

# Perceived Stress and Quality of Life among Caregivers of Children with Behavioral Disorders Attending a Tertiary Care Hospital in Kolkata

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## ABSTRACT

**Background:** Family caregivers of children with behavioral disorders often face significant psychological challenges, including stress, and compromised quality of life. **Objectives:** To assess perceived stress and quality of life and its association with selective sample characteristics of the caregivers of children with behavioral disorders. **Methods:** This cross sectional study was conducted among 110 caregivers attending child guidance clinic of the Psychiatric Outpatient Department (OPD) at hospitals, Kolkata. Participants were screened and enrolled considering inclusion and exclusion criteria using purposive sampling techniques. Recommendation from the institutional ethics committee and ethical guidelines were strictly followed. Outcome variables were measured by using standardized Perceived Stress Scale and PedsQL Family Impact Module. **Results:** The current study findings revealed that the majority (94.55%) of the caregivers were parents and 65.46% were aged between 31 and 40 years. Most of the caregivers were Hindu (71%), belonged to nuclear families (46.37%), and 85.46% had no financial support from other sources. The majority (51.82%) of the children were diagnosed with Attention- Deficit/Hyperactivity Disorder (ADHD) only, 56.36% belonged to the age group of 8–11 years, and 70% were male. Among the caregivers, 66.36% had a mean level of stress and 24.55% had high stress. The mean perceived stress score was  $24.78 \pm 4.89$ . The mean total quality of life score was  $64.10 \pm 4.35$ , whereas the mean emotional functioning score was  $58.75 \pm 4.33$  and the mean worry score was  $60.41 \pm 6.20$ . A negative correlation existed between perceived stress and quality of life ( $p < 0.02$ ). The association of quality of life with duration of caregiving, and perceived stress with marital status, family support, and family conflict were statistically significant at the 0.05 level. **Conclusion:** These findings suggest that caregiver support in tertiary care settings should include stress management counselling, psychoeducation, family-support strengthening, and referral support for caregivers experiencing high stress, alongside the child's standard mental health care.

**Keywords:** Behavioral Disorder; Caregiver; Children; Family Functioning; Perceived Stress; Quality of Life

## INTRODUCTION

Caregivers of children with behavioral disorders face ongoing and complex challenges that extend well beyond typical parenting demands (Ogundele, 2018). The global prevalence of behavioral issues among children ranges from 6.33 % to 43.1% whereas ADHD ranges from 1.3% to 28.9 % in India, with a substantial impact on family dynamics, parental stress and well-being and family routines (Datta *et al.*, 2018); ADHD, Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) are characterized by persistent patterns of disruptive behaviours, poor emotional regulation, and social difficulties that significantly impede a child's functioning at home, school, and within the community settings (Sagar *et al.*, 2019; Samanta *et al.*, 2025; Qaderi & Malmqvist, 2026).

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Such conditions not only disrupt the child's development but also place an intensified psychological and practical caregiving burden on primary caregivers resulting in elevated levels of stress, reduced caregiving abilities, and diminished quality of life, notably higher ADHD symptoms are associated with increased mental health problems among parents (Rasote *et al.*, 2015; Heath *et al.*, 2015). Study findings in Iran reported  $33.31 \pm 2.75$  mean stress score among family caregivers (Mousavi *et al.*, 2019). Caregivers require skills, patience and adequate resources to understand the complexities of ODD children; those with low self-efficacy tend to experience heightened anxiety, feelings of incompetence, and an increased risk of burnout (Hood *et al.*, 2025; Carter *et al.*, 2025). Self-efficacy has also been reported as an important determinant of health-related quality of life among family caregivers (Crellin *et al.*, 2014). Report of studies in Kerala showed that lower control in parenting and emotional regulation increased the risk of precipitating behavioral disorders and mothers with moderate depression had  $22.25 \pm 1.22$  mean perceived stress score and approximately 40 % children had ADHD; factors like age, education, family type, psychological illness of the mother, diagnosis and birth order of the child contributed to the perception of stress and quality of life of among caregivers (Thomas *et al.*, 2020; Raju & Roy, 2023).

A comparative study in West Bengal revealed that caregivers of ADHD children experienced poorer health-related quality of life and higher perceived stress than caregivers of children with Intellectual Developmental Disorders (IDD) (Dubey *et al.*, 2023; Namimi-Halevi *et al.*, 2026). Studies conducted in India have largely focused on the assessment and management of Autism Spectrum Disorder (ASD), IDD, and other neurodevelopmental conditions among children, adolescents, and their parents. However, context-specific research on perceived stress and quality of life among caregivers of children with behavioral disorders remains limited in West Bengal. Evidence regarding their ability to manage challenging situations and the factors influencing their psychological well-being is still scarce.

## Research Gap

Although the inverse relationship between caregiver stress and quality of life has been reported in earlier studies, available evidence remains limited in relation to caregivers of children with behavioral disorders attending tertiary care services in Kolkata, West Bengal. Therefore, the present study does not aim to establish a new theoretical association but seeks to generate context-specific evidence regarding the level of perceived stress, affected quality-of-life domains, and socio-family factors associated with caregiver well-being in this regional clinical setting. This contextual understanding is important for planning caregiver-focused nursing interventions, psychoeducation, counselling support, and family-centred mental health services.

## Significance of the Study

The significance of the present study lies in its context-specific contribution rather than in establishing a completely new relationship between caregiver stress and quality of life. While previous studies have reported that higher caregiver stress is associated with poorer quality of life, limited evidence is available from tertiary care settings in Kolkata, West Bengal, particularly among caregivers of children with ADHD, ODD, CD, and related behavioral disorders. By identifying the level of perceived stress, the most affected quality-of-life domains, and associated factors such as family support, family conflict, marital status, and duration of caregiving, the study provides practical evidence for nursing professionals and mental health teams to develop caregiver-focused support strategies.

## Objectives of the Study

The objectives of the present study were to assess the level of perceived stress among caregivers of children with behavioral disorders, to assess their quality of life, to examine the relationship between perceived stress and quality of life, and to determine the association of perceived stress and quality of life with selected socio-demographic and clinical variables.

## METHODOLOGY

### Study Design and Participants

A cross sectional research design has been adopted in this present study among caregivers of children

diagnosed with ADHD, CD, and ODD with or without Borderline Mental Retardation (BMR). Caregivers who consented to participate were enrolled. This study was carried out after getting permission from the concerned authorities. Written informed consent was obtained from all participants in the local language anonymity and confidentiality were maintained.

### Setting

The study was conducted at OPD of Psychiatry at R.G. Kar Medical College and Hospital and Medical College and Hospital, West Bengal, India.

### Sample Size and Eligibility Criteria

A total of 110 participants were recruited at 95 % confidence level and an absolute precision of 5%. Using the formula  $N = 4pq / L^2$ , where  $p$  is taken as 50% = 0.5 (as caregivers stress related prevalence not known),  $q = 1 - p = 0.5$ ,  $L = 20\%$  of  $p = 0.1$  calculated sample size was 100 and considering a 10 % attrition rate,  $n = 110$ .

### Inclusion Criteria

The inclusion criteria for the study focused on caregivers of children aged up to 15 years, diagnosed with behavioral disorders like ADHD, ODD, and CD, who had been providing care for at least 3 months. Only caregivers of children receiving standard mental health care were included, ensuring the children's conditions were properly managed. Participants had to be willing to participate, able to communicate in Bengali, English, or Hindi, and attend the clinic at least once a month for consistent monitoring and data collection.

### Exclusion Criteria

The exclusion criteria focused on caregivers whose circumstances might influence the study's outcomes. Caregivers of children with severe intellectual disabilities or other serious medical conditions were excluded to maintain the focus on behavioral disorders like ADHD, ODD, and CD. Additionally, caregivers with severe mental illnesses, chronic conditions such as diabetes or hypertension, or those caring for other seriously ill family members were excluded to minimize confounding factors. Caregivers already participating in another study were also excluded to avoid bias or conflicts of interest.

### Data Collection Instruments

The data were collected using four instruments. First one was a record analysis to confirm the diagnosis and age of the child. Second was a socio- demographic proforma consisting of part A (caregivers' characteristics in table 2) and part B (child's characteristics in table 3) to assess baseline characteristics. Part A consisted of caregivers characteristics such as age, gender, education, occupation, family type, number of family members, marital status, religion, monthly family income, financial support, duration of caregiving, habitat, relationship with the child, and caregiver-reported challenges including family conflict, irritability, and aggression. Part B consisted of age, gender, birth order, diagnosis, duration of illness and treatment of the child. Number three was the translated and validated standardized tool on Perceived Stress Scale (PSS- 10) developed by Cohen, *et al.* (1983). The Scale Content Validity Inde (SCVI) was 1, and reliability ascertained by Cronbach's Alpha value was 0.86. This tool consists of 10 items, representing 0,1,2,3, and 4 with positively and negatively stated items. So, interpretation was 0-13= low stress, 14-26= moderate stress and 27-40 = high stress. Fourth tool was the PedsQL<sup>TM</sup> Family Impact Module (Varni *et al.*, 2004), consisted of 36 items covering 8 domains. Higher score interpreting better quality of life. Permission obtained from Mapi Research trust through e PROVIDE. The measured content validity was 1 and Cronbach's Alpha value for reliability was 0.84 in table 1.

**Table 1: Validity and Reliability of Standardized Instruments**

| Instrument                  | Content Validity     | Reliability             |
|-----------------------------|----------------------|-------------------------|
| Perceived Stress Scale-10   | SCVI = 1             | Cronbach's Alpha = 0.86 |
| PedsQL Family Impact Module | Content Validity = 1 | Cronbach's Alpha = 0.84 |

### Data Collection Procedure

After obtaining formal permission the data were collected for a period of 4 months from 25.05. 2022 to 25.09.2022. Record analysis was done for the preliminary screening of the child and caregivers attending Child Guidance Clinic at the Outpatient Department of Psychiatry at Tertiary Care Hospital, Kolkata. After

explaining the study purpose and procedures, written informed consent was obtained from willing participants. Confidentiality, anonymity, voluntary participation, and the right to withdraw at any time without affecting treatment were assured. Respondents were selected using purposive sampling. All instruments were administered through interviews in a calm and quiet environment by the researcher and one trained assessor in a single setting. The PedsQL Family Impact Module took approximately 20 minutes to complete, while the other tools required 5–8 minutes each. PedsQL Family Impact Module scores were transformed to a 0–100 scale, with higher scores indicating better functioning and less negative family impact. Since no standard cut-off values were applied for classifying quality of life as low, moderate, or high, the scores were interpreted descriptively using mean, standard deviation, minimum, maximum, median, and domain-wise comparisons.

## Statistical Method

The responses were initially entered into Microsoft Excel for scrutiny, coding and summarization, followed by final analysis using SPSS version 20. As the study was observational and consisted of two main variables, both descriptive and inferential statistics were employed. Frequency and percentage distributions for the two variables were used to describe along with socio demographic characteristics of the caregivers and child considered. Pearson's correlation coefficient was applied to determine the relationship between perceived stress and quality of life, while the Chi-square test was used to assess their association with selected socio-demographic characteristics.

## Ethical Consideration

The researcher obtained ethical approval from the Institutional Ethics Committee of R.G. Kar Medical College, Kolkata, India with reference number RKC/456 on 7<sup>th</sup> June 2021 and Medical College, Kolkata, India with reference number MC/KOL/IEC/NON-SPON/1270/02/22 on 8<sup>th</sup> April 2022.

## RESULTS

During the study period a total of 146 caregivers of the children were approached and screened for eligibility, 125 met the inclusion criteria and 110 were recruited with informed consent.

**Table 2: Frequency and Percentage Distribution of the Caregivers Characteristics (n=110)**

|                                 | Variable            | f (%)      |
|---------------------------------|---------------------|------------|
| <b>Age in Years</b>             | ≤30                 | 25 (22.72) |
|                                 | 31-40               | 72 (65.46) |
|                                 | ≥41                 | 13 (11.82) |
| <b>Gender</b>                   | Male                | 13 (11.82) |
|                                 | Female              | 97 (88.18) |
| <b>Education</b>                | No Formal Education | 03 (02.72) |
|                                 | Primary Secondary   | 18 (16.36) |
|                                 | Secondary Education | 68 (61.82) |
|                                 | Graduate and above  | 21 (19.09) |
| <b>Occupation</b>               | Home Maker          | 72 (65.45) |
|                                 | Self Employed       | 15 (13.64) |
|                                 | Business            | 13 (11.82) |
|                                 | Service             | 10 (09.09) |
| <b>Family Type</b>              | Joint               | 45 (40.90) |
|                                 | Nuclear             | 51 (46.37) |
|                                 | Extended            | 14 (12.73) |
| <b>Number of Family Members</b> | ≤4                  | 32 (29.09) |
|                                 | >4                  | 78 (70.91) |
| <b>Marital Status</b>           | Married             | 95 (86.36) |
|                                 | Separated           | 07 (06.36) |
|                                 | Divorced            | 08 (07.28) |

|                                              |              |             |
|----------------------------------------------|--------------|-------------|
| <b>Religion</b>                              | Hindu        | 78 (71)     |
|                                              | Islam        | 32 (29)     |
| <b>Monthly Family Income</b>                 | ≤15000       | 25 (22.72)  |
|                                              | 15001-30000  | 57 (51.82)  |
|                                              | 30001-45000  | 14 (12.73)  |
|                                              | >45000       | 14 (12.73)  |
| <b>Financial Support</b>                     | Yes          | 16 (14.54)  |
|                                              | No           | 94 (85.46)  |
| <b>Duration of Caregiving in Month</b>       | ≤15          | 28 (25)     |
|                                              | >15          | 82 (75)     |
| <b>Habitat</b>                               | Rural        | 71 (64.55)  |
|                                              | Urban        | 39 (35.45)  |
| <b>Relationship with Child</b>               | Parent       | 104 (94.55) |
|                                              | Grand Parent | 06 (05.45)  |
| <b>Family Conflict Reported by Caregiver</b> | Yes          | 69 (62.73)  |
|                                              | No           | 41 (37.27)  |
| <b>Irritation</b>                            | Yes          | 45 (40.91)  |
|                                              | No           | 65 (59.09)  |
| <b>Aggression</b>                            | Yes          | 51 (46.36)  |
|                                              | No           | 59 (53.64)  |

Note: Caregiver-reported problems were recorded as separate response categories, including family conflict, irritation, and aggression. These variables reflect problems experienced by caregivers and were not treated as diagnostic categories of the child.; f=frequency

The sample characteristics revealed that 65.46 % of them belong to the age group 31 to 40 years, 88.18 % of them were female while 11.82 % of them were male, 61.82 % had completed secondary education, 19.09 % of them were graduates and above, 71 % were Hindu, 40.90 % belong to joint family, 46.37% belonged to nuclear family, 85.46 % of the caregivers had no financial support other than family monthly income from other sources. 65.45% i.e., majority of them are occupied in household work whereas 11.82% of them are involved in business (Table 2). Majority of caregivers had more than four (4) family members, 86.36 % of them reside with spouses, 06.36% of them were separated and 07.28 % of them had divorced. Among the caregivers 51.82 % belong to the monthly family income group 15001-30000, nearly equal percentage of them belong to 30001- 45000 and >45000 income group.

Most caregivers had been providing care for more than 15 months (75%), lived in rural areas (64.55%), and were parents of the child (94.55%). Regarding caregiver-related problems, 62.73% reported family conflict, 40.91% reported irritation, and 46.36% reported aggression, while 53.64% did not report aggression.

**Table 3: Frequency and Percentage Distribution of the Child's Characteristics (n=110)**

|                    | Variables               | f (%)      |
|--------------------|-------------------------|------------|
| <b>Age</b>         | 4-7                     | 32 (29.09) |
|                    | 8-11                    | 62 (56.36) |
|                    | 12-15                   | 16 (14.55) |
| <b>Gender</b>      | Male                    | 77 (70.00) |
|                    | Female                  | 33 (30.00) |
| <b>Birth Order</b> | First                   | 66 (60.00) |
|                    | Second                  | 31 (28.18) |
|                    | Third or above          | 13 (11.82) |
| <b>Diagnosis</b>   | ADHD                    | 57 (51.82) |
|                    | ADHD with CD            | 13 (11.82) |
|                    | ODD                     | 11 (10.00) |
|                    | CD                      | 18 (16.36) |
|                    | ADHD with BMR           | 11 (10.00) |
| <b>Treatment</b>   | Medicine Only           | 31 (28.18) |
|                    | Counseling              | 20 (18.18) |
|                    | Medicine and Counseling | 59 (53.64) |

Note: The diagnostic categories presented in Table 2 are mutually exclusive and were recorded according to the child's documented clinical diagnosis. Children diagnosed with ADHD only were separated from those diagnosed with ADHD with comorbid Conduct Disorder or ADHD with Borderline Mental Retardation to avoid duplication.; f=frequency

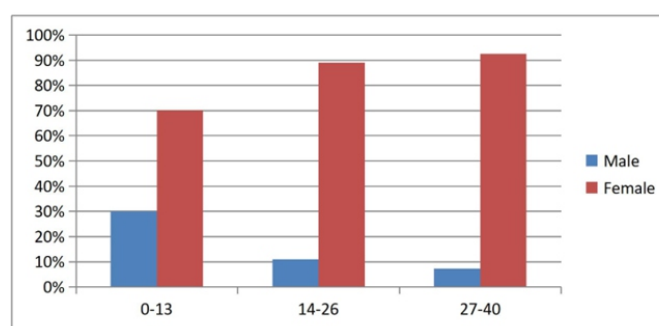


Table 3 shows that most children were aged 8–11 years (56.36%), male (70.00%), and first-born (60.00%). More than half were diagnosed with ADHD only (51.82%), followed by CD (16.36%), ADHD with CD (11.82%), ODD (10.00%), and ADHD with BMR (10.00%). Regarding treatment, 53.64% received both medication and counselling, while 28.18% received medication only and 18.18% received counselling only.

**Table 4: Frequency and Percentage Distribution of the Respondents by their Stress Level**

|                        | Stress Level        | Frequency | Percentage |
|------------------------|---------------------|-----------|------------|
| <b>Low Stress</b>      | (0-13)              | 10        | 09.09      |
| <b>Moderate Stress</b> | (14-26)             | 73        | 66.36      |
| <b>High Stress</b>     | (27-40)             | 27        | 24.55      |
| <b>Mean ± SD</b>       | <b>24.78 ± 4.89</b> |           |            |

Table 4 shows the distribution of caregivers according to their perceived stress level. Most caregivers had moderate stress, 73 (66.36%), followed by high stress, 27 (24.55%), while only 10 (9.09%) had low stress. The mean perceived stress score was  $24.78 \pm 4.89$ , indicating that caregivers experienced a moderate level of perceived stress overall.



Note: The X-axis represents perceived stress levels and the Y-axis represents the percentage of caregivers. The figure presents descriptive percentages only; no statistical comparison was performed between male and female caregivers

**Figure 1: Gender-wise Percentage Distribution of Perceived Stress Levels among Caregivers**

The present study findings also depict that 66.36 % of the family caregivers perceived moderate stress, whereas 24.55% had perceive stress as high and 09.09% of the respondent had low stress level (Table 3) and female caregivers perceived more stress than male caregivers (figure1).

**Table 5: Distribution of the Total Quality of Life Score and Domain Wise Score of the Respondents (n=110)**

| Variable                    | Mean ±SD     | Minimum | Maximum | Median |
|-----------------------------|--------------|---------|---------|--------|
| <b>Quality of Life</b>      |              |         |         |        |
| Total Quality of Life Score | 64.10 ± 4.35 | 57.10   | 71.60   | 64.75  |
| Physical Functioning        | 66.31±8.60   | 58.33   | 83.33   | 62.50  |
| Emotional Functioning       | 58.75 ± 4.33 | 55.00   | 65.00   | 57.50  |
| Social Functioning          | 62.50 ± 9.60 | 50.00   | 75.00   | 62.50  |
| Cognitive Functioning       | 67.91 ±9.87  | 55.00   | 85.00   | 65.00  |
| Communication               | 70.83 ±17.58 | 33.33   | 100.00  | 66.67  |
| Worry                       | 60.41±6.20   | 50.00   | 70.00   | 60.00  |
| Daily Activities            | 63.89±8.20   | 50.00   | 75.00   | 66.67  |
| Family Functioning          | 62.91±8.20   | 45.00   | 80.00   | 62.50  |

Note: Total quality of life was categorized using the sample median score of 64.75. Scores  $\leq 64.75$  were categorized as  $\leq$  median, and scores  $> 64.75$  were categorized as  $>$  median

Table 5 shows that the mean total quality of life score was  $64.10 \pm 4.35$ , ranging from 57.10 to 71.60. As the PedsQL Family Impact Module has no standard cut-off for low, moderate, or high quality of life, the scores were interpreted descriptively. Communication had the highest mean score, while emotional functioning,

worry, social functioning, and family functioning showed comparatively lower scores, indicating greater impact in these domains.

**Table 6: Correlational Coefficient between Perceived Stress and Quality of Life among Caregivers (n=110)**

| Variable         | <i>r</i> value | <i>t</i> value | <i>p</i> value |
|------------------|----------------|----------------|----------------|
| Perceived Stress | -              | -              | -              |
| Quality of Life  | -0.219         | -2.33          | 0.021          |

In table 6, perceived stress showed a statistically significant but weak negative correlation with quality of life among caregivers ( $r = -0.219$ ,  $p = 0.021$ ), indicating that higher perceived stress was associated with slightly lower quality of life.

**Table 7: Association of Perceived Stress and Quality of Life with Selected Socio-Demographic Variable by Chi square Test (n=110)**

| Variables                         | Quality of Life |         | Chi-Square              | df | p value            |
|-----------------------------------|-----------------|---------|-------------------------|----|--------------------|
|                                   | ≤ Median        | >Median | Value (χ <sup>2</sup> ) |    |                    |
| Gender of the Caregivers          |                 |         |                         |    |                    |
| Male                              | 05              | 08      | 1.36                    | 1  | 0.242              |
| Female                            | 54              | 43      |                         |    |                    |
| Duration of Care Giving in Months |                 |         |                         |    |                    |
| ≤15                               | 16              | 12      | 4.59                    | 1  | 0.03 <sup>*</sup>  |
| >15                               | 64              | 18      |                         |    |                    |
| Aggression                        |                 |         |                         |    |                    |
| Yes                               | 41              | 10      | 0.85                    | 1  | 0.35               |
| No                                | 43              | 16      |                         |    |                    |
| Perceived Stress                  |                 |         |                         |    |                    |
| Family Support                    |                 |         |                         |    |                    |
| Yes                               | 09              | 07      | 9.18                    | 1  | 0.002 <sup>*</sup> |
| No                                | 82              | 12      |                         |    |                    |
| Family Conflict                   |                 |         |                         |    |                    |
| Yes                               | 61              | 08      | 4.17                    | 1  | 0.04 <sup>*</sup>  |
| No                                | 30              | 11      |                         |    |                    |
| Marital Status                    |                 |         |                         |    |                    |
| Married                           | 62              | 33      |                         |    |                    |
| Separated                         | 03              | 04      | 6.87                    | 2  | 0.03 <sup>*</sup>  |
| Divorced                          | 03              | 08      |                         |    |                    |

Note: Perceived stress was categorized according to the scoring criteria of the Perceived Stress Scale-10: low stress = 0–13, moderate stress = 14–26, and high stress = 27–40. The chi-square test was used to examine the association between perceived stress and selected socio-demographic variables; \*significant

Table 7 indicates that duration of caregiving was significantly associated with caregivers' total quality of life ( $p = 0.03$ ). Perceived stress was significantly associated with family support ( $p = 0.002$ ), family conflict ( $p = 0.04$ ), and marital status ( $p = 0.03$ ), while aggression showed no significant association with total quality of life.

## DISCUSSION

The findings of the present study highlighted the contextual influence on the quality of life and perceived stress experienced by caregivers responsible for adhering to the treatment protocol of children diagnosed with

ADHD, CD, ODD, with or without BMR. Present study findings in terms of age, gender and educational level were similar to the result of the studies conducted by Sagar *et al.* (2019) and Thomas *et al.* (2020). In this current study, 46.37% belonged to nuclear families and 86.36% were staying with their spouses, which may help to share responsibilities. The association of marital status with perceived stress was found to be statistically significant ( $p < 0.03$ ). Economic condition impacts health-seeking behavior at an early stage, which is further influenced by travelling constraints among caregivers residing in rural areas while availing mental health services (Khanduri, 2017).

The majority of caregivers faced family conflict (62.73%). These findings provide insight into the mean level of perceived stress observed among caregivers (66.36%). Also, nearly one-fourth of them had high stress, whereas a high level of burnout was observed in the study of Saeed and Devdutt (2024). In the present study, perceived stress was significantly associated with marital status, family support, and family conflict ( $p < 0.05$ ). Similar observations regarding family-related factors and caregiver stress were reported by Leitch *et al.* (2019). The mean age of the children was 10.7 years, the majority of them were male, and care was mostly provided by mothers. Similar observations were reported by Chang *et al.* (2020). Present findings revealed that among all eight domains of quality of life, emotional functioning ( $58.75 \pm 4.33$ ) remained lower than other domains, followed by worry ( $60.41 \pm 6.20$ ), social functioning ( $62.50 \pm 9.60$ ), and family functioning ( $62.91 \pm 8.20$ ), which contrasted with the report of Ahmed *et al.* (2022), where the most affected domain was psychological health (73.14%), followed by social relationship (66.67%). Another study revealed that mothers of adolescents with childhood ADHD perceived poor quality of life (Piscitello *et al.*, 2022).

The findings of the present study revealed that total quality of life was significantly associated with duration of caregiving ( $p < 0.05$ ), which is similar to the findings of Da Costa *et al.* (2023) and Maridal *et al.* (2021). Moreover, the present study findings underscore that the quality of life of caregivers is influenced not only by caregiving-related factors but also by the socio-cultural context in which caregiving occurs. A statistically significant negative correlation between perceived stress and quality of life was observed, indicating that higher levels of perceived stress were associated with poorer quality of life among caregivers. These findings are consistent with previous studies that reported that caregivers of children with ADHD commonly belonged to the age group above 30 years. The sex of the child, diagnosis, medical condition, marital status of the caregivers, and occupation were found to influence caregivers' quality of life (Shahrier *et al.*, 2016; Isa *et al.*, 2016). In several studies, investigators reported that PSI-SF scores were within the clinical significance range, requiring professional support for caregivers. Lower scores in PedsQL family total, physical, psychosocial, and emotional domains, along with comparatively higher communication scores, have also been documented (Maridal *et al.*, 2021; Swetha *et al.*, 2025; Thomas *et al.*, 2020). Studies conducted in West Bengal reported that children from urban areas, poor socio-economic status, and nuclear families had a higher prevalence of behavioral and emotional problems (Pathak *et al.*, 2011; Pecor *et al.*, 2021).

The negative correlation between perceived stress and quality of life is consistent with previous studies and should be viewed as confirmatory and context-specific rather than entirely novel (Dubey *et al.*, 2023; Thomas *et al.*, 2020). So, this study adds regional evidence from tertiary care settings in West Bengal, showing that caregiver stress and quality of life are influenced by family support, marital status, family conflict, and duration of caregiving, which are relevant for planning caregiver counselling, stress management, and family-centered nursing support.

Furthermore, a meta-analysis highlighted that the age and gender of the child are associated with parental mental health, including stress and depression, and that parental well-being has an impact on children's behavioral outcomes and vice versa (Roy *et al.*, 2016; Sahid *et al.*, 2025). Mothers reported greater stress and concern for their children than fathers, and distress was worsened by management challenges related to older children, treatment issues, and decision-making responsibilities (Dekkers *et al.*, 2022; Smith *et al.*, 2022). Studies reported that caregivers faced family conflict, financial constraints, relationship issues, disturbed social activities, psychological problems, impaired physical functioning, and compromised family life, with duration of caregiving playing a key role (Kumar, 2023; Alam *et al.*, 2025). Similar observations were noted in the present study, where family conflict and caregiving-related challenges were common among caregivers. A study among the Malaysian community reported a higher-than-average mean perceived stress score ( $20.84 \pm 4.72$  SD)



among caregivers and highlighted the constraints of residing away from healthcare institutions (Flood *et al.*, 2016). In the present study, the mean perceived stress score was  $24.78 \pm 4.89$ , indicating a considerable level of stress among caregivers of children with behavioral disorders.

Present study findings, in accordance with previous evidence, have implications for the primary prevention of caregiver stress and the strengthening of healthcare support systems as a matter of public health importance (Liu *et al.*, 2026).

### **Limitations**

The relatively small sample size ( $n = 110$ ) and the use of purposive sampling may reduce the external validity of the study findings. As this was a cross-sectional observational study, no caregiver-support intervention was implemented or evaluated, and therefore the study identifies associated factors only and does not examine predictors of intervention success.

### **Future Scope**

Future studies may be conducted using larger and more diverse samples across different healthcare settings to enhance the generalizability of the findings. Longitudinal and interventional studies are recommended to evaluate structured caregiver-support programs, including stress management counselling, psychoeducation, coping-skills training, family counselling, and referral-based mental health support.

### **CONCLUSION**

The present study found that caregivers of children with behavioral disorders experienced moderate-to-high levels of perceived stress, and that emotional functioning, worry, social functioning, and family functioning were comparatively more affected domains of quality of life. A significant negative correlation was observed between perceived stress and quality of life, indicating that higher perceived stress was associated with poorer quality of life. In addition, perceived stress was significantly associated with family support, family conflict, and marital status, while quality of life was associated with duration of caregiving.

Based on these findings, caregiver support should focus on specific areas such as stress management counselling, psychoeducation regarding the management of behavioral symptoms, strengthening family support, addressing family conflict, and routine screening of caregivers who report high stress. Caregivers with marked psychological distress may also benefit from referral for professional mental health support. As this was a cross-sectional study, these recommendations should be interpreted as practice-oriented implications and should be further evaluated through longitudinal and interventional studies.

### **CRedit Authorship Contribution Statement**

A.P.S.: Original Draft Preparation, Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing – Original Draft Preparation, Project Administration. S. D.: Methodology, Supervision, Validation, Writing – Review and Editing. S.S.: Investigation, Data Collection, Resources, Project Administration, Writing – Review and Editing, Investigation, Data Collection, Resources, Validation, Writing – Review and Editing.

### **Declaration of Artificial Intelligence (AI) Assistance**

All content of this manuscript is original and created by the authors.

### **Conflict of Interest**

All authors declare that they have no competing interest.

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