

Stress Among Parents Of Children With Neurodevelopmental Disorders –A Cross-Sectional Study

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ABSTRACT

Background: Parents of children with neurodevelopmental disorders (NDDs) often experience significant psychological distress, including depression, anxiety, and stress. This study was conducted to assess these levels of distress and explore associations with the child's diagnosis and the parent's gender.

Methods: A cross-sectional study was conducted in the Child Guidance Clinic at R.L. Jalappa Hospital from March to April 2025, involving 65 parents of children with NDDs. The Depression, Anxiety, and Stress Scale-21 (DASS-21) was used for assessment. Data were analyzed using SPSS version 22.

Results: The study found high levels of psychological distress among parents: 87.7% experienced depression, 83.1% anxiety, and 84.6% stress. The most common severity levels were moderate depression (46.2%), moderate anxiety (29.2%), and mild stress (38.5%). No significant associations were found between the type of NDD or parent gender and levels of distress.

Conclusion: A high prevalence of psychological distress was observed among parents of children with NDDs. These findings highlight the importance of family-centered support, including psychoeducation, stress management, and peer support, to improve caregiver well-being and overall outcomes.

Keywords: Neurodevelopmental, Psychological, Stress

1. INTRODUCTION

Neurodevelopmental disorders (NDDs) are a group of conditions that affect the development and functioning of the nervous system, leading to impairments in cognition, communication, behavior, motor skills, and social interactions. ⁽¹⁾ These disorders include autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), intellectual disabilities (ID), learning disabilities, and motor disorders. Raising a child with an NDD presents unique challenges for parents, including the need for special education services, behavioral therapies, and adjustments to daily routines. These demands can significantly impact parents' quality of life, elevate stress levels, and strain social and familial relationships. ⁽²⁾ Parents play a crucial role in the care and support of children with NDDs, and their mental, emotional, and physical well-being is vital not only for their health but also for the optimal development of their child.

High levels of parental stress can impair the ability to provide effective care, thereby compounding the challenges for families. Therefore, understanding the causes and extent of depression, anxiety, and stress among parents of children with NDDs is essential. Such insights can inform the development of targeted interventions, guide the provision of appropriate

resources, and help strengthen support systems to improve the quality of life for both parents and their children.

This study aims to assess the levels of depression, anxiety, and stress among parents of children with neurodevelopmental disorders attending a child guidance clinic.

2. MATERIAL AND METHODS

This hospital-based cross-sectional study was conducted over a two-month period, from March 2025 to April 2025, in the Child Guidance Clinic at R.L. Jalappa Hospital, a tertiary care center affiliated with Sri Devaraj Urs Medical College, which is a constituent of the Sri Devaraj Urs Academy of Higher Education and Research. Ethical approval for the study was obtained from the Central Ethics Committee. Written informed consent was obtained from all participating parents before their inclusion in the study. The Inclusion criteria were Parents of children diagnosed with NDDs who were enrolled in the child guidance clinic during the study period. The Exclusion criteria were parents who were already undergoing psychiatric treatment at the time of data collection. All consecutive cases attending the clinic within the two-month study period were included, and thus, the sample size was determined by the number of eligible parents during this timeframe.

The assessment tool was the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21). The questionnaire was available in English and Kannada. The DASS 21 scale was validated in Kannada, parents were requested to complete it during their visit. Table 1 presents the DASS-21, which consists of three subscales—depression, anxiety, and stress—each comprising seven items that assess specific symptoms related to the respective domain. The **depression scale** measures symptoms such as dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. The **anxiety scale** assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The **stress scale** evaluates chronic nonspecific arousal, including difficulty relaxing, nervous arousal, easily agitated, irritability, over-reactivity, and impatience. ⁽³⁾

Table 1. The assessment tool used was the Depression, Anxiety, and Stress Scale

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

Scores for each subscale were calculated by summing the relevant items, with higher scores indicating greater symptom severity. Graphs and charts were generated using Microsoft Excel and Microsoft Word.

Data analysis was performed using Microsoft Excel and SPSS version 22 (IBM SPSS Statistics, Somers, NY, USA). A *p*-value of less than 0.05 was considered statistically significant. All statistical analyses were conducted at a 95% confidence interval.

3. RESULTS

In the current study, 65 parents of children diagnosed with neurodevelopmental disorders participated. Among them, 30 were male (46.2%) and 35 were female (53.8%).

Table 2. Frequency of Parents Based on Child's Diagnosis

Diagnosis of a child	Frequency	Percent (%)
ADHD	13	20.0
ID	14	21.5
ASD	14	21.5
GDD	17	26.2
CP	7	10.8
Total	65	100.0

Table 2 shows the distribution of neurodevelopmental diagnoses among the children. The most common diagnosis was GDD(26.2%), followed by ASD and ID (21.5% each), ADHD (20.0%), and CP (10.8%).

Table 3: Distribution of parents based on depression severity

Depression Severity	Frequency	Percent (%)
NO DEPRESSION	8	12.3
MILD	22	33.8
MODERATE	30	46.2
SEVERE	5	7.7
Total	65	100.0

As shown in Table 3, moderate depression was most prevalent among parents (46.2%), followed by mild (33.8%). Only 12.3% of parents reported no symptoms of depression, while 7.7% experienced severe depression. Overall, 87.7% of parents experienced some level of depressive symptoms, indicating a considerable emotional burden.

Table 4: Distribution of parents based on anxiety severity

Anxiety severity	Frequency	Percent (%)
NO ANXIETY	11	16.9
MILD	14	21.5
MODERATE	19	29.2
SEVERE	14	21.5
EXTREMELY SEVERE	7	10.8
Total	65	100.0

Table 4 presents the severity of anxiety among parents. Moderate anxiety was the most common (29.2%), followed by mild and severe anxiety (21.5% each). Extremely severe anxiety was reported by 10.8% of participants. A total of 61.5% of parents experienced moderate to extremely severe anxiety levels.

Table 5: Distribution of parents based on stress severity

Stress severity	Frequency	Percent (%)
NO STRESS	10	15.4
MILD	25	38.5
MODERATE	19	29.2
SEVERE	11	16.9
TOTAL	65	100.0

Table 5 shows that the highest proportion of parents experienced mild stress (38.5%), followed by moderate (29.2%) and severe stress (16.9%). Only 15.4% reported no stress. In total, 84.6% of parents reported some level of stress, with 67.7% experiencing mild to moderate stress levels.

Analyzing the association between the Child's Diagnosis and Parental Psychological Distress, the Chi-square tests revealed no statistically significant association between the child's diagnosis and levels of parental depression ($\chi^2 = 5.96, p = 0.918$), anxiety ($\chi^2 = 12.38, p = 0.718$), or stress ($\chi^2 = 6.75, p = 0.873$). These findings suggest that the type of neurodevelopmental disorder did not significantly influence the psychological distress levels among parents.

Although more mothers participated in the study, no statistically significant association was found between parental gender and levels of depression ($\chi^2 = 3.36$, $p = 0.339$), anxiety ($\chi^2 = 3.63$, $p = 0.459$), or stress ($\chi^2 = 0.20$, $p = 0.978$). Correlation analysis revealed the following p -values: Depression and Anxiety: $p = 0.778$, Anxiety and Stress: $p = 0.918$, Depression and Stress: $p = 0.679$. These results indicate that all three domains—depression, anxiety, and stress—exert a similar psychological burden across the parental group, regardless of gender or child diagnosis.

4. DISCUSSION

This study aimed to assess the levels of depression, anxiety, and stress among parents of children with NDD and to examine potential associations between psychological distress and both the child's diagnosis and the parent's gender. The findings reveal a high prevalence of psychological distress in this population: 87.7% of parents reported experiencing some level of depression, 83.1% reported anxiety, and 84.6% reported stress. These results align with studies done by Barroso et al.⁽⁴⁾ and Hassall et al.⁽⁵⁾ which highlight parents of children with NDDs as a group at elevated risk for mental health concerns.⁽⁴⁾⁽⁵⁾ In our study, the most frequently reported severity levels were moderate depression (46.2%), moderate anxiety (29.2%), and mild stress (38.5%). These findings suggest that although severe symptoms are less common, the psychological burden is widespread and may significantly affect parents' daily functioning and caregiving capacity.

Interestingly, the analysis did not identify any statistically significant association ($p < 0.05$) between the specific type of NDD (e.g., ASD, ADHD, GDD, ID, CP) and levels of parental psychological distress. This is consistent with findings by Rivard et al.⁽⁶⁾ who reported that caregiving challenges and associated stress are often experienced universally across different neurodevelopmental conditions.⁽⁶⁾

Similarly, no significant association ($p < 0.05$) was found between the gender of the parent and the levels of depression, anxiety, or stress. Although slightly more mothers participated in the study, both male and female parents reported comparable levels of psychological distress. This may reflect increasingly shared caregiving responsibilities in modern family structures or suggest that the emotional impact of raising a child with an NDD transcends gender roles.

There are several limitations to this study. First, the relatively small sample size ($n=65$) may limit the generalizability of the findings to the broader population. Second, as a single-center study conducted at a tertiary care hospital, the sample may not be representative of parents accessing care in primary or community-based settings. Third, parents who were already undergoing psychiatric treatment were excluded from participation, which may have led to an underestimation of the true burden of psychological distress in this population. Additionally, the cross-sectional nature of the study prevents any conclusions about causality or changes over time.

5. CONCLUSION

This study reveals a high prevalence of depression, anxiety, and stress among parents of children with neurodevelopmental disorders. This highlights the need for comprehensive therapy, which includes counselling of parents during treatment of the child. Such an approach can modify the level of stress among the parents and thus improve the outcomes in children.

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