

## Original Research Article

# A COMPARATIVE EVALUATION OF QUALITY OF LIFE AND VARIABLES INFLUENCING IT IN CHILDREN SUFFERING FROM ATTENTION DEFICIT HYPERACTIVITY DISORDER VERSUS BRONCHIAL ASTHMA: STUDY CONDUCTED AT A TERTIARY CARE CENTRE

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### ABSTRACT

**Background:** Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in childhood. Asthma is a chronic respiratory disease characterised by episodes of wheeze, cough, and shortness of breath. Hence, the present study was conducted for assessing the Quality of Life and factors affecting it in children diagnosed with Attention – deficit/ hyperactivity disorder versus Bronchial asthma.

**Materials and Methods:** A total of 50 children within the age range of 8 to 16 years were enrolled. Out of these 50 children, 25 were children with recently established diagnosis of ADHD and remaining 25 were children with established diagnosis of Bronchial Asthma. Complete demographic and clinical details of all the subjects was obtained. Pediatric Quality of Life Scale (PedsQL) and Parenting Practices Questionnaire were used. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

**Results:** Mean age of the subjects of the ADHD group and asthma group was 13.2 years and 14.1 years respectively. Majority proportion of subjects were boys. While comparing the parent's report of QoL among two study groups, significantly better results were obtained in the Asthma group. However, while comparing the child's report of QoL among two study groups, non-significant results were obtained. Also, significant correlation was seen among parenting style and QoL.

**Conclusion:** ADHD is a childhood ailment that is equally debilitating as a persistent physical illness such as Asthma. The quality of life for the kid can be greatly enhanced via therapy and an emphasis on parenting approaches.

**Keywords:** Quality of life, Attention-deficit, Bronchial asthma.

## INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in childhood characterized by a constant pattern of inattention and/or hyperactivity-impulsivity symptoms that interferes with development or functioning.<sup>[1,2]</sup> Attention-

deficit/hyperactivity disorder begins in childhood.1 Worldwide prevalence in children is approximately 7.2% based on population surveys.<sup>[1]</sup> Parent-reported data from the 2016–2019 US National Survey of Children's Health (NSCH) estimates that 9.8% (approximately 6 million) of children age 3 to 17 years had ever received a diagnosis of ADHD and 8.7% currently had the disorder.<sup>[3,4]</sup> By age,

adolescents who ever had ADHD are the highest at 13% (3.3 million). Children aged 6 to 11 years are 10% (2.4 million) and 2% (265,000) of children 3 to 5 years follow.<sup>[3,5]</sup>

Asthma is a chronic respiratory disease characterised by episodes of wheeze, cough, and shortness of breath. Around 14% of children worldwide have a diagnosis of asthma, making it the most common chronic respiratory disease of childhood. Poor asthma control is associated with a number of negative effects on children and families. For example, they are more likely to be absent from school, have additional educational needs and have lower educational attainment. Caregivers also experience missed workdays and financial challenges as a result. Some children will experience severe symptoms and life-threatening attacks.<sup>[5,6]</sup> Hence; the present study was conducted for assessing the Quality of Life and factors affecting it in children diagnosed with Attention – deficit/ hyperactivity disorder versus Bronchial asthma.

## MATERIAL AND METHODS

The present study was conducted for assessing the Quality of Life and factors affecting it in children diagnosed with Attention – deficit/ hyperactivity disorder versus Bronchial asthma. A total of 50

children within the age range of 8 to 16 years were enrolled. Out of these 50 children, 25 were children with recently established diagnosis of ADHD and remaining 25 were children with established diagnosis of Bronchial Asthma. Complete demographic and clinical details of all the subjects was obtained. Pediatric Quality of Life Scale (PedsQL) was evaluated which comprised of 4 domains: Physical, Emotional, Social Functioning and School functioning. A higher PedsQL score indicates a better QoL.<sup>7</sup> Parenting Practices Questionnaire: was used to measure characteristics of authoritative, authoritarian and permissive parenting styles.<sup>8</sup> All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

## RESULTS

The mean age of the subjects of the ADHD group and asthma group was 13.2 years and 14.1 years respectively. Majority proportion of subjects were boys. While comparing the parent’s report of QoL among two study groups, significantly better results were obtained in the Asthma group. However, while comparing the child’s report of QoL among two study groups, non-significant results were obtained. Also, significant correlation was seen among parenting style and QoL.

**Table 1: Comparison of parent’s report of quality of life among ADHD and asthma group**

QoL domain	Groups	Mean	SD	p-value
Overall QoL score	ADHD group	78.32	5.9	0.000 (Significant)
	Asthma group	83.45	6.8	

**Table 2: Comparison of child’s report of quality of life among ADHD and asthma group**

QoL domain	Groups	Mean	SD	p-value
Overall QoL score	ADHD group	83.1	7.1	0.812
	Asthma group	84.9	7.3	

**Table 3: Comparison of parenting style and QoL**

Parenting style	Pearson’s correlation	p-value
With QoL	0.1125	0.001 (Significant)

## DISCUSSION

With a prevalence of over 5%, attention deficit hyperactivity disorder (ADHD) is one of the most frequent disorders within child and adolescent psychiatry. Despite an overwhelming body of research, approximately 20,000 publications have been referenced in PubMed during the past 10 years, assessment and treatment continue to present a challenge for clinicians. ADHD is characterized by the heterogeneity of presentations, which may take opposite forms, by frequent and variable comorbidities and an overlap with other disorders, and by the context-dependency of symptoms, which may or may not become apparent during clinical examination.<sup>[9-12]</sup> Children presenting with wheeze are likely to have either atopic asthma or episodic viral wheeze; distinguishing between these has

important implications for management. If it's wheeze it must be asthma, and if it's asthma it must mean bronchodilators and inhaled corticosteroids— simple enough. Indeed, as asthma is so common this paradigm might seem to be logical. The large-scale international study of asthma and allergy in childhood (ISAAC) found that the United Kingdom, Australia, and New Zealand had among the highest prevalences, with 15% of children affected. Asthma is more complicated, however, especially in children.<sup>[13]</sup>

Mean age of the subjects of the ADHD group and asthma group was 13.2 years and 14.1 years respectively. Majority proportion of subjects were boys. While comparing the parent’s report of QoL among two study groups, significantly better results were obtained in the Asthma group. Dai Y et al assessed the possible link between bronchial asthma

usage and attention-deficit hyperactivity disorder (ADHD) in children. PubMed, Web of Science, Science Direct, CNKI, Wanfang, and the China Biological Medicine Database (CBM) were searched for relevant articles published from database inception until September 28, 2023. A total of 10 articles involving 729,375 participants were included in the meta-analysis. The overall analysis revealed a statistically significant association between ADHD and an increased likelihood of having bronchial asthma, as indicated by a pooled odd ratio (OR) of 1.46 and a 95% confidence interval (CI) ranging from 1.41 to 1.51,  $p < 0.001$ ,  $I^2 = 58\%$ . Potential associated factors linking bronchial asthma and ADHD in children include demographic characteristics, healthcare access, socioeconomic factors, comorbidities, genetic susceptibility, immune dysregulation, chronic conditions, growth and development factors, and parental/environmental influences. Their systematic review and meta-analysis presented convincing evidence for a notable link between bronchial asthma and ADHD in children. The results indicate an increased likelihood of bronchial asthma among children with ADHD compared to those without the condition.<sup>[14]</sup>

In the present study, while comparing the child's report of QoL among two study groups, non-significant results were obtained. Also, significant correlation was seen among parenting style and QoL. In another similar study conducted by Escobar, R et al, authors evaluate the quality of life (QOL) of untreated children with newly diagnosed attention-deficit/hyperactivity disorder (ADHD), compared with asthmatic and healthy children. The QOL of children with ADHD was rated worse than that of asthmatic or healthy children for most Child Health Questionnaire domains. The greatest differences were found in behavior, social limitations attributable to physical problems, emotional impact on parents, and family activities. Almost every psychosocial domain was more affected in comparison with asthmatic children and both psychosocial and physical domains in comparison with healthy children. Conclusions. ADHD interferes with the daily lives of children, parents, and families even more than asthma, primarily in areas related to psychosocial functioning, although evidence of impaired physical functioning also emerged. Delays in recognition, assessment, and management of ADHD may affect negatively the QOL of those children.<sup>[15]</sup>

## CONCLUSION

ADHD is a childhood ailment that is equally debilitating as a persistent physical illness such as Asthma. The quality of life for the kid can be greatly enhanced via therapy and an emphasis on parenting approaches.

## REFERENCES

1. Neurodevelopmental Disorders Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition, Text Revision. American Psychiatric Association; 2022.
2. Centers for Disease Control and Prevention What is ADHD? 2022. Accessed April 17, 2023. <https://www.cdc.gov/ncbddd/adhd/facts.html>.
3. Bitsko RH, Claussen AH, Lichstein J, et al. Mental health surveillance among children - United States, 2013–2019. *MMWR Suppl.* 2022;71(2):1–42.
4. Centers for Disease Control and Prevention Data and statistics about ADHD. 2022. Accessed April 17, 2023. <https://www.cdc.gov/ncbddd/adhd/data.html>.
5. Danielson ML, Holbrook JR, Bitsko RH, et al. State-level estimates of the prevalence of parent-reported ADHD diagnosis and treatment among U.S. children and adolescents, 2016 to 2019. *J Atten Disord.* 2022;26(13):1685–1697.
6. Martin J, Townshend J, Brodrie M. Diagnosis and management of asthma in children. *BMJ Paediatr Open.* 2022;6(1): e001277.
7. Varni J, Seid M, Kurtin P. PedsQL 4.0: Reliability and validity of the Pediatric Quality of Life Inventory version 4.0 generic core scales in healthy and patient populations. *Med Care* 2001; 39:800-12
8. Robinson CC, Mandleco B, Olsen SF, Hart CH. Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychol Rep* 1995;77(3):819-30.
9. Nigg J T. Temperament and developmental psychopathology *J Child Psychol Psychiatry* 2006;47(3,4):395–422.
10. Rothbart M K. New York: Guilford Press; 2011. *Becoming who we are: Temperament and Personality in Development.*
11. Rothbart M K, Derryberry D. New York, NY: Lawrence Erlbaum Associates; 1981. *Development of individual differences in temperament*; pp. 37–86.
12. Drechsler R, Zulauf Logoz M, Walitza S, Steinhausen H C. The relations between temperament, character, and executive functions in children with ADHD and clinical controls. *J Atten Disord.* 2018;22(08):764–775.
13. Townshend J, Hails S, McKean M. Diagnosis of asthma in children. *BMJ.* 2007;335(7612):198-202.
14. Dai Y, Jin N. Association and Interacting Factors between Bronchial Asthma and Attention-deficit Hyperactivity Disorder in Children: Meta-analysis and Systematic Review. *Actas Esp Psiquiatr.* 2023;51(6):262-270.
15. Escobar, R., Soutullo, C., Hervás, A., Gastaminza, X., Polavieja, P.G., & Gilaberte, I. (2005). Worse Quality of Life for Children with Newly Diagnosed Attention-Deficit/Hyperactivity Disorder, Compared with Asthmatic and Healthy Children. *Pediatrics*, 116, e364 - e369.