

Original Article

Anxiety and Depression in Parents with Child of Cerebral Palsy

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ABSTRACT

Objectives: To assess the occurrence of anxiety and depression in parents caring for a child with Cerebral Palsy.

Material and Methods: A case-control study took place at the Gambat Medical Center and Jinnah Postgraduate Medical Centre from January 2019 to April 2021. There were two group categories; Group A served as the control group while Group B consisted of parents of children with cerebral palsy. Either the mother or father of the children was included and those parents who had more than one child were excluded from this study. They were screened for anxiety and depression using the Hospital and Anxiety and Depression Scale (HADS).

Results: 112 participants were included with 56 in each group. A parent with a cerebral palsy child had significantly higher levels of depression score on HADS compared to the control group (depression; 16.67 ± 5.24 vs. 8.39 ± 4.01 ; $p < 0.001$). Similarly, anxiety was higher in parents who had a child with cerebral palsy ($p < 0.001$). Most of the parents with cerebral palsy had severe depression i.e., 19 (33.9%) ($p < 0.001$). The most common type of CP was spastic diplegic and the mean depression score for different types of CP varied between 14.33 ± 6.727 and 17.67 ± 3.055 however, the difference was not statistically significant ($p = 0.65$).

Conclusion: The parents of children with cerebral palsy were more likely to suffer from depressive symptoms as compared to those with healthy children.

Keywords: Anxiety, cerebral palsy, HADS, depression.

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INTRODUCTION

Raising a child with a chronic or terminal illness could take a heavy mental and physical toll on parents.^{1,2} Owing to the child's ailment and the burden associated with it, the caregivers encounter several obstacles in their daily living.² When compared to the caretaking of a healthy child, looking after a chronically unwell child necessitates numerous hours of extra care every

day, such as medical attention or frequent hospital visits.³ Consequently, due to their care obligations, parents of chronically ill children often struggle to find work and engage in socialization.^{2,3} The overall parental pressure reported by caregivers of chronically ill children is considerably higher than that of caregivers of healthy children. Parents are likely to develop psychosocial disturbances because of this parental load.³⁻⁶

Cerebral palsy (CP) is a broad term that refers to a group of conditions correlated to causing serious physical impairments and other developmental absences and manifests in the early phases of brain development.⁴ Even though motor dysfunction is the most distinguishing aspect of CP syndromes, several children also tend to suffer from sensory, linguistic, and intellectual impairments, as well as substantial restrictions in personal care tasks like eating, dressing, bathing, and movement.⁵ Caregivers' mental health is frequently compromised because of nurturing a child with impairments.

Because caretakers of children with CP must overcome the challenges and complexity caused by the children's impairments, they are less satisfied with their lives since they are unable to meet their social demands.^{6,7} Stress tends to arise in such cases when there's an imbalance amongst the needs of both the external environment and anticipated internal responsiveness to impairment, and when the needs hinder the accomplishment of other personal commitments.⁸⁻¹⁰ The primary caregiver, generally the mother, may face a variety of psychosocial issues subsequently.⁸

To date, there has been little to no attention given to the severe debilitating impact of a child born with a physical abnormality or a cognitive impairment on the mental and physical well-being of the parents. Not only is there insufficient knowledge on the different challenges a parent of a cerebral palsy child has to go through in their daily lives but there is also no coping strategies,

counseling/therapy, or social support offered to these unfortunate parents. This further discourages the parents and negatively impacts their mental health. Therefore, the current study aimed to evaluate the severity of anxiety and depression in parents of children with cerebral palsy so that strategies can be devised to minimize the burden of care and facilitate the parents in bringing up a child with cerebral palsy.

MATERIAL AND METHODS

Study Design and Setting

A case-control study was employed at the Department of Medicine and Psychiatry, Gambat Medical Centre, and Jinnah Postgraduate Medical Centre between January 2019 to April 2021. The study was started after obtaining ethical approval from the institutional review Board of Gambat Medical Centre. After narrating the objectives and significance of the study, each participant was asked to sign an informed written consent.

Sampling Technique

A non-probability convenience sampling technique was used to enroll the participants.

Inclusion Criteria

All participants were grouped into two categories; Group A had parents who had a child without cerebral palsy. Group B included parents who had a child with cerebral palsy. For the control group, only parents with healthy children needed to be enrolled therefore, we invited the attendants (healthy adults) who accompanied the patients to take part in the study.

Exclusion Criteria

Since the study wanted to assess the impact of raising a child with cerebral palsy on a parent's mental well-being, those parents who were having more than one CP child were excluded.

Data Collection Procedure and Instruments

All participants were screened for anxiety and depression using the Hospital Anxiety and Depression Scale (HADS).

HADS is a scale consisting of fourteen items, with the equal number of items for depression and anxiety subscales. Each item is scored from zero to three with a subscale score greater than eight indicating depression or anxiety.

Data Analysis

Data collected was recorded on a predefined proforma. Information and variables related to child and caretaker were stratified and risk factors for anxiety and depression were thoroughly investigated.

The association between severity of depression and providing care to a CP child was determined using Chi-Square Test and Anova. A p-value of less than 0.05 was kept as the cut-off for statistical significance.

RESULTS

Age of the Participants

A total of 112 participants were included with 56 in each group. 65 (58.03%) were male parents while 47 (41.96%) were female parents. There was no statistical difference in mean scores of anxiety or depression between male and female parents.

Anxiety and Depression in Caregivers with a CP Child

A mean HADS score of group B (case) was significantly higher than the control group ($p < 0.001$) thus, highlighting the association between depression in parents caring for a CP child compared to those parents caring for a healthy child (Table 1). Similarly, a significant difference in anxiety levels was found in those providing care to a CP child versus the controls (9.19 ± 4.58 vs 5.92 ± 3.13 ; $p < 0.001$) (Table 1).

Table 1: Mean HADS score among study Participants (Control versus Case).

Group	Mean \pm SD	p-value ^a
Anxiety (Group A)	5.92 \pm 3.13	< 0.001
Anxiety (Group B)	9.19 \pm 4.58	(Significant result)
Depression (Group A)	8.39 \pm 4.01	0.001
Depression (Group B)	16.67 \pm 5.24	(Significant result)

^a = Paired Sample t-test

The severity of Depression in Caregivers with a CP Child

Figure 1 illustrates the severity of depression in participants according to the groups (case versus control). It was observed that most of the control group participants (those with a healthy child) had no depressive symptoms at all while severe depression was significantly associated with parents caring for the CP child with a frequency of 19 (33.93%) ($p < 0.001$).

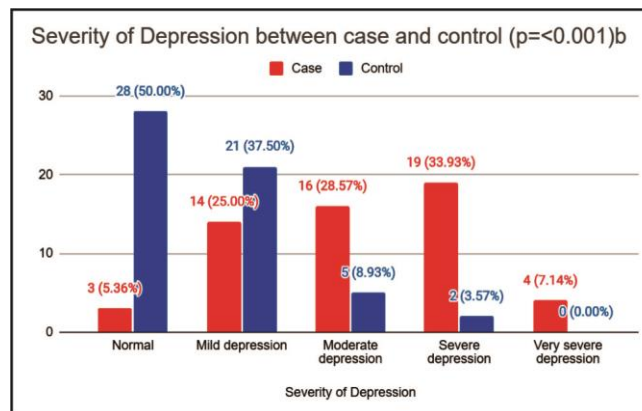


Figure 1: Comparison between severity of Depression among Parents who provide care to a child with CP and those who do not. ^b = Fisher's Exact Test.

Type of Cerebral Palsy and its Association with Severity of Depression among Caregivers

Using the ANOVA test, we determined whether there was any association between the type of CP the child was diagnosed with and the depression

severity among the caretakers i.e., the parents. It was found that the most common type of CP was spastic diplegic and the mean score for different types of CP varied between 14.33 ± 6.727 and 17.67 ± 3.055 however, the difference was not statistically significant ($p = 0.65$) (Table 2).

Table 3: Type of Cerebral Palsy & its Association with Mean HADS score.

Types of CP	N	Mean \pm SD	p-value ^c
Spastic Diplegic	28	17.43 \pm 5.514	0.65 (Insignificant result)
Spastic Quadriplegic	9	14.33 \pm 6.727	
Athetoid	4	17.00 \pm 5.354	
Spastic Hemiplegic	3	17.67 \pm 3.055	
Others	12	16.33 \pm 3.725	
Total	56	16.68 \pm 5.24	

^c= ANOVA

DISCUSSION

Our results show that a parent of a child with cerebral palsy had significantly higher scores on HADS thus indicating a relationship between the incidence of anxiety and depression and caring for a child with cerebral palsy. Having to take care of a cerebral palsy child and to ensure his well-being is a very stressful responsibility.

Our findings were consistent with a study done by Gugula et al, in 2019.¹¹ The authors revealed that poor social support, low social ranking, and poor living conditions were some of the contributors to depression and anxiety among the caretakers. Garip et al, found that mothers with children suffering from cerebral palsy had higher levels of fatigue as compared to mothers who had healthy children.¹² The authors reported that since mothers spent a lot of time with their sick children, they were more likely to get depressive symptoms as compared to males. This was supported by Derajewet al, in their study on the Ethiopian population, since women are mostly expected to take care of the household

along with taking care of their children.¹³ Especially if the child has special needs the burden doubles and this adds to more depressive symptoms. Sajedi et al, in their study, reported that depression was 2.26 times higher in caretakers with a CP child versus those with healthy children.¹⁴ Alvarenga et al. in their study on the Brazilian population found that parents who were taking care of their children with cerebral palsy often neglected their oral and general hygiene since they had a lot of commitment and responsibility to their sick child.¹⁵ They also neglected their interpersonal relationships as well as their appearance due to their psychological inability to be able to manage everything along with taking care of their mental health. Park and Nam reported that parents with CP children had higher rates of depression and experienced time pressure to maintain their social engagements.¹⁶

Similarly, in a recent systematic review narrated by Barreto et al, on the incidence of mental health disorders including anxiety and depression among parents with cerebral palsy children, it was revealed that a child with chronic illness is a crucial risk factor for mental ailments in the caregivers. The parents with a CP child were more frequently diagnosed with both depression and anxiety.¹⁷

Kütük et al, evaluated the symptoms of depression and burnout in parents who were taking care of their child with autism spectrum disorders.¹⁸ The authors found that depression and burnout levels were high among caregivers as compared to the control group. Burnout level was also higher in females than in fathers whereas fathers had more depressive symptoms. Support through the help of psychologists is essential for both parents who are taking care of a sick child. Their stress levels, as well as burnout levels, should also be addressed. Caregivers should also be made more aware of the mental toll it can take on them while taking care of a sick child and where to ask for help once their depressive

symptoms get worse.

Despite the unparalleled significance of the current study findings, there are certain limitations to the study. First of all, we cannot extrapolate the findings of the current study to a larger population because of the small and undiversified sample size. Secondly, the researchers could not explore the risk factors of anxiety and depression in these participants due to resource constraints. However, the authors believe that the present study can catalyze future studies that can thoroughly explore the relationship between a sick child and the guardians' deteriorating mental health.

Recommendations

The study indicates that parents of patients with cerebral palsy are significantly more prone to anxiety and depression than those parents with no mentally challenged children. We recommend that all legal guardians of children suffering from a chronic illness should be counseled about the disease course and must be advised of self-care. Regular screening for mental health illnesses such as depression or irrational anxiety must be offered to all family members of a chronically ill child. If screened positive, they should be offered psychotherapy or referred to a psychiatrist.

CONCLUSION

The parents of children with cerebral palsy were more likely to suffer from depressive symptoms as compared to those with healthy children. Further studies should be conducted on a larger scale to explore the predictors of psychological adversities in parents with chronically ill children.

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Additional Information

Disclosures: Authors report no conflict of interest.

Ethical Review Board Approval: The study was conformed to the ethical review board requirements.

Human Subjects: Consent was obtained by all patients/participants in this study.

Conflicts of Interest:

In compliance with the ICMJE uniform disclosure form, all authors declare the following:

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Sr.#	Author's Full Name	Intellectual Contribution to Paper in Terms of:
1.	Kamran Ali Shahani Baloach	1. Study design and methodology.
2.	Kiran Abbas	2. Paper writing and data calculations.
3.	Bakhtiar Ahmed Bhanbhro	3. Data collection and calculations.
4.	Jawed Akbar Dars	4. Analysis of data and interpretation of results etc.
5.	Mumtaz Ali Bharo	5. Literature review and referencing.
6.	Irfana Hassan	6. Analysis of data and quality insurer.