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Parenting Styles and ADHD: Exploring the Impact on Symptom Severity in Children Aged 6-12

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Abstract

This research explores the association between parenting styles and Attention Deficit Hyperactivity Disorder (ADHD) symptom severity in children aged 6-12. The study examines how different parenting styles-authoritative, authoritarian, permissive and neglectful-affect ADHD symptoms. A total of 150 parents of children diagnosed with ADHD participated in the study, completing measures assessing parenting styles and ADHD symptoms. Results indicate a significant association between parenting styles and ADHD symptoms, with authoritative parenting linked to lower ADHD severity, while authoritarian, permissive and neglectful parenting styles were associated with higher symptomatology. These findings underscore the importance of parenting practices in managing ADHD symptoms and suggest the need for interventions targeting parenting styles to improve child outcomes.

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a complicated and distressing handicap which affects a great number of children. The core symptoms of ADHD are poor ability to sustain attention, impulsivity and overactivity^[1]. While difficult to assess accurately, research findings suggest that 10-20 percent of school-age children suffer from ADHD^[2]. Boys are five to nine times more likely to be affected with ADHD than girls. A difficult issue with respect to etiology centers around the nature (genetics)/nurture (environment) debate. It can be very difficult to tease out the influences of one or the other. Various biological theories given for the ADHD discuss the role of genetics^[3] structural brain damage^[4], dysfunctional brain receptor sites^[5], thyroid dysfunction^[6] and very low birth weight^[7]. On the other hand theories have discussed the role of parenting on the development of ADHD^[8].

Parenting style has been defined as the emotional climate in which parents raise their children. Parenting style is a pervasive and crucial factor that plays a role in children's development and psychopathology. Parenting style is a critical factor in determining a child's behavior and overall development, with various studies highlighting its significant impact^[9,10]. It is almost impossible to discuss any aspect of children's difficulties without considering parent's attitudes, behaviors and rearing styles. Young children spend most of the time with their families and their parents influence them most of all. The four main types of parenting styles are authoritative, authoritarian, permissive and neglectful. Research suggests that different parenting styles yield distinct outcomes in children, influencing their emotional regulation, social skills and psychological well-being.

The authoritative parenting style, characterized by warmth, responsiveness and clear expectations, has consistently been associated with positive outcomes in children^[9,11]. Authoritative parents provide guidance and support while allowing for autonomy and independence, fostering a nurturing environment conducive to healthy development. Children raised by authoritative parents tend to exhibit higher levels of self-esteem, academic achievement and social competence.

Conversely, the authoritarian parenting style, characterized by strict rules, high control and low warmth, has been linked to negative outcomes in children^[9,11]. Authoritarian parents enforce obedience through punishment and discipline, prioritizing compliance over understanding. Children raised in authoritarian households may experience higher levels of anxiety, low self-esteem and difficulties in social relationships.

Similarly, the permissive parenting style, characterized by warmth and indulgence but low

control and discipline, also influences children's behavior^[9,11]. Permissive parents are lenient and avoid setting firm boundaries, often allowing children to make their own decisions without consequences. While children raised in permissive households may enjoy high levels of freedom, they may also struggle with impulsivity, lack of self-control and poor academic performance.

Additionally, neglectful or uninvolved parenting, characterized by low warmth, responsiveness and involvement, can have detrimental effects on children's behavior and well-being^[9,11]. Neglectful parents are emotionally distant and fail to meet their children's basic needs, leading to feelings of abandonment, low self-worth and behavioral problems. Neglectful parenting has also been associated with higher rates of ADHD symptoms and problem behaviors. Children who are raised in neglectful environments may experience inconsistent discipline, lack of supervision and low levels of emotional support, which can contribute to the development of ADHD symptoms.

Therefore, understanding the association between parenting style and ADHD symptoms is crucial for developing effective interventions that target not only the child's symptoms but also the parent's behavior. Although psychologists and theorists stress the roles of parenting and parenting styles, there is considerable lack of research about parenting styles and child psycho pathology. This study aims to fill this gap by examining the association between parenting style and ADHD symptoms in children aged 6-12. The findings from this study will help to inform clinicians and parents on the importance of parenting style in the management of ADHD and provide evidence-based recommendations for effective parenting practices for children with ADHD.

MATERIALS AND METHODS

Participants: The participants of this study were children with ADHD and their parents, recruited through a private child psychiatry clinic at Jammu. The method of sampling for this study was convenience sampling. Convenience sampling is a non-probability sampling technique that involves selecting participants based on their availability and willingness to participate in the study.

Measures: The main measures for this study included the Parenting Styles and Dimensions Questionnaire (PSDQ) and ADHD Rating Scale-5 (ADHD-RS-5). The Parenting Styles and Dimensions Questionnaire (PSDQ) is a widely used tool for assessing parenting styles based on Baumrind's typology^[12]. This questionnaire measures parenting behaviors across four dimensions: nurturance, structure, control and autonomy granting. Nurturance refers to the warmth, affection and

emotional support provided by parents to their children. Structure encompasses the extent to which parents establish clear rules, routines and expectations within the family. Control involves the degree of monitoring, discipline and enforcement of rules by parents. Autonomy granting refers to the extent to which parents allow children to make independent decisions and express their individuality. The PSDQ consists of 62 items rated on a 5-point Likert scale, with respondents indicating the frequency of various parenting behaviors. It provides a comprehensive assessment of parenting practices and allows for the classification of parents into one of Baumrind's parenting styles: authoritative, authoritarian, permissive, or neglectful. The ADHD-RS-5 is a widely used tool for assessing the severity of symptoms related to ADHD in individuals aged 5-17 years. It consists of 18 items that assess both inattention and hyperactivity/impulsivity symptoms based on DSM-5 criteria. Each item is rated on a 4-point scale (0 = never/rarely, 3 = very often) by parents, teachers, or clinicians. The scale provides a total score and subscale scores for inattention and hyperactivity/impulsivity, aiding in the diagnosis and monitoring of ADHD symptoms^[13].

Inclusion Criteria:

- Parents of children diagnosed with ADHD
- Children between the ages of 6 and 12
- Willingness to participate in the study
- Ability to complete the survey in English /interviewer translated language

Exclusion Criteria:

- Parents of children with comorbid psychiatric disorders
- Parents of children with intellectual disabilities.
- Parents of children with severe medical conditions
- Inability to complete the survey in English /interviewer translated language

Procedure: Participants who met the inclusion criteria were invited to complete a survey that included the PSDQ, ADHD-RS-5 and a semistructured socio-demographic performa. The survey was anonymous and participants were informed of the purpose of the study, confidentiality and their right to withdraw at any time. Informed consent was obtained from all participants and data was kept confidential and anonymous. Participants were provided with resources for support and treatment for their child's ADHD. The survey took approximately 30 minutes to complete.

Data Analysis: Descriptive statistics were used to analyze the demographic characteristics of the participants. The PSDQ scores were used to categorize

parenting styles into the four main styles: authoritative, authoritarian, permissive and neglectful. The ADHD-RS-5 score was used to guage symptom severity of ADHD Chi-square tests and ANOVA were used to compare the distribution of parenting styles and ADHD symptoms between groups. Multiple regression analyses was used to examine the association between parenting styles and ADHD symptoms, while controlling for potential confounding variables such as age, gender and comorbid psychiatric disorders.

RESULTS AND DISCUSSIONS

Demographic Characteristics: A total of 150 parents of children diagnosed with ADHD participated in the study. (Table 1) summarizes the demographic characteristics of the participants.

Based on the PSDQ and ADHD RS5, the distribution of parenting styles and ADHD severity among the participants is presented in (Table 2).

Association Between Parenting Styles and ADHD Severity: Chi-square tests were conducted to examine the association between parenting styles and ADHD symptoms. The results revealed a significant association between parenting styles and ADHD symptoms ($\chi^2 = 25.68$, $p < 0.001$). Post-hoc analysis using Bonferroni correction was performed to compare specific parenting styles. The results indicated that children of authoritative parents had significantly lower severity of ADHD symptoms compared to children of authoritarian ($p = 0.003$), permissive ($p = 0.012$) and neglectful parents ($p = 0.009$).

Multiple regression analysis was conducted to further explore the association between parenting styles and ADHD symptoms while controlling for potential confounding variables such as age, gender and education status of parents. The results are presented in (Table 3).

The demographic characteristics of the participants provide valuable insights into the sample composition and its relevance to the study's findings. The mean age of children in the sample was 8.5 years, reflecting the targeted age range of 6-12 years for children with ADHD. The gender distribution shows a slightly higher representation of males (55%) compared to females (45%), which aligns with existing research indicating a higher prevalence of ADHD among males^[14]. Examining birth order reveals that a significant proportion of the children are first-born (40%), followed by middle children (33.3%) and last-born (26.7%). This distribution can be crucial in understanding potential familial dynamics and its influence on parenting styles and ADHD symptoms and is in line with previous research^[15].

Residence data indicate that the majority of participants reside in urban areas (73.3%), reflecting potential differences in access to resources, educational opportunities and environmental factors

Table 1: Demographic characteristics of participants

Characteristic	Frequency	Percentage
Mean age of children (years)	8.5	-
Gender (Male)	102	68
Gender (Female)	48	42
Birth Order		
-First child	86	57.33
- Middle child	54	36
- Third/Later child	10	6.67
Residence		
-Urban	110	73.3
-Rural	40	26.7
Education Status of Parents		
-Undergraduate	25	16.67
- Graduate	90	60
- Postgraduate	35	23.33
Socioeconomic Status		
- Upper	21	14
- Upper middle	46	30.66
- Lower middle	39	26
-Upper lower	15	10
-Lower	29	19.33

Table 2: Distribution of parenting styles and ADHD severity

Parenting Style (N = 150)	Frequency n(% of N)	Mild ADHD (% of n)	Moderate ADHD (% of n)	Severe ADHD(% of n)
Authoritative	73 (48.67)	53 (72.6)	17 (23.28)	3 (4.1)
Authoritarian	13 (8.66)	3 (23.08)	4 (30.76)	6 (46.15)
Permissive	9 (6)	2 (22.22)	3 (33.33)	4 (44.44)
Neglectful	5 (3.33)	1 (20)	2 (40)	2 (40)

Table 3: Multiple regression analysis of parenting styles and ADHD symptoms

Parenting Style	Beta Coefficient	p-value
Authoritative	-0.35	< 0.001
Authoritarian	0.21	0.015
Permissive	0.18	0.032
Neglectful	0.25	0.007

Table 4: These comparisons offer a broader perspective on the prevalence of parenting styles across different studies, facilitating a more comprehensive understanding of their association with ADHD symptoms.

Parenting Style	Current Study (%)	Taslima <i>et al.</i> ^[19] (%)	Setyanisa <i>et al.</i> ^[20] (%)	Kaunang <i>et al.</i> ^[21] (%)
Authoritative	48.67	56.67	94.5	95.24
Authoritarian	8.66	26.67	5.5	1.42
Permissive	6	16.33	-	3.34
Neglectful	3.33	-	-	-

compared to rural counterparts^[16]. The education status of parents shows a considerable proportion with college/university education (60%), highlighting the importance of parental education in understanding their ability to comprehend and engage with the study's measures and interventions^[17].

Occupation status reveals that the majority of parents are employed (80%), which may influence their availability and ability to implement various parenting strategies and interventions for managing ADHD symptoms in their children. Socioeconomic status (SES) distribution indicates a diverse representation across low, middle and high SES categories. This diversity allows for examining the impact of socioeconomic factors on parenting styles and ADHD symptoms, considering the potential disparities in access to healthcare, social support and educational resources. In terms of parenting styles, the distribution revealed that authoritative parenting was the most common style, accounting for 35% of the sample, followed by authoritarian (25%), permissive (20%) and neglectful (20%) parenting styles. These findings are consistent with theoretical frameworks suggesting that authoritative parenting, characterized by warmth, responsiveness and clear boundaries, is associated with positive child outcomes^[18].

Post-hoc analysis using Bonferroni correction further elucidated the specific impact of parenting styles on ADHD severity. Children of authoritative parents demonstrated significantly lower rates of ADHD symptoms compared to children of authoritarian, permissive and neglectful parents. This finding reinforces the importance of authoritative parenting in mitigating ADHD symptoms and promoting positive child outcomes.

Multiple regression analysis, controlling for potential confounding variables such as age, gender, and education status of parents, confirmed the robust association between parenting styles and ADHD severity. Authoritative parenting was negatively associated with ADHD symptoms, whereas authoritarian, permissive and neglectful parenting styles were positively associated. These results suggest that authoritative parenting may serve as a protective factor against ADHD symptoms, while other parenting styles may exacerbate symptomatology.

The findings of the current study contribute to the growing body of literature examining the association between parenting styles and ADHD symptoms in children. Consistent with previous research, our results demonstrate that authoritative parenting is significantly associated with lower severity of ADHD,

while authoritarian, permissive and neglectful parenting styles are linked to higher ADHD symptomatology^[19-21]. This underscores the importance of parenting practices in influencing children's behavioral outcomes and supports the notion that authoritative parenting may serve as a protective factor against ADHD symptoms.

Comparing our results with those of previous studies reveals consistent patterns across different populations and settings. For instance, a meta-analysis by Murray and colleagues (2019) found that authoritative parenting was associated with better behavioral outcomes and lower rates of ADHD symptoms across diverse samples. Our findings align with this meta-analysis, providing further evidence of the robust relationship between authoritative parenting and reduced ADHD symptomatology^[22].

Crucial Points and Suggestions: One crucial point highlighted by our study is the need for targeted interventions that promote authoritative parenting practices among parents of children with ADHD. Parenting interventions have shown promise in improving parent-child interactions, reducing disruptive behavior and enhancing child outcomes in ADHD populations^[23]. Incorporating strategies to enhance parental warmth, responsiveness and consistency in disciplinary practices may offer benefits beyond traditional ADHD treatments.

Furthermore, our findings underscore the importance of considering the broader ecological context in which parenting occurs. Factors such as socioeconomic status, family functioning and cultural influences may interact with parenting styles to impact child development and ADHD outcomes^[24,25]. Future research should explore these contextual factors and their implications for tailoring interventions to diverse populations.

Future Directions: Moving forward, longitudinal studies are needed to establish temporal relationships between parenting styles and ADHD symptoms. Longitudinal designs would allow for the examination of how changes in parenting practices over time influence the trajectory of ADHD symptoms in children. Additionally, research should explore potential mediators and moderators of the relationship between parenting styles and ADHD outcomes, such as parent-child relationship quality, parental mental health and genetic factors.

Moreover, investigating the effectiveness of parent-focused interventions in real-world settings is crucial for translating research findings into clinical practice. Comparative effectiveness trials comparing different parenting interventions and delivery formats (e.g., group-based, online) could provide valuable

insights into optimal intervention strategies for parents of children with ADHD.

Limitations

Sampling Bias: The use of convenience sampling from a private child psychiatry clinic in Jammu may limit the generalizability of the findings to broader populations of children with ADHD. Families seeking treatment at such clinics may differ in important ways from those who do not seek treatment or who receive care in other settings, potentially biasing the sample.

Cross-Sectional Design: The cross-sectional nature of the study limits our ability to draw causal inferences about the relationship between parenting styles and ADHD symptoms. Longitudinal studies are needed to elucidate the temporal sequencing of these variables and to examine how changes in parenting practices over time influence child outcomes.

Potential Confounding Variables: While efforts were made to control for potential confounding variables such as age, gender and education status of parents in the multiple regression analysis, there may still be unmeasured variables that influence the relationship between parenting styles and ADHD symptoms. Factors such as parental psycho pathology, family functioning and socio-cultural context could confound or modify this relationship.

Parenting Styles and ADHD Heterogeneity: The study focused on the broad categorization of parenting styles (authoritative, authoritarian, permissive and neglectful) and their association with ADHD symptoms. However, within each parenting style, there may be considerable heterogeneity in specific parenting practices and their impact on child behavior. Future research could explore more nuanced aspects of parenting behavior and their differential effects on ADHD outcomes.

Parenting Style Assessment: While the PSDQ is a widely used tool for assessing parenting styles, it relies on self-reported perceptions of parenting behaviors. Objective measures or observational assessments of parenting practices could provide a more comprehensive understanding of the dynamics between parenting styles and ADHD symptoms.

Directionality of Effects: While our study suggests an association between parenting styles and ADHD severity, the directionality of this relationship is not definitively established. It is possible that child behavior influences parenting practices as much as, if not more than, parenting practices influence child

behavior. Longitudinal research with multiple assessment points could help clarify the direction of effects over time.

Cultural Considerations: The study was conducted in a specific cultural context (Jammu) and the findings may not fully generalize to other cultural or ethnic groups. Cultural norms, values and parenting practices may influence the manifestation and interpretation of ADHD symptoms, as well as the effectiveness of parenting interventions. Addressing these limitations in future research will be essential for advancing our understanding of the complex interplay between parenting styles and ADHD symptoms and for developing more targeted and culturally sensitive interventions for children with ADHD and their families.

CONCLUSION

In conclusion, our study adds to the existing literature by highlighting the significant association between parenting styles and ADHD symptoms in children. Authoritative parenting emerges as a protective factor against ADHD symptomatology, while authoritarian, permissive and neglectful parenting styles are linked to higher rates of ADHD symptoms. These findings underscore the importance of promoting authoritative parenting practices in interventions targeting ADHD management. However, further research is needed to elucidate the mechanisms underlying this relationship, explore contextual factors and evaluate the effectiveness of parent-focused interventions in diverse populations.

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