



Original Research Article

BURDEN OF PARENTAL STRESS IN ATTENTION DEFICIT/ HYPERACTIVITY DISORDER (ADHD): A CROSS- SECTIONAL STUDY

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ABSTRACT

Background: Attention-deficit/hyperactivity disorder (ADHD) is a common childhood neurodevelopmental disorder associated with significant academic, social, and behavioural difficulties. It also imposes a substantial psychological burden on caregivers, particularly in the form of parental stress. Understanding the severity and determinants of parental stress is essential for improving family-centered interventions. **Aim:** To assess and estimate the severity of parental stress among parents of children aged 5–10 years diagnosed with ADHD.

Materials and Methods: A cross-sectional study was conducted over 3 months in the field area of a tertiary care institute among 77 parents of children with ADHD. The Parental Stress Scale (PSS) was used to measure stress levels. Data were analysed using chi-square tests for association and multivariate logistic regression to identify predictors of high parental stress.

Results: The mean age of children was 7.9±1.12 years, with a male predominance. Most belonged to nuclear families, and 75.3% had combined-type ADHD. High parental stress was observed in 79.2% of participants, with a mean PSS score of 56.1±5.9. Significant associations were found between high stress and child age >7 years, male gender, nuclear family structure, and combined ADHD type. Logistic regression identified combined ADHD type (OR=10.1) as the strongest predictor, followed by age >7 years (OR=4.13), nuclear family (OR=4.01), and male gender (OR=3.26).

Conclusion: Parental stress among caregivers of children with ADHD is considerably high, particularly in cases with combined ADHD type and specific socio-demographic factors. Early identification and targeted psychosocial support for families are crucial to reduce caregiver burden and improve overall outcomes.

Keywords: ADHD, Caregiver burden, Parental stress.

INTRODUCTION

ADHD, one of the most prevalent disorders in children, can predict substance misuse and criminality in later life in addition to causing significant deficiencies in social and academic performance.^[1] Developmentally inappropriate level of inattention, hyperactivity, and impulsivity are the hallmarks of attention-deficit/hyperactivity disorder (ADHD), a childhood-onset disorder.^[2]

Despite its significance for public health and adverse impacts on children and their families, determining its precise etiology has been challenging, particularly when it comes to understanding how complex psychosocial processes and personal components contribute to its development. Understanding how various factors impact parent-child relationships is particularly important because most evidence-based psychosocial interventions for children with ADHD concentrate on improving these relationships.^[3]

Having a child with ADHD affects parental behaviours and raises the risk of parenting-related stress, which arises when parents feel overburdened with parenting duties. Parental behaviour may be influenced by contextual factors, such as the child's characteristics and/or the experience of stress (such as a lack of social support or family stress), even if there is a well-established correlation between bad parenting practices and ADHD in children. Stress increases the use of poor parenting practices and negatively impacts the bond between parents and kids.^[4]

There is evidence that parents who experience higher levels of home stress are less supportive of their children's negative emotions, in addition to societal difficulties.^[5] Since intra-individual parental consistency relates to the application of norms and standards of conduct for the child's behaviour, it differs from stability.

Aim: To assess and estimate the severity of parental stress among children (5- 10 years) with ADHD.

MATERIALS AND METHODS

Study area: Field area of a tertiary care institute

Study design: Cross- sectional study

Study period: 3 months

Study population: Parents of children with ADHD

Inclusion Criteria: Children diagnosed with ADHD aged between 5- 10 years.

Exclusion Criteria: Children with other psychiatric disorders

Sample size: Considering the prevalence of parental stress of children with ADHD as 11.3% it will be used as basis for the present study sample size estimation.

$$N = Z^2 \frac{P(1-p)}{L^2}$$

$$N = 0.385/0.0049$$

$$N = 77$$

The minimum sample size required for the study was 77.

Study tool: Parental stress scale (PSS)

Methodology: PSS was used to interview the participant in the study. The participant marked the

appropriate number in the designated space to indicate how much they agreed or disagreed with the following statements, which, as in the PSS, express sentiments and views about the experience of being a parent. The PSS interpretation was marked as strongly disagree, disagree, undecided, agree and strongly agree. In the PSS, items 1, 2, 5, 6, 7, 8, 17, and 18 should be reverse scored in order to get the parental stress score: (1= 5), (2= 4), (3= 3), (4= 2) and (5= 1). After then, the item scores are totalled. A score range was between 18- 90 and higher the score suggested higher the level of parental stress. The range of scores were low (18- 35), moderate (36-53) and high (54- 90). Chi- square test for association and multivariate logistic regression was used for prediction of high parental stress.

RESULTS

The mean age among the children was 7.9± 1.12 years, males were more than females, 77.9% belong from a nuclear family and 58.4% had family history of ADHD as shown in table 1. In the study as shown in table 2 majority of children had combined type of ADHD (inattention and hyperactivity & impulsivity), 13% exhibited hyperactivity and impulsivity and 11.7% had inattention. Figure 1 shows among the 77 subjects, the parental stress scale was high in 61, moderate in 11 and low in 5 subjects with the mean PSS score being 56.1± 5.9. Table 3 shows child related variables such as age, gender, family type and ADHD type showed statistically significant associations with parental stress levels suggesting parental stress tends to be higher among parents of older children, males, those living with nuclear families and combined ADHD. The logistic regression analysis indicates that child age above 7 years (4.13 times), males (3.26 times), nuclear family structure (4.01 times) and combined ADHD type (10.1 times) are independent predictors of high parental stress with combined ADHD type being the most influential factor as shown in table 4.

Table 1: Demographic profile distribution

Demography	Frequency	Percent
Mean age: 7.9± 1.12 years		
Males	51	66.2%
Females	26	33.8%
Nuclear family	60	77.9%
Joint family	17	22.1%
Family history of ADHD	45	58.4%

Table 2: Type of ADHD

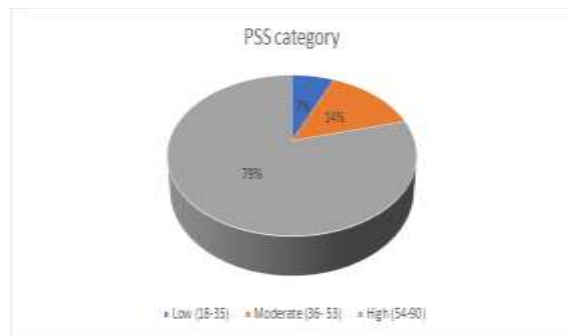
Type of ADHD	Frequency	Percent
Inattention	9	11.7%
Hyperactivity & impulsivity	10	13%
Both	58	75.3%
Total	77	100%

Table 3: Association between parental stress scale (PSS) and child related variables

Variable	PSS (Low- Moderate) n (%)	PSS (High) n (%)	χ^2	p-value
Age of child				
≤7 years (n=35)	12 (34.3)	23 (65.7)	9.82	0.002*
>7 years (n=42)	4 (9.5)	38 (90.5)		
Gender				
Male (n=51)	4 (7.8)	47 (92.1)	6.14	0.013*
Female (n=26)	11 (42.3)	15 (19.4)		
Family type				
Nuclear (n=63)	9 (14.3)	54 (85.7)	6.72	0.009*
Joint (n=14)	7 (50.0)	7 (50.0)		
ADHD type				
Inattention / Hyperactivity (n=19)	10 (52.6)	9 (47.3)	24.6	<0.001*
Combined (n=58)	3 (5.1)	55 (71.4)		

Table 4: Logistic regression for predicting high parental stress

Predictor	B (coefficient)	SE	Adjusted OR	95% CI	p-value
Child age >7 years	1.42	0.54	4.13	1.45- 11.8	0.007
Male child	1.18	0.48	3.26	1.27- 8.36	0.014
Nuclear family	1.39	0.51	4.01	1.45- 11.0	0.007
Combined ADHD type	2.31	0.63	10.1	2.9- 34.8	<0.001

**Figure 1: Column chart showing PSS category**

DISCUSSION

This cross-sectional analytical study measured the level of parental stress among caregivers of children diagnosed with ADHD between the ages of 5 and 10 using the Parental Stress Scale (PSS). It also examined the factors connected to the child and family that contribute to high parental stress. With almost 4/5th of parents reporting high levels of stress, the study showed high burden of stress and found several biological, clinical, and psychological variables influencing this burden.

Study	Current study	Comparison
Polanczyk G et al. ⁶	Peak ADHD prevalence seen between 6- 9 years	Present study also showed clustering at 7- 8 years
DuPaul GJ et al. ⁷	ADHD identified mainly when schooling begins	Mean age 7.5 yrs reflects school-based detection
Willcutt JG et al. ⁸	Male: female ratio ≈ 2-3:1	Present study: 2.3:1
Biederman J et al. ⁹	Boys more hyperactive & disruptive	Explains male predominance
Johnston C et al. ¹⁰	Nuclear families have higher caregiver burden	81.8% nuclear families here
Jensen PS et al. ¹¹	Combined type most common	83.1% combined here
Wilens TE et al. ¹²	Combined type more severe	Explains high stress
Theule J et al. ¹³	Combined type increases caregiver strain	Matches present study
Theule J et al. ¹³	70-80% parents show high stress	79.2% high stress here
Hayes SA et al. ¹⁴	ADHD strongest predictor of caregiver stress	Strong parental stress predictor
Harpin V et al. ¹⁵	Older ADHD children increase caregiver strain	>7 yrs had higher stress
Podolski CL et al. ¹⁶	Boys cause more family disruption	Male children had higher stress
Jensen PS et al. ¹¹	Combined type most stressful	Strongest predictor here
Franz AP et al. ¹⁷	Preterm ADHD children more severe	Higher stress seen
Craig F et al. ¹⁸	Homemaker mothers have emotional overload	Matches results
Miranda A et al. ¹⁹	High SES parents more stressed	Seen in present study

CONCLUSION

According to the study, over four-fifths of parents of children with ADHD experience severe stress, indicating an alarmingly high level of parental stress. Caregiver load is greatly influenced by both family-related factors (nuclear family, mother's occupation, and socioeconomic setting) and child-related clinical factors (severity of ADHD, age, gender, prematurity, and delayed diagnosis). Parental stress was mostly

caused by children with mixed type ADHD and those who were identified later. These results highlight the fact that ADHD is a significant psychosocial issue for the entire family in addition to being a neurodevelopmental disorder that affects the child.

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