controlled longitudinal research have suggested that the link between behavioural disorders and parental stress is bidirectional, and that a wide range of behavioural issues might lead to an increase in parenting stress over time. High parental stress leads to an increase in behavioural difficulties in both children and adults (Knight, et al., 2019). On the other hand, there is little information regarding the trends in behaviour difficulties and parenting stress through time, and no one knows if anyone has looked at the relationship between these trends at different time points.

Furthermore, rather than investigating models where both directions of influence were evaluated simultaneously, previous studies have explored every direction of impact (early behavioural issues to later parenting stress and early parenting stress to conduct concerns). As a result, cognitive behaviours have proven to be quite useful in analysing various forms of depression, anxiety, and stress (Biliunaite, et al., 2021). It is a term that refers to Cognitive Behavioural Therapy (CBT), which is the conclusion of numerous behavioural and pre-listed treatments that are based on some principles (Agah, et al., 2021). It produces positive effects by multiplying conditions, reflecting internal and external environmental factors, and applying other concepts. Different types of therapy have been used to treat stress and other forms of depression (Danzi, et al., 2021; Raghuraman, et al., 2021; Zhang, et al., 2021). Postpartum depression, emotional and mood fluctuations, genetic and biological difficulties, actions and behavioural abnormalities are some of the various types of depression. Each theme displays some aspects, such as thoughts, beliefs, and self-talk as cognition, based on the classification.

Emotions and psychological traits of genetics, among other things, govern actions that determine behavioural tendency. The acceptance of this technique has been beneficial in dealing with major psychological strains such as mothers' stress manifested as Post-Partum depression and depression caused by a child's non-motility or impairments. To meet the needs of children with CP, it is necessary to investigate the ways of cognitive-behavioral mentorship of these afflicted children in a broader context, such as religiosity, family member tolerance, and male to female emotional concern.

Branjerdporn, et al., (2021) compared a home-based therapy to a dose-matched intervention for children with cerebral palsy. Several studies looked on the relationships and ways of stress management among moms of challenged children of various ages. Furthermore, the role of religion in reducing stress among moms of disabled children has received less attention. Coping styles such as social, positive, and parental coping, as well as religious inculcation, can help and relieve stress in moms. Hence, this study examined the influence of Professional Competency Training on Mothers of Children with Cerebral Palsy's Mental Health

2. LITERATURE REVIEW

Cerebral Palsy is one of the most studied clinical conditions in paediatric recovery, according to Silva and de Araujo (2019). However, more research is needed to improve the quality of care in Brazil. The investigation of the entire case revealed low levels of anxiousness. Restricted sources of assistance were scrutinised, with family support taking precedence. It was possible to observe a detrimental link between social assistance and stress. In Mamelodi, a township in Gauteng, South Africa, Van, et al., (2019) investigated the impact of a gathering-based instructional intervention, Hambisela, on feelings of anxiety and QOL of crucial parental figures of children with CP.

A semi-trial pre-test–post-aircraft tester investigation included eighteen important parental figures of children with CP. They discovered that in this pilot trial, the most important parental figures suffered clinically significant anxiety. Hambisela, as an educational mediation, was ineffective in reducing stress and enhancing QOL in these critical parental figures of children with CP. Future research with a larger sample size is expected to look into the high levels of anxiety experienced by essential parents of children with CP. Furthermore, Omole, et al., (2019) discovered that Cerebral Palsy (CP) is a major cause of physical impairment in children and adolescents. Due to delayed deliberation, guardians are frequently subjected to both pressure and weight. They looked at the levels, relationships, and predictive variables of stress and parental distress among key parental figures of children with CP. Regardless, Kriti, et al., (2019) found that Cerebral Palsy (CP) is the leading cause of disability in children, leaving them physically, mentally, and socially isolated. The severity of the child's disability has no bearing on the level of parental stress.

The all-in family pay was viewed as poor and, paradoxically, correlated with the level of parenting stress. In any event, there was a strong link between parental pressure and co-horribleness characteristics. Furthermore, according to Leonard et al., (2019), Cerebral Palsy (CP) is caused by a static cerebrum sore that produces stiffness and muscle contracture. The results reveal that CP muscle is progressively consistent in comparison to conventional muscle at its lowest level (the myofibril), which is the polar opposite of what is seen at higher fundamental levels (single filaments, muscle fibre packs and entire muscle). The detached powers must be more notable than usual at the in vivo sarcomere length in CP, absolutely as an increasingly beneficial consistent sarcomeres working at extended lengths. Although there were no differences in titin isoforms between CP and non-CP adductor longus muscles, titin: nebulin was lower in CP muscles, which could be due to titin misfortune or over-articulation of nebulin in CP muscles.

Howard, et al., (2019) discovered that the spastic engine type is generally healthy in Cerebral Palsy (CP), and that it is associated with a speed subordinate increase in muscle firmness that occurs prior to the onset of fixed muscle contracture a permanent shortening of the muscle ligament unit in any case, when loose.tra-solid infusions of botulinum toxin type A have been

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well-known for the treatment of spastic muscular contractures, but unfortunately, their use has not resulted in long-term benefits and has been linked to an inexplicable loss of contractile material. Recent biomechanical research has shown that the hardness of the CP muscle increases in proportion to the amount of collagen in the perimysial extracellular grid. Instead of using tone-reduction specialists, it is thought that central administration of a specific collagenase, administered into spastic muscle at a certain weakness and focus, could help to reduce muscular contracture, enhancing clinical range of motion and possibly sarcomere length. Rani and Thomas (2019) recognised the stress and observed embarrassment among parents of children with epilepsy seeking treatment at a tertiary reference centre for nervous system science in South India. Parents of sixty children with epilepsy, ranging in age from four to fifteen years, were interviewed to learn more about parental pressure and shame.

They were chosen over the course of a year and a half in 2015. Parents have an important role in helping children with epilepsy comprehend that they are different like other kids. Parents disliked telling their friends and family about their child's epilepsy since it caused them embarrassment, self-flagellation, and disdain, all of which added to their stress. In infants with hypoxic-ischemic encephalopathy, Liang, et al., (2019) found that monosialoganglioside and citicoline had similar effects on serum apoptotic factors, neurological capacity records (BDNF, NSE, S100-and NGF), and oxidative pressure records. The researchers discovered that following treatment, serum PDCD5, sFas, sFasL, MDA, NSE, and S100- levels in the treatment group were lower than those in the control group. Cerebral Palsy (CP) is the most generally recognised youth handicap around the world, according to Donkor et al., (2019), and evidence reveals that children with CP are at an increased risk of failing health due to dietary issues. This subjective study looks into parental figures' experiences of encouragement while participating in a community-based preparation programme in Ghana. At the start of the preparatory programme, thirteen parents of extremely malnourished children with CP were met. Eleven of them were reconnected after a period of month-to-month group trainings and home visits, during which they were reminded of the need of nurturing. At the finish line, four further parental figures were encountered. Meetings looked into parental figures' dinnertime interactions, as well as a 24-hour dietary assessment and a structured nutrient perception agenda.

Anthropometry was used to assess the health of children. Because of time constraints, untidiness, and the pressure of providing adequate nutrition, a parent found mealtimes to be stressful. They believed that the preparation programme had assisted in reducing this stress, and that dietary review information suggested that nutritional quality had improved. During a lockdown time, Farajzadeh, et al., (2021) studied the psychological health of Iranian caretakers of children with CP and associated hazards. 160 caregivers of children with CP took part in this web-based cross-sectional study, which used online snowball sampling. A demographic questionnaire, the Hospital Anxiety and Depression Scale (HADS), the Perceived Stress Scale (PSS-4), the Caregiver Difficulties Scale (CDS), and the Hospital Anxiety and Depression Scale (HADS) were all used. The researchers used hierarchical multiple linear regression analysis to find risk factors for caregiver psychological wellbeing.

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There were a lot of people who had mental health issues. CDS and HADS-Anxiety, HADS-Depression, and perceived stress (PSS) were found to have significant associations with COVID-19. After adjusting for demographic and clinical characteristics, caregiver anxiety, depression, and stress were found to be strongly predicted by burden (CDS). Furthermore, being married, having a poor educational level, and having a low income were all found to be substantially connected to high HADS Anxiety levels. Only having a physical issue was linked to HADS among demographic characteristics in the case of depression. PSS-4 and demographic data did not show any significant associations. Gilson, et al., (2021) investigated mothers' perspectives and experiences with seeking mental health care. Twenty-five moms with disabled children were interviewed in semi-structured interviews.

The examination of the themes has been completed. When it came to accessing help on a personal, professional, and system level, mothers faced substantial obstacles. Personal hurdles included a lack of expertise and stigma surrounding mental illness; professional barriers were a lack of mental health discourse and interpersonal variables that hampered disclosure. Feeling invisible to health services, paediatric care focusing on the kid rather than the family, and limitations to the type of mental health help provided were all examples of system barriers. Riquelme et al. (2021) examined parental reports on family effect and healthcare satisfaction in children with CP who had chronic pain and those who did not. Parents of 59 children with CP (ages 4–18) answered questions about pain and speech ability, as well as two modules of the Pediatric Quality of Life Measurement Model: the PedsQLTM 2.0 Family Impact Module and the PedsQLTM Healthcare Satisfaction Generic Module of the Pediatric Quality of Life Measurement Model.

Children's suffering had a minor impact on family physical health, social health, and worry, according to our findings. Speech impairment enhanced the perceived health impact among children who were not in discomfort. Pain and speech impairment had little effect on parents' happiness with healthcare, with both improving parents' satisfaction with professional technical skills and the incorporation of family domains on the care plan. Finally, discomfort and speech impairment in children with cerebral palsy can have an impact on family health, but not on healthcare satisfaction. The creation of family-centered programmes for children with CP requires regular assessment and intervention in family health.

3. METHODOLOGY

The participants in this study were moms of disabled children from the Jordanian city of Irbid. Irbid City in Jordan has a total of 80 parents of children with disabilities. The population refers to the wider group of people, events, or items from which the generalisation is made, or an aggregate or the sum of all the objects, subjects, or members that agree to a set of specifications (Krops, et al., 2019; Huitfeldt, et al., 2019). The data collecting in the current study, which used a quantitative research methodology, is dependent on the sampling and the purposes served by the participants. In the current study, however, all of the individuals were chosen using a non-random sampling approach. Because this phase incorporates a quasi-experimental study, Ratcliffe, & Groff (2019) believe that the sample in a quasi-experimental study is chosen based on the study's necessity or aim rather than by chance. A total of 50 moms of disabled children from Irbid, Jordan, were included in the study. The group was made up of female mothers of disabled children. All of the participants are mothers of disabled children from Jordan's Irbid City. The participants were divided into a single experimental group and were given pre-test, post-test, and delay tests to determine their psychological, behavioural, and cognitive domains in order to minimise stress among moms of children with Cerebral Palsy.

A sample, according to Creswell (2012), is a subset of the target population that the researcher intends to analyse in order to generalise the target population. In an ideal case, a sample of people who are representative of the total population can be chosen. The study's participants were chosen using a convenience sampling technique. The children with disabilities made up the entire group. Non-probability sampling is referred to as convenience sampling. It is a statistical approach for obtaining data by selecting samples depending on their willingness to volunteer, availability, or ease of access. In this study, a pre/post/delay distribution of the questionnaire was used to collect data (quasi experimental study).

Figures acquire quantitative information, according to Merriam and Grenier (2019). However, according to Whitmore (2019), a quantitative research method is a method for analysing numeric data in the form of a statistical method. This study's quantitative data came from a quasi-experimental study with three sections: pre-distribution of the questionnaire, intervention or training, and delay. The current study used a quasi-experiment to see if the Behavioural Cognitive Mentoring Program was beneficial in lowering cognitive and psychological issues with the child's independent performance among mothers of children with Cerebral Palsy in post-evaluation.

A quasi-experiment, according to Shadish and Luellen (2006), is a type of study that is comparable to all experimental investigations in that it is used to test hypotheses about the effects of manipulative treatments. Moreover, this is a type of training that is employed as a solution to a child's condition. The Behavioural Cognitive Mentoring Program served as the foundation for the programme. This intervention instruction was solely delivered to the experimental group. According to the class schedule in the research protocol, the participants were given a background questionnaire and a pre-test before to the intervention. Weekly homework was given to mothers of children with Cerebral Palsy.

Furthermore, the process and techniques used by the researcher to analyse the obtained data in order to extract information from the data and provide a summary description of the results based on the analysis of the data are referred to as data analysis procedure (Nwana, 1981). To double-check if a distribution of scores significantly varied from a normal distribution, skew and kurtosis were used in SPSS to test for normality of data distribution. The data was sampled from a Gaussian distribution, i.e. data that was not normally distributed, and the data was analysed using the Man Witney and Wilcoxon no-parametric test. Before completing actual data analysis, the researcher completed a data mining technique to ensure effective data representation. The frequency distribution and descriptive analysis for each variable were used to tabulate the number of replies for each question.

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4. RESULTS

According to the Mann-Whitney (U) results in Table 1, there is a significant difference between the Pre-experimental and Pre-control of the Pre-distribution clearly described through the mothers of children with Cerebral Palsy in the present study. r = 0.412, U = 12.65, z = -3660, p = 0.000. When the mean rank values of the experimental and control groups were compared, it was clear that the experimental group's mean rank value (mean rank = 23.87) was higher than the control group's mean rank value (mean rank=14.51). There was a noticeable distinction between the two groups as a result of this. The effect size of r = -0.412 indicated a medium to large effect, implying that the Program had a significant impact on both the experimental and control groups.

Table 1: Between-Group among Pre-Experimental and Pre-Control

Program	N	Mean Rank	U value	z value	p value	r value
Pre-Experimental	40	23.87	12.65	-3.660	0.000	-0.412**
Pre-Control	40	14.51				

In addition, the Mann-Whitney (U) result from the response presented in Table 4.3 below, has revealed that there is a significant difference between the Post-experimental and Post-control CBTP of the Post-distribution explicitly explained through the mothers of children with Cerebral Palsy reflected in the current study. The U = 6.88, z = -8.110, p = 0.000, r = 0.912. The two mean ranks of the Post-experimental and the Post-control groups, also indicated that the mean rank value of Post-experimental group (mean rank = 29.54) was higher than the mean rank value of Post-control group (mean rank = 56.23). This confirmed that there is a significant difference between Post-experimental and Post-control groups. The effect size of r = -0.912 represents a large effect, hence signifying that the effect of the Program was essential between Post-experimental and Post-control CBTP.

Table 2: Between-Group among Post-experimental and Post-control

Program	N	Mean Rank	U value	z value	p value	r value
Post-Experimental	40	56.23	6.88	-8.110	0.000	-0.921**
Post-Control	40	29.54				

5. DISCUSSIONS

The significance of stepping beyond typical measures of gathering evidence when making correlations of mothers' parenting stress is a key conclusion of this study. There is a crucial contrast in the Pre-trial and Pre-control of the pre-dispersion indisputably explained via mothers of children with Cerebral Palsy in the ebb and flow study, as in previous studies. This discovery was supported by significant parenting stress, as well as the three regions (i.e., youngster, parent, and parent-child). Furthermore, r impact denotes a significant influence, indicating that the strategy had a significant impact in expanding the information available to mothers of children with cerebral palsy.

The investigation's findings revealed that parenting stress was reduced through mediation sessions for parents. When compared to parents who attend control gatherings, parents who attend intercession have a greater reduction in parenting stress. The findings also revealed that parental intercessions are linked to minor, rapid, and sustained improvements for children in the domains of concealing, externalising, intellectual, and social mental work. Individual outcomes are predicted by increases in child externalising and decreases in parenting stress. To put our findings on the amount of the parenting stress impact into context, this study compared the current results to those from other studies.

This analysis did not uncover any Man-Whitney of CBT or other intervention regimens aimed at reducing parenting stress. However, Lewis et al. (2019) looked into enthusiastic parental change in conjunction with parenting stress. In their examination of parent efforts to reduce kid misuse, they declared a moderate improvement in that result. In that study, the post-mediation impact was greater than in the current study. This could be due to the high amount of passionate parental modification, which includes certain negative enthusiastic moods, such as indignation, despite parenting stress. In this way, it's possible that increases in aroused states other than parenting stress drove the impact size. The leeway found for intercession programmes above control bunches with different parent mediations was also examined in this study. It was once again impossible to find any impartial research on parenting anxiety. Fitzpatrick, et al., (2019) investigated the effects of parent preparation programmes on a composite parenting outcome, which included parenting stress.

Naeem, Arif, Asghar, and Mahmood (2018) defined social preparation programmes as those that teach parents how to reinforce their children's good behaviour while overlooking or rebuking bad behaviour. Non-social initiatives were defined as those that did not teach these specific skills, such as projects aimed at strengthening parent-child communication or changing child-related perceptions. In light of this description, mediation programmes are conduct programmes, and the current study's favoured position over control programmes is similar to Hashem and El Aziz's (2018) findings for conduct parent programmes. The advantage of conduct programmes over control programmes was slightly greater. Surprisingly, the drop in parenting stress was more pronounced during follow-up than post-intercession, according to this study. In contrast, Dim, Edwards, and Gibbons (2018) found that social parent preparation had a decreased impact during follow-up for a composite parenting result that included parenting stress. In addition, the effects of cognitive behaviour treatment for general stress are maintained throughout development, although not expanded.

Ellery (2018). As a result, the current findings suggest that mediation programmes have negative consequences for parents, and that they contrast favourably with conduct parent preparation and Cognitive Behavioural Therapy in this regard. The degree of heterogeneity in relation to parenting stress is high, indicating variation in the true impact size among studies. This recommended parent receives nonexclusive talents in the interim programme, which lasts from 9 to 27, which they can utilise in a variety of parenting situations and over their child's development. Surprisingly, when the mediation was delivered directly to parents, the reduction in parenting stress was greater than when it was delivered to simultaneous parent and adolescent groups. Given the bi-directionality of parent influences, it would seem reasonable to predict that preparing parents in better results (Kuschmann, 2018). This study found

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evidence that parent preparation programmes can help parents improve their parenting skills. This discovery was factually significant, and as a result, it is reasonable to assume that it is a robust parent result metric for evaluating the appropriateness of parenting programmes. Regardless of the children's analysis in the study, parental self-viability levels had a critical increase and a large impact size for parents of children younger than 5 years old. As a result, the study concluded that preparing parents of younger children is more useful in enhancing CBT results than starting prepping when the child is five years old. This could be due to the fact that skills taught to parents of younger children are based on formative standards and so have a more direct impact on children's formative outcomes than skills taught to more experienced parents. Parents who see the good impact their newly acquired skills have on their children's grades are likely to strengthen their belief that they can provide the assistance that their children require. These findings add to the growing body of evidence documenting the positive effects of early mediation on children's outcomes Mohamed Mandy and Aranda (2019).

These findings contrast with a prior model that suggested that higher levels of CBT lead to higher levels of success in children, according to Kuschmann and Lowit (2019). As a result, parenting projects that increase CBT levels may also help children achieve positive outcomes. Parent preparation programmes have been shown to be effective regardless of whether they are conducted by analysts or other medical professionals. This result could be especially useful in developing countries that lack established professional preparation programmes for therapeutic and integrated health professionals, which could therefore graduate a certain number of human services professionals on a yearly basis. In situations where there is a shortage of prepared specialists, undertaking relocating has been advocated as a way to increase access to mediations. Furthermore, there is mounting evidence that suggested elective consideration professionals, such as restoration care workers or network-based caregivers, are also capable of effectively delivering parent preparation programmes.

Although parents were satisfied with the programme as a whole, they identified impediments to programme adherence that may be addressed in the future to improve the program's acceptability. Parents in particular identified methods to make the online modules more accessible, such as the construction of a mobile-friendly website that could be viewed on mobile devices. Families' ability to obtain assistance continues to be hampered by life circumstances and pressures. Although it is unlikely to be able to eliminate all problems faced by families, future iterations of this programme will look for methods to address frequent barriers to access, such as how to best engage younger siblings and family members in the programme. Although lower than expected, enrollment rates for our sample were consistent with those reported in trials (Wade et al., 2017; Williams et al., 2019).

Despite the short programme duration, the high level of time commitment required for participation (weekly sessions, online modules, daily practise) could explain lower enrolment rates and why three individuals did not finish the programme, especially given conflicting life stressors. The number of rescheduled visits in this group is consistent with past. The average time to completion was also within the three-month period that was usually specified for the

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program's completion (Narad et al., 2017). When compared to retention rates for comparable online parenting programmes, our sample had a high retention rate, which can be deemed a success (Sourander et al., 2016). Preliminary evaluation of programme outcomes reveals that children's behaviour, parental competency, and positive parenting behaviour have all improved. Negative parenting behaviour rose as a result of the parents' greater use of direct orders during the intervention. This seemed paradoxical at first, but upon investigation, it was a result of data collection timing and possible therapist error. As parents were introduced to programme content and grew more aware of their negative parenting behaviours, first coding took place in session 2, at which stage negative parenting behaviour may have already started to reduce.

6. CONCLUSION

It is both possible and vital to design therapies to help parents of children with CP cope with their stress. The structural model's routes offered support for the expected linkages between variables that influence foster parent health outcomes. The family unit appears to be the major regulatory mechanism of health outcomes in our model. Rather than focusing solely on the child, interventions and prevention strategies should also focus on parents, who will be able to respond to their child's unique characteristics, such as behaviours, temperament, and functional limitations, in ways that will lessen the impact of their child's disability on them.

In future research, it would be fascinating to investigate the direct and indirect implications of this model across the carers' role trajectory across time, as well as how changes in individual circumstances affect results. For example, a child with significant functional limitations associated with developmental disabilities may grow in size and weight at a time in their lives (especially teenagers) when the physical attributes of their parents may begin to wane as caregivers age, or the loss of a person who shared duties and moderated the impact of the child's functional limitations. This strategy also allows us to compare our model across different demographics, such as child and adolescent carers, youth, and the elderly. There is also a need for more research into the relationships among and between the factors that influence the care of children with different developmental disorders.

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