Journal of Pioneering Medical Sciences
Received: February 09, 2026 | Accepted: July 18, 2026 | Published: August 05, 2026
Volume 15, Issue 07, Pages 57-60

DOI https://doi.org/10.47310/jpms2026150708

Maternal Stress Among Mothers of Children with Autism Spectrum Disorder and Acute Pediatric Illnesses: A Cross-Sectional Study

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Abstract **Background:** Parenting a child with a health condition, such as Autism Spectrum Disorder (ASD) and/or an acute pediatric illness often results in higher levels of maternal stress. **Aim:** This is a cross-sectional comparative study between the stress level and associated factors in mothers of children with ASD and mothers of children admitted with acute non-chronic pediatric illnesses, conducted at Saveetha medical hospital, Chennai, India. **Methods:** A cross-sectional comparison study was undertaken. The study included 100 mothers, comprising 50 mothers of children diagnosed with Autism Spectrum Disorder (ASD). Participants were selected using purposive sampling after screening criteria. Standardized questionnaires were used to determine maternal stress, perceived social support, coping styles and quality of life. **Results:** Moms of kids with ASD reported greater stress compared to mothers of kids with acute paediatric illness. They also mentioned that they had less perceived social support, made more use of maladaptive coping mechanisms and had less quality of life. **Conclusion:** The results of this study are important for understanding and recognizing that mothers of children with ASD may be at increased risk for higher levels of stress than are mothers of children with other health conditions.

Key Words Maternal Stress, Social Support, Coping Strategies, Cross-Sectional Study, Autism

INTRODUCTION

Parenting is a multifaceted journey filled with both rewards and challenges. However, raising a child with a health condition such as Autism Spectrum Disorder (ASD) or other pediatric ailments often places an additional burden on caregivers, particularly mothers. Mothers typically bear the primary responsibility for caregiving and are thus more susceptible to stress and its associated consequences. The stress encountered by mothers in these situations can be affected by numerous factors, including the specifics of the child's illness, available social support, coping mechanisms and the mother's overall quality of life [1]. Understanding these stressors and their impacts is crucial for developing targeted interventions that improve the well-being of mothers and, indirectly, the children under their care [2,3]. The care demands for children with ASD are significantly high due to their need for structured routines, behavioural therapies and constant supervision. For mothers, managing these demands often results in elevated stress levels, feelings of isolation and in some cases, depression [4]. Research shows that parents dealing with Autism Spectrum Disorder (ASD) experience more stress than parents dealing with other chronic health concerns. This elevated stress can compromise the mother's mental health, which in turn impacts the child's development and family dynamics [3,5]. Mothers of children with acute or chronic health ailments admitted to pediatric wards face a different set of challenges [6].

These mothers are often confronted with the emotional and physical toll of managing hospital visits, medical treatments and financial strain. Although the caregiving burden may be less continuous than that experienced by mothers of children, it is nonetheless intense and emotionally draining. The uncertainty surrounding the child's health outcomes, coupled with the disruption of daily routines, can significantly impact these mothers' stress levels and coping abilities [7,8].

Despite the distinct nature of these caregiving challenges, there is a shared underlying factor which is nothing but "stress". High stress levels in mothers can also result in reduced patience, increased irritability and a diminished ability to engage positively with their children hence managing the stress is not only vital for the mothers' well-being but also for the optimal development of their children.[9] Coping strategies are another critical determinant of how mothers manage caregiving stress. [10] hence there is a good need to analyze the difference in stress levels among mothers of children with different types of health ailments. Hence this study evaluated the stress levels and associated factors among mothers of two distinct groups one mothers of children diagnosed with ASD and the other mothers of children admitted to the pediatric ward with other health ailments.

Aim

This is a cross-sectional comparative study between the stress level and associated factors in mothers of children with ASD and mothers of children admitted with acute non-chronic pediatric illnesses, conducted at Saveetha medical hospital, Chennai, India.

METHODS

The study was approved by the Institutional Ethics Committee of Saveetha Medical College and Hospital (IEC Reference No. 002/09/2024/IEC/SMCH). A cross-sectional comparison study was undertaken at Saveetha Medical Hospital in Chennai, Tamil Nadu, India. Mothers were enlisted from the Pediatric Developmental Clinic and the General Pediatric Ward. The study included 100 mothers, comprising 50 mothers of children diagnosed with Autism Spectrum Disorder (ASD) by a pediatrician at least one year before recruitment and 50 mothers of children aged 3-12 years admitted to the pediatric ward with acute pediatric illnesses, excluding neurodevelopmental disorders and multiple comorbidities. Participants were selected using purposive sampling after screening criteria. The sample size was determined from previous studies, assuming a moderate effect size, 80% statistical power and a 95% confidence level.

Selection Criteria

Mothers aged 20-50 years with children aged 3-12 years diagnosed with Autism Spectrum Disorder (ASD) or admitted to the pediatric ward with acute pediatric illnesses (excluding neurodevelopmental disorders) were included. Mothers with a documented history of psychiatric illness or those receiving treatment for a diagnosed mental health disorder, mothers with chronic medical conditions, mothers of children with multiple comorbidities or multiple disabilities, single parents and those experiencing major stressors unrelated to parenting, as determined during participant screening, were excluded.

Data Collection Tool

The study utilized a variety of data collection tools to capture relevant information comprehensively. A Demographic and Clinical Questionnaire gathered to provide a clear participant profile. The Parental Stress Scale (PSS) assessed the level of stress experienced by the mothers. To evaluate perceived social support, the Social Support Questionnaire (SSQ) was used, focusing on both emotional and practical support. The Coping Strategies Questionnaire (CSQ) measured the mothers' stress management approaches, categorizing strategies as adaptive or maladaptive. Lastly, the Perceived Quality of Life Scale (PQoL) assessed the broader impact of caregiving responsibilities on the mothers' overall quality of life, ensuring a holistic understanding of their experiences.

Data Collection Procedure

Mothers attending the Pediatric Developmental Clinic and the General Pediatric Ward at Saveetha Medical Hospital were recruited between January and March 2024. Mothers in the pediatric ward were approached after their child's condition had been clinically stabilized and routine medical care had been initiated to minimize the influence of acute medical emergencies on their responses. Eligible participants were notified of the project and signed informed consent was secured prior to data collection. The questionnaires were completed in a quiet, private room within the hospital to maintain confidentiality and minimize distractions. Participants who required clarification received standardized assistance from the researcher without influencing their responses. Prior to the main study, a pilot test was conducted to ensure the clarity and comprehensibility of the questionnaires. All completed questionnaires were reviewed immediately for completeness and participants were requested to complete any unintentionally missed items. Questionnaires with substantial missing data were excluded from the final analysis. Data collection was carried out over a three-month period.

Statistical Analysis

Data were analyzed using SPSS version 27.0. Descriptive statistics (Mean±SD, frequency and percentage) were used to summarize the data. The independent sample t-test was used to compare continuous variables between the two groups, while the Chi-square test was used for categorical variables. A p-value <0.05 was considered statistically significant.

RESULTS

The demographic data presented in Table 1 clearly shows that there were no differences as far as the demographic characteristics among the mothers in the two groups and hence all the differences in their psychological status should be the result of the child's health condition.

Primary Outcomes

The principal result of the study was the degree of parental stress, evaluated utilizing the PSS. The findings indicated that mothers of children with ASDM experienced markedly elevated stress levels in comparison to mothers of children hospitalized in the pediatric department for

Table 1: Demographic and Clinical profile of the Participants.

Variable	ASDM (n = 50)	NASDM (n = 50)	p-value
Mother's Age (Years)	36.2±5.1	35.8±4.9	0.675
Education Level			
Primary	12 (24%)	15 (30%)	0.489
Secondary	22 (44%)	20 (40%)	
Tertiary	16 (32%)	15 (30%)	
Marital Status			
Married	48 (96%)	46 (92%)	0.408
Single/Divorced	2 (4%)	4 (8%)	
Employment Status			
Employed	18 (36%)	22 (44%)	0.452
Unemployed	32 (64%)	28 (56%)	
Family Income (Monthly)			
Low (<₹20,000)	30 (60%)	28 (56%)	0.742
Medium (₹20,000-₹50,000)	18 (36%)	20 (40%)	
High (>₹50,000)	2 (4%)	2 (4%)	
Child's Medical Diagnosis			
ASD	50 (100%)	0 (0%)	<0.001
Other Health Ailments	0 (0%)	50 (100%)	

other medical conditions (NASDM). The average PSS score for ASDM was 45.8±6.2 but for NASDM, it was 32.4±5.7.

Secondary Outcomes

Perceived Social Support: Mothers of children exhibited diminished levels of perceived social support compared to those without ASD. The mean SSQ score for ASDM was 27.3±5.4, while NASDM reported a higher mean score of 34.8±6.1.

Coping Strategies

Coping strategies were classified into adaptive and maladaptive categories based on CSQ responses. Mothers in the ASDM group reported greater use of maladaptive coping strategies, with a mean score of 19.6±4.2, compared to 14.2±3.7 in the NASDM group ($p<0.001$). Conversely, the use of adaptive coping strategies was lower among ASDM (mean score: 22.5±5.1) than NASDM (mean score: 29.3±4.8) ($p = 0.003$). These results indicate a significant difference in how the two groups manage caregiving stress, with ASDM relying more on less effective strategies.

Perceived Quality of Life

The impact of caregiving on quality of life, as measured by the PQoL scale, showed that ASDM reported a lower mean score of 38.4±7.9, compared to NASDM, who reported a mean score of 48.7±8.2 ($p<0.001$). This suggests that mothers of children with ASD perceive a more substantial negative impact of caregiving on their overall well-being.

DISCUSSION

The present study offers significant insights into the stress levels and related characteristics among mothers of children diagnosed with ASDM in comparison to mothers of children with other health conditions (NASDM). Results revealed significantly higher stress levels in ASDM, as measured by the Parental Stress Scale (PSS), indicating that caregiving for children with ASD imposes a greater psychological burden. In contrast, NASDM participants demonstrated comparatively better scores in these domains, suggesting that while caregiving for children with other health ailments is also stressful, it does not reach the severity experienced by ASDM.

Papadopoulos [11] reported that mothers of children with ASD consistently scored higher on stress scales compared to parents of neurotypical children, which is in agreement with the findings of the current study [4]. Similarly, a previous study had observed that the lack of structured social support systems significantly contributes to the stress burden in this population, reflecting the lower SSQ scores noted in ASDM in the present research [11]. Findings by Wang *et al.* [17] also support the observation that inadequate coping mechanisms are more prevalent among mothers of children with ASD, often exacerbating their mental health challenges [12]. Shepherd *et al.* [14] identified maladaptive coping strategies as a significant factor contributing to the poor quality of life in caregivers, similar to the patterns identified in this study. Reis *et al.* [13] emphasized that mothers of children with ASD often experience diminished quality of life due to limited social interactions and continuous caregiving demands, mirroring the lower PQoL scores observed here [14]. Abdulla *et al.* [1] and Kim *et al.* [8], corroborated the finding that stress levels are higher in ASD caregivers than in parents managing other health conditions [7,15].

These studies collectively emphasize the chronic and pervasive nature of caregiving challenges in ASD, which are not as prominent in other pediatric health conditions. Additionally, De-Renzo *et al.* [4] reported that while mothers of children with chronic ailments do face stress, their experiences are often episodic rather than continuous, explaining the relative difference in stress levels observed in this study [16]. The association between reduced social support and heightened stress in mothers of children with ASD has been consistently reported, as shown by Li *et al.* [9].

Recommendation

Healthcare providers should prioritize the early identification of mothers experiencing high levels of caregiving stress through routine psychological assessments.

Integrating structured caregiver support groups, stress management interventions such as cognitive-behavioural therapy (CBT) and mindfulness-based programs, respite care services and educational resources may enhance coping abilities, strengthen social support and improve quality of life. Community-based, family-centered interventions should also be promoted to provide both emotional and practical support for mothers of children with ASD.

CONCLUSIONS

The findings of this study indicate that mothers of children with ASD reported higher levels of stress and were associated with lower perceived social support, greater use of maladaptive coping strategies and poorer quality of life compared with mothers of children with other health conditions. These findings highlight the unique challenges experienced by caregivers of children with ASD and emphasize the importance of providing targeted psychosocial support. Healthcare providers should routinely assess caregiver well-being and facilitate access to counseling, social support networks, stress-management programs and coping-skills interventions as part of comprehensive family-centered care. Future research should include longitudinal studies with larger and more diverse populations and incorporate objective measures of stress to further strengthen the evidence base and guide the development of effective caregiver support interventions.

Limitations

The cross-sectional design of this study limits the ability to establish causal relationships and reflects caregiver experiences at a single point in time. The relatively small sample size (100 mothers) and limited geographic setting may reduce the generalizability of the findings. In addition, reliance on self-reported data may introduce recall and response bias and the absence of objective stress measures, such as biological biomarkers, limits the comprehensive assessment of caregiver stress.

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