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# EVALUATION OF STRESS LEVEL, COPING STRATEGIES, AND PHYSICAL ACTIVITIES IN CAREGIVERS OF CHILDREN WITH NEUROLOGICAL DISORDERS: A BRIEF REVIEW

Physiotherapy

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## ABSTRACT

**Background:** Children with neurologic illnesses have problems with their motor, cognitive, mental, physical, and language abilities. The malfunction could result in several long-term issues. One of the main causes of disability in children in underdeveloped nations like India is neurological illnesses. **Study selection:** This narrative review is conducted on databases from PubMed, Google scholar, and ResearchGate. This review included 10 studies on the stress level, coping strategies physical activity of caregivers of children with neurological disorders. **Conclusion:** In general, the examined research offers insightful information about caregivers having a heavy physical workload, quality of life disturbance, and difficulties found in child care, measurement of coping, difficult engaging in social activities.

## KEYWORDS

Neurological disorders, depression, anxiety, physical activity, caregiving burden, coping, physical burden

## INTRODUCTION

Any type of nervous system dysfunction is a hallmark of neurological illnesses. Childhood neurological illnesses can be caused by a variety of factors, such as infections, trauma, hypoxia, neurotoxins, and genetic diseases. Children with neurologic illnesses have problems with their motor, cognitive, mental, physical, and language abilities. The malfunction could result in a number of long-term issues. One of the main causes of disability in children in underdeveloped nations like India is neurological illnesses. The additional weight of poverty falls on these youngsters.[1] Asia and sub-Saharan Africa have the highest global rates of neurological disease. Over 20% of all diseases worldwide are caused by neurological problems.[2] The many neurological conditions include cerebral palsy, down syndrome, intellectual disability, seizures, and attention deficit hyperactivity disorders.

Cerebral palsy can fall into one of several categories: mixed type, dyskinesia, ataxia, or spasticity (the most prevalent). Movement, balance, and gait are just a few of the areas of a person's life that are impacted by brain injury in cerebral palsy.[3]

Behavioral disorders, cognitive dysfunction, osteoporosis, seizures, speech and hearing impairments, and other health problems are frequently experienced by individuals with cerebral palsy. Moreover, it may result in sleep disturbances or hip dislocation. Both an individual's quality of life and the dynamics within the family can be impacted by cerebral palsy. According to a study, children with cerebral palsy have a lower quality of life than children without the condition. [4]

Compared to parents of children without such needs, parents of children with chronic illnesses may face more problems as caregivers, such as higher medical expenses, difficulties finding child care, and limited work prospects. The effect of caregiving on parents of children with chronic illnesses may be exacerbated by these difficulties in addition to direct parental obligations in health care. There is a lack of research on the factors influencing the mental health of parents or other caregivers of children with chronic illnesses. Research has looked into the possible link between coping mechanisms and caregiver wellbeing.

The literature is divided on the definition and measurement of coping, which makes it difficult to comprehend how coping may be related to the well-being of caregivers of children with chronic illnesses. It is believed that coping mechanisms are context dependent, meaning that the stressor and the setting in which it is given influence the coping mechanism that is employed. But it's also thought that ingrained coping mechanisms emerge, and these vary amongst families.[5] The individual who makes the majority of the daily decisions and provides the majority of the child's care is known as the primary caregiver; the family decided who qualifies as the primary caregiver.[6] Their bodies ached from lack of sleep, making it difficult for them to give the child the kind of care that child needed. Stress increased as a result.[7]

## METHOD

| AUTHORS, JOURNAL,YEAR | DESIGNS | MATERIAL & METHODS | OUTCOME MEASURES | RESULTS |
|---|---|---|---|---|
| Kouther DA Front pediatr journal,2022 | cross-sectional study | The researchers used the Depression Anxiety Stress Scale-21 (DASS-21), which was filled by the primary caregivers after obtaining their consent. The DASS-21 is a validated questionnaire designed to assess mental health by specifically measuring the magnitude of three negative emotional states: depression, anxiety, and stress | The scores for depression, anxiety, stress, on the DASS-21 were 0-4 . | The presence of depression, anxiety, and stress in caregivers of children with CP is a serious issue that negatively affects the quality of life. |
| Farrugia T et al. Australian Occupational Therapy Journal (2018) | cross-sectional study | The Depression Anxiety Stress Scales-21 (DASS-21), International Physical Activity Questionnaire-Short Form (IPAQ-SF) and the Health Promoting Activities Scale (HPAS). | The DASS-21 is used to measure the negative emotional states associated with three subscales, depression, anxiety and stress. The IPAQ-SF is a self-reported questionnaire | These findings indicate significant differences between women with and without caregiving responsibilities and their participation in health promoting activities, self reported mental health, participation in physical activity and labour force. |

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| | | | to measure participation in physical activity during a seven-day period. | |
| Ramachandran Clinical epidermiology and global health 2020 | Cross sectional study | Kingston Caregiver Stress Scale was used to assess the stress among the caregivers. Caregivers of Mentally disabled children within the age range of 4–17 years. Primary caretakers of the differently abled children. Caregivers who have not provided care for the last 12 months | Kingston caregivers stress scale | This study shows that the majority of the caregivers had severe stress and no participant were without stress. The level of stress among the caregivers was statistically significant with socio-demographic variables such as type of family, gender of the caregiver and economic status. The level of stress increases with a decrease in the economic status of the caregivers. |
| Zhang M Front Neurol 2021 | Cross sectional study | Self rating depression scale, Self rating anxiety scale, Pittsburgh sleep quality index , The family assessment device | Self rating depression scale, Self rating anxiety scale, Pittsburgh sleep quality index , The family assessment device | The results also showed that 65.6% of the caregivers were in depression status, 41.9% were in anxiety status, and 49.0% had poor sleep quality. The proportion of unhealthy family functioning in each subscale was 45.1–96.1%, and the unhealthy behavior control function accounted for 96.1%. |
| Guillamon N et.al Journal of clinical nursing 2012 | Cross-section correlational design. | The WHOQOL-BREF Mental Health scale comprises 6 of the 26 items of the WHOQOL-BREF questionnaire BDI-II contains 21 items and a total score can be computed by summing the ratings of each item. The STAI contains 20 items for assessing state and trait anxiety. | quality of life and mental health | The results showed that the parents of children with CP in our study had lower levels of quality of life and greater depressed mood than the general population. Second, the results of this study provide more knowledge about the impact of caregiver resources such as self efficacy on the quality of life and mental health of parents and have clear and important clinical implications for the design of effective and comprehensive family - centred interventions in children with CP |
| Ghim S Child health care and development. 2018 | cross-sectional survey | International Classification of Functioning, Disability and Health ( body mass index (BMI) | Identification of psychological health and physical problem and physical activity of caregivers of childrens with disabilities. | Multivariable logistic regression indicated that the AMA group had a lower likelihood of reporting depression compared to the IA group. |
| Ganjiwale, Journal of family medicine and primary care 2016 | cross-sectional study | WHO-QOL & The Brief COPE | The Brief COPE is a 28-item measure of coping style. WHO-QOL100 Four domains of QOL are measured: Physical health, psychological health, social relationship, and environment | The results of the study postulated that there were significant differences in the QOL of parents having a child with a disability based on the type of disability the child had. Parents having a child with ADHD had the highest QOL scores while parents having a child with epilepsy had lowest QOL score overall. |

## DISCUSSION

The primary caregiver was defined as the person who is most responsible for the day-to-day decision making and care of the child; the family determined who was best considered the primary caregiver.[11] Caregiving has been shown impair the quality of life of the caregiver. Caregivers often suffer from stress and depression. Coping has traditionally been defined as thoughts and behaviors that are used to manage the internal and external demands of situations that are appraised as stressful. Caregivers of children with developmental disabilities tend to bear a huge burden of physical work during the process of caregiving. This includes moving the child, cleaning the child, feeding him/her, providing physical therapy and playing with the child, etc. A study by Farrugia T indicate the significant differences between women with and without caregiving responsibilities and their participation in health promoting activities, self-reported mental health, participation in physical activity and the labour force by using Depression Anxiety Stress Scales-21 (DASS-21), International Physical Activity Questionnaire-Short Form (IPAQ-SF) and the Health Promoting Activities Scale (HPAS). A study by Gothwal V K showed that the current Rasch analyses add to the evidence of measurement properties of the CHIP and show that the two of its subscales have good psychometric properties and work well to measure coping patterns in parents of children with disabilities.

## CONCLUSION

In general, the examined research offers insightful information about the caregivers have a heavy physical workload, quality of life disturbance, and difficulties find in child care, measurement of coping, difficult to engage in social activities. Depression and stress are common ailments among caregivers.

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