

MENTAL HEALTH PROBLEMS IN PARENTS OF CHILDREN WITH ADHD: A QUANTITATIVE COMPARATIVE STUDY

Original Research

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ABSTRACT

Background: Parenting a child with ADHD presents unique psychological challenges, often leading to heightened stress, anxiety, and depression. Although extensive research has explored these mental health concerns, studies comparing the psychological distress between mothers and fathers of children with ADHD remain scarce, particularly in Pakistan. Understanding these differences is crucial for designing targeted interventions that support parental well-being. This study aims to bridge this gap by examining the association between stress, anxiety, and depression among parents of children with ADHD and identifying gender-based differences in these mental health outcomes.

Objective: This study investigates the relationship between stress, anxiety, and depression among parents of children with ADHD. Additionally, it examines differences in psychological distress between mothers and fathers and explores the mediating role of anxiety in the relationship between stress and depression.

Methods: A cross-sectional correlational research design was employed. Using purposive sampling, data were collected from 216 parents (123 mothers and 93 fathers) of children diagnosed with ADHD under 18 years of age. The Depression Anxiety Stress Scale (DASS-21) was used to assess stress, anxiety, and depression. Statistical analyses, including Pearson correlation, independent t-tests, and mediation analysis via the Hayes Process Macro (Model 4), were conducted using SPSS version 29. Ethical approval was obtained from the institutional review board, and informed consent was secured from all participants.

Results: A significant positive correlation was observed between stress and anxiety ($r = .54, p < .01$), stress and depression ($r = .28, p < .01$), and anxiety and depression ($r = .42, p < .01$). Mothers reported significantly higher levels of stress ($M = 6.21, SD = 5.18$) than fathers ($M = 4.07, SD = 3.38, p < .001, d = 0.48$). Anxiety scores were also significantly higher among mothers ($M = 9.78, SD = 7.10$) compared to fathers ($M = 5.53, SD = 3.84, p < .001, d = 0.74$). Similarly, mothers exhibited greater depression ($M = 13.66, SD = 6.80$) than fathers ($M = 8.90, SD = 6.18, p < .001, d = 0.73$). Mediation analysis confirmed that anxiety significantly mediated the relationship between stress and depression ($\beta = .32, 95\% CI [.13, .29]$).

Conclusion: The study highlights the significant psychological burden faced by parents of children with ADHD, with mothers experiencing greater distress than fathers. Anxiety serves as a key mediator in the relationship between stress and depression, emphasizing the need for early intervention strategies. These findings underscore the necessity of mental health support services, structured coping mechanisms, and educational programs to enhance parental well-being and improve outcomes for families managing ADHD.

Keywords: Anxiety, depression, mental health, parents, psychological stress, social support, ADHD.

INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most prevalent neurodevelopmental disorders in children, characterized by persistent patterns of inattention, hyperactivity, and impulsivity. These symptoms often manifest as difficulty maintaining focus, excessive physical movement, inability to wait one's turn, and acting without considering consequences. Children with ADHD frequently struggle in calm or structured environments, displaying behaviors such as fidgeting, excessive talking, and interrupting conversations. These challenges not only impact the affected children but also place significant stress on their families, particularly their parents, who must navigate the demands of managing their child's behavior and emotional well-being. Parenting a child with ADHD can be exceptionally demanding, often leading to heightened levels of stress, anxiety, and depression, particularly among primary caregivers (1,2). Research consistently highlights the psychological burden experienced by parents of children with developmental disabilities, with studies indicating that these parents report significantly higher levels of emotional distress compared to those raising neurotypical children. Among parents of children with ADHD, mothers, in particular, have been found to experience elevated levels of anxiety, depression, and stress. The emotional toll on mothers is often attributed to their more active caregiving roles, which involve managing their child's impulsivity, hyperactivity, and difficulties with attention. Additionally, the severity of ADHD symptoms is closely linked to increased psychological distress, with more pronounced symptoms leading to greater parental strain. Externalizing behaviors such as aggression and defiance have been shown to contribute more significantly to maternal stress than internalizing behaviors such as anxiety and withdrawal (3,4).

Gender differences in parental mental health outcomes are well-documented, with mothers generally reporting higher levels of psychological distress compared to fathers. This discrepancy may stem from the fact that mothers often assume primary caregiving responsibilities, making them more susceptible to stressors associated with their child's behavioral challenges. Furthermore, mothers have been observed to exhibit more maladaptive coping strategies, such as denial and emotional venting, which may further contribute to their heightened distress. While fathers of children with ADHD also experience stress and mental health difficulties, their reported levels of anxiety and depression are typically lower. However, fathers' mental health is still significantly influenced by the perceived severity of their child's symptoms, suggesting that both parents, albeit to varying extents, face considerable psychological challenges (5,6). Most previous studies investigating the mental health of parents of children with ADHD have employed standardized self-report measures to assess stress, anxiety, and depression. These studies consistently indicate that parents of children with ADHD, particularly mothers, experience significantly higher levels of psychological distress compared to control groups. While extensive literature exists on the mental health impact of parenting children with autism and other developmental disorders, there is a relative lack of research focusing on ADHD, particularly in the context of Pakistan. Moreover, limited studies have explored comparative differences in mental health outcomes between mothers and fathers of children with ADHD, leaving a crucial gap in the literature (7-9). This study aims to address this gap by examining the mental health challenges faced by parents of children with ADHD, specifically comparing stress, anxiety, and depression levels between mothers and fathers. Additionally, it seeks to explore the mediating role of anxiety in the relationship between stress and depression among parents. By investigating these relationships, the study intends to contribute to the existing body of knowledge and provide valuable insights for developing targeted interventions to support parents of children with ADHD (10).

METHODS

The study utilized a cross-sectional correlational research design to explore the relationship between anxiety, depression, and stress among parents of children diagnosed with attention-deficit/hyperactivity disorder (ADHD). A total of 216 parents participated, selected through purposive sampling. The inclusion criteria required that participants be biological parents of a child diagnosed with ADHD, with the diagnosis confirmed by a qualified healthcare professional from a recognized special education institute, a general hospital, or a private clinic. The child had to be under 18 years of age. Both parents from the same family were included in the sample to allow for direct comparisons between maternal and paternal mental health outcomes (11,12). Exclusion criteria were established to ensure the validity of the findings. Parents with self-reported pre-existing psychiatric disorders diagnosed before their child's ADHD diagnosis were excluded to prevent confounding effects. Additionally, parents of children with co-occurring neurodevelopmental disorders, such as autism spectrum disorder (ASD) or intellectual disability, were not included to maintain a focus on ADHD-specific parental mental

health challenges. Parents who had received formal psychological interventions for stress, anxiety, or depression within the past six months were also excluded to minimize the potential influence of recent therapeutic interventions on the study variables (13,14).

Data collection was conducted using the Depression Anxiety Stress Scale (DASS-21), a validated 21-item self-report questionnaire designed to measure levels of depression, anxiety, and stress. Each item was rated on a four-point Likert scale, ranging from 0 ("Did not apply to me") to 4 ("Applied to me most of the time"), with higher scores indicating greater levels of distress. The reliability of the scale was well established, with Cronbach's alpha coefficients of 0.88 for depression, 0.82 for anxiety, and 0.90 for stress, demonstrating strong internal consistency. Participants completed the questionnaire within an estimated 20-minute timeframe (16-18). Ethical considerations adhered to the American Psychological Association (APA) 7th edition code of conduct. Approval for the study was obtained from the institutional review board (IRB). Participants provided informed consent after receiving a detailed explanation of the study's objectives, potential risks, and confidentiality measures. They were assured that participation was voluntary, with the right to withdraw at any time without consequences. Confidentiality was strictly maintained, and data was anonymized to protect participant identities (19). Statistical analysis was performed using SPSS version 29. Descriptive statistics were calculated to summarize demographic characteristics and the distribution of scores on the DASS-21. Pearson's correlation analysis was conducted to examine the relationships between stress, anxiety, and depression, while independent sample t-tests were used to compare differences between mothers and fathers. Given that both parents from the same family were included in the study, potential data dependency was assessed using intraclass correlation coefficients (ICCs) to determine whether adjustments in statistical analyses were necessary. Mediation analysis was conducted to assess whether anxiety mediated the relationship between stress and depression (20).

RESULTS

The mean age of the parents of children with ADHD was 38.01 years (SD = 9.68). Among the participants, 123 (57%) were mothers, while 93 (43%) were fathers. Regarding educational qualifications, 97 (44%) had completed intermediate education, 66 (31%) held a bachelor's degree, 28 (13%) had obtained a master's degree, and 25 (12%) held a PhD. A significant positive correlation was observed among the study variables. Stress demonstrated a strong positive correlation with anxiety ($r = .54, p < .01$) and a moderate correlation with depression ($r = .28, p < .01$). Anxiety also exhibited a significant positive relationship with depression ($r = .42, p < .01$), suggesting that higher levels of stress were associated with increased anxiety and depression among parents of children with ADHD. Comparison of mental health outcomes between fathers and mothers revealed significant differences across all study variables. Mothers exhibited significantly higher levels of stress ($M = 6.21, SD = 5.18$) compared to fathers ($M = 4.07, SD = 3.38$), with a moderate effect size ($t(98) = -3.46, p < .001, d = 0.48$). Anxiety levels were also significantly higher among mothers ($M = 9.78, SD = 7.10$) than fathers ($M = 5.53, SD = 3.84$), with a larger effect size ($t(98) = -5.20, p < .001, d = 0.74$). Similarly, depression was more prevalent among mothers ($M = 13.66, SD = 6.80$) than fathers ($M = 8.90, SD = 6.18$), with a substantial effect size ($t(98) = -5.36, p < .001, d = 0.73$).

Regression analysis indicated that stress significantly predicted anxiety ($\beta = .74, SE = .07, p < .001$), explaining 29% of the variance ($R^2 = 0.29, F(1, 214) = 91.07, p < .001$). However, the direct effect of stress on depression was not statistically significant ($\beta = .10, SE = .11, p = .34$). In contrast, anxiety significantly predicted depression ($\beta = .43, SE = .08, p < .001$), accounting for 18% of the variance ($R^2 = 0.18, F(2, 213) = 24.91, p < .001$). Mediation analysis confirmed that anxiety mediated the relationship between stress and depression, with an indirect effect of .32 (standardized effect = .21, 95% CI = .13, .29). These findings suggest that while stress alone does not directly influence depression, its impact is significantly mediated through anxiety.

Table 1: Demographic Characteristics of the Participants (N=216)

Characteristics	Frequency	Percentage
Age (Mean & SD)	38.01 (Years)	9.68 (Years)
Parents of Children with Autism		
Father	93	43
Mother	123	57
Education		

Characteristics	Frequency	Percentage
Intermediate	97	44
Bachelor	66	31
Master	28	13
PhD	25	12

Table 2: Correlational Analysis between Study Variables (N=216)

Variables	1	2	3
1.Stress	-	.54**	.28**
2.Anxiety		-	.42**
3.Depression			-

Note. **p<.01

Table 3: Mean differences between Parents of Children with Autism in Study Variables (N=216)

	Fathers(n=93)		Mothers(n=123)		t(98)	p	Cohen's d
	M	SD	M	SD			
Stress	4.07	3.38	6.21	5.18	-3.46	.000	0.48
Anxiety	5.53	3.84	9.78	7.10	-5.20	.000	0.74
Depression	8.90	6.18	13.66	6.80	-5.36	.000	0.73

Note. M= Mean, SD= Standard Deviation, SMA= Social Media Addiction

*p<.05

Table 4: Regression Analysis for Study Variables (N=216)

Consequences								
Anxiety (M)					Depression (Y)			
Antecedents		β	SE	p		β	SE	P
Stress (X)	a	.74	.07	.000	c'	.10	.11	.34
Anxiety (M)	-				B	.43	.08	.000
Constant	I	4.01	.54	.000	I	7.62	.73	.000
	R2=0.29 F(1, 214) = 91.07				R2=.18 F(2, 213) = 24.91 p<.001			
	p<.001							

Note. ***p<.001,

Table 5: Indirect Effect (N=216)

Indirect Path	Effect	Standardised Effect	LLCI	ULCI
Anxiety	.32	.21	.13	.29

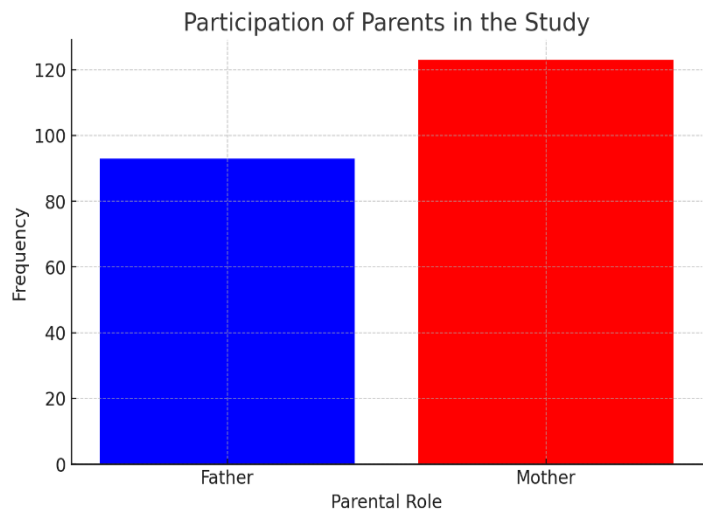


Figure 2 Participation of Parents in the study

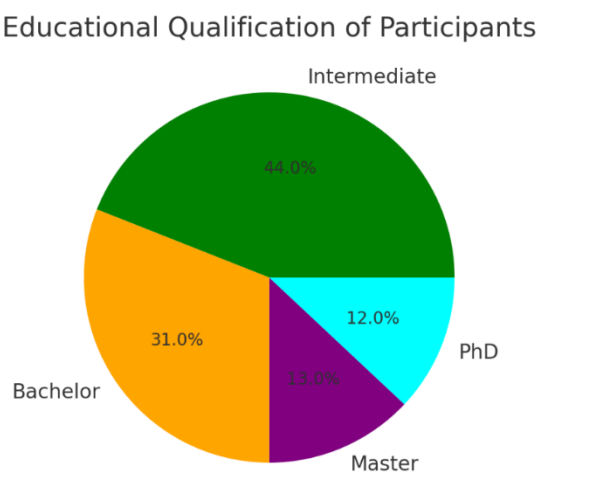


Figure 1 Educational Qualification of Participants

DISCUSSION

The findings of the study contribute to the existing literature on the psychological distress experienced by parents of children with ADHD, particularly in the context of Pakistan, where limited research has been conducted on parental mental health in this population. The results align with prior evidence suggesting that parents of children with ADHD experience heightened levels of stress, anxiety, and depression. The positive correlations between these variables reaffirm that parenting a child with ADHD presents significant psychological challenges, often requiring constant emotional and behavioral regulation. The association between these psychological states is likely driven by the demanding nature of caregiving, the unpredictability of the child’s behavior, and the lack of systemic support structures. The additional burden of societal stigma, inadequate access to mental health services, and limited parental guidance further exacerbate these mental health difficulties (21,22). Gender differences in parental mental health outcomes were evident, with mothers reporting significantly higher levels of stress, anxiety, and depression compared to fathers. This disparity is consistent with findings from previous research, which indicate that mothers often assume the primary caregiving role, making them more susceptible to psychological distress. The additional responsibilities of managing household duties, coupled with societal expectations and the absence of adequate support, contribute to their increased vulnerability. Cultural norms in many societies, including Pakistan, place a disproportionate burden on mothers, often holding them responsible for their child’s behavioral and developmental challenges. This social pressure, combined with limited coping resources, can heighten anxiety and depressive symptoms. Fathers, although affected, reported comparatively lower distress levels, likely due to their lesser involvement in day-to-day caregiving responsibilities. However, the psychological well-being of fathers should not be overlooked, as stress related to financial responsibilities and societal expectations may still play a significant role in their overall mental health (23,24).

The mediation analysis provided insight into the psychological mechanisms underlying the relationship between stress and depression, confirming that anxiety significantly mediates this association. This finding suggests that parents experiencing high levels of stress may initially develop symptoms of anxiety, which subsequently increase the risk of depression. The mediating role of anxiety has been highlighted in previous research, particularly in populations experiencing chronic stress with limited access to coping strategies. The tendency of parents to feel overwhelmed by the demands of raising a child with ADHD, combined with a perceived lack of control, may contribute to heightened anxiety levels, which, if unmanaged, may evolve into depressive symptoms. The results underscore the importance of early identification and intervention to help parents manage stress before it escalates into more severe psychological

conditions (25-27). The study has several strengths, including the use of a well-validated psychological assessment tool and the inclusion of both mothers and fathers, allowing for a comparative analysis of parental mental health. However, certain limitations must be acknowledged. The relatively small sample size restricts the generalizability of the findings, emphasizing the need for larger-scale studies to provide more representative insights. The cross-sectional nature of the study limits the ability to establish causality, and future longitudinal research is recommended to track changes in parental mental health over time. An imbalance in the representation of mothers and fathers within the sample may have influenced the results, and future studies should strive for more equitable participant distribution to enhance the reliability of gender-based comparisons. Additionally, the uneven distribution of parental education levels limited the statistical analyses that could be performed, preventing a deeper exploration of how educational background may influence stress, anxiety, and depression levels (28,29).

The findings highlight the urgent need for targeted interventions to support parents of children with ADHD, particularly in societies where mental health awareness remains limited. The implementation of structured psychological support programs, including counseling and psychoeducational workshops, could equip parents with coping strategies to manage the emotional challenges associated with raising a child with ADHD. Mental health professionals should focus on providing accessible and affordable interventions that address the unique stressors faced by these parents. Increasing awareness about ADHD within the community can also help reduce stigma and promote a more supportive social environment. Additionally, establishing specialized support networks for parents can foster a sense of community, enabling shared experiences and emotional validation. Policymakers should consider the integration of parental mental health support into existing child healthcare services, ensuring that interventions address the well-being of both children with ADHD and their caregivers (30-32).

CONCLUSION

The study underscores the significant mental health challenges faced by parents of children with ADHD, highlighting the strong association between stress, anxiety, and depression in this population. Mothers, due to their primary caregiving role, experience greater psychological distress compared to fathers, emphasizing the need for targeted support and intervention. The findings further reveal that anxiety plays a crucial mediating role in the relationship between stress and depression, suggesting that early identification and management of anxiety could help mitigate the progression of depressive symptoms. These insights contribute to a deeper understanding of parental mental health in the context of ADHD, particularly in regions where awareness and support systems remain limited. Addressing these challenges requires a multifaceted approach, including increased mental health awareness, accessible psychological interventions, and stronger community and institutional support for parents navigating the complexities of raising a child with ADHD.

AUTHOR CONTRIBUTIONS

Author	Contribution
Naghma Tareen*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Mahnoor Ghulam Mustafa	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Aymen Zahid	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Maimoona Yaseen	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Sana Sarfraz	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Zainab Nasir	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published

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