

Comparative Analysis of Quality of Life in Children with Attention Deficit Hyperactivity Disorder and Bronchial Asthma at a Tertiary care Hospital

Mohammad Aslam Khan¹, Krishan Kumar Sharma^{2*}

¹Associate Professor, Department of Pediatrics,
Al-Falah School of Medical Sciences & Research Centre, Faridabad, Haryana, India.

²Associate Professor, Department of Psychiatry,
Mayo Institute of Medical Sciences, Lucknow, Uttar Pradesh, India.

ABSTRACT

Background: Attention-deficit/hyperactivity disorder (ADHD) is among the most common neurobehavioral disorders presenting for treatment in children. Hence; the present study was conducted for comparing quality of life in children with attention deficit hyperactivity disorder and bronchial asthma at a tertiary care hospital.

Materials & methods: A total of 100 school-going children were enrolled. Complete demographic and clinical details of all the children were obtained. All the children belonged to the age range of 10 to 16 years. 50 were children with recently established diagnosis of ADHD and 50 were children with established diagnosis of Bronchial Asthma. Pediatric Quality of Life Scale (PedsQL) was used for assessment of quality of life. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

Results: Mean age of the patients of ADHD group and Asthma group was 12.3 years and 13.1 years respectively. While assessing the quality of life score, it was seen that physical domain, emotional domain, social domain and psychosocial domain was significant higher among patients with ADHD.

Conclusion: ADHD is a childhood disorder that can have an equally severe impact on a child's quality of life as a chronic

physical illness such as asthma. Treatment for ADHD and a focus on parenting styles can greatly improve the child's quality of life, and clinicians can work on these factors through programs like psychoeducation and parenting skills training to improve patient outcomes and care overall.


Key words: Quality of life, Bronchial Asthma, Hyperactivity disorder.

*Correspondence to:

Dr. Krishan Kumar Sharma,
Associate Professor,
Department of Psychiatry,
Mayo Institute of Medical Sciences,
Lucknow, Uttar Pradesh, India.

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INTRODUCTION

The prevalence of Bronchial Asthma has increased continuously since the 1970s, and now affects an estimated 4 to 7% of the people worldwide. Childhood Bronchial Asthma varies widely from country to country. At the age of six to seven years, the prevalence ranges from 4 to 32%. The same range holds good for ages 13 and 14. UK has the highest prevalence of severe Bronchial Asthma in the world.¹ It has also increased the number of preventable hospital emergency visits and admissions. Apart from being the leading cause of hospitalization for children, it is one of the most important chronic conditions causing elementary school absenteeism.^{2, 3} Childhood Bronchial Asthma has multifactor causation. Geographical location, environmental, racial, as well as factors related to behaviors and life-styles are

associated with the disease.^{4- 6} Attention-deficit/hyperactivity disorder (ADHD) is among the most common neurobehavioral disorders presenting for treatment in children. It carries a high rate of comorbid psychiatric problems such as oppositional defiant disorder (ODD), conduct disorder, mood and anxiety disorders, and cigarette and substance use disorders. Across the life span, the social and societal costs of untreated ADHD are considerable, including academic and occupational underachievement, delinquency, motor vehicle safety, and difficulties with personal relationships.^{6- 8}

Hence; the present study was conducted for comparing quality of life in children with attention deficit hyperactivity disorder and bronchial asthma at a tertiary care hospital.

MATERIALS & METHODS

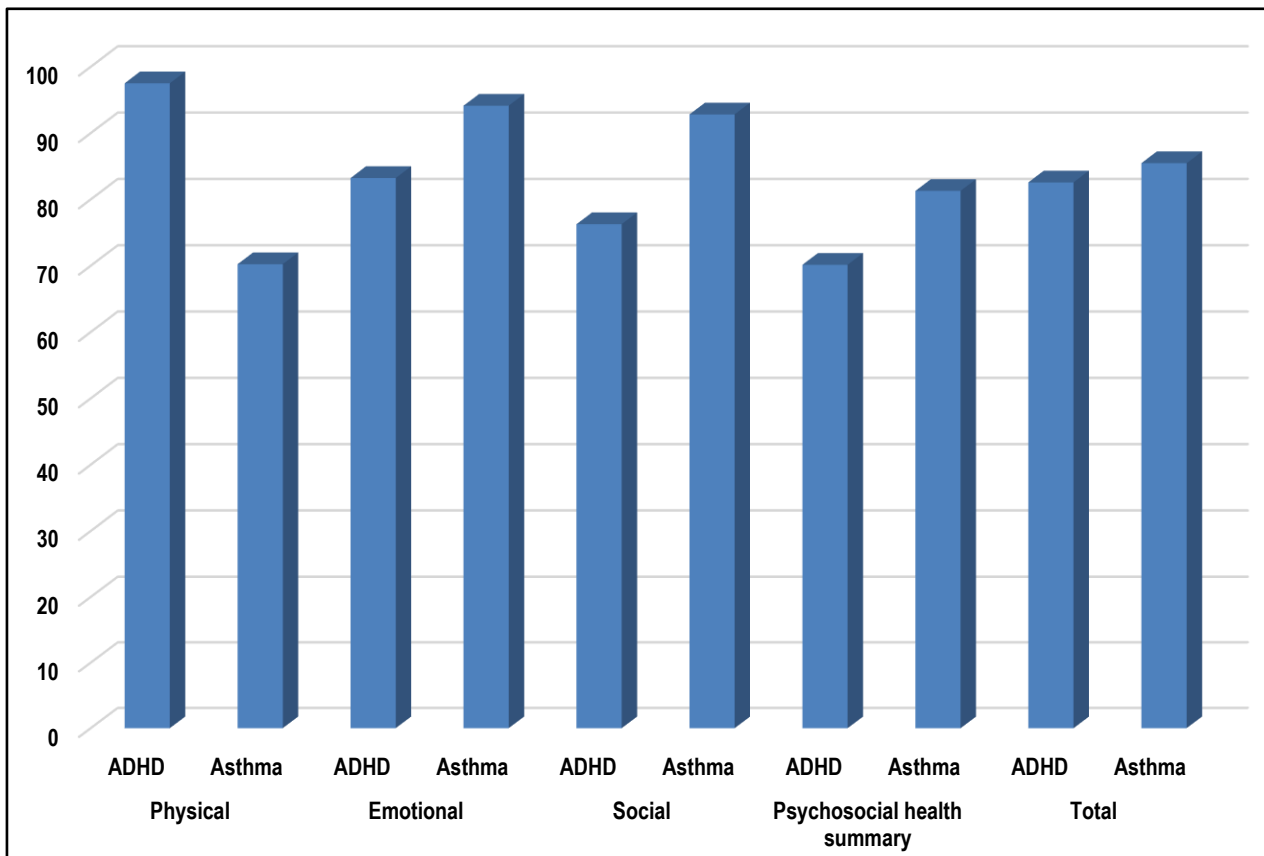
The present study was conducted for comparing quality of life in children with attention deficit hyperactivity disorder and bronchial asthma at a tertiary care hospital. A total of 100 school going children were enrolled. Complete demographic and clinical details of all the children were obtained. All the children belonged to the

age range of 10 to 16 years. 50 were children with recently established diagnosis of ADHD and 50 were children with established diagnosis of Bronchial Asthma. Pediatric Quality of Life Scale (PedsQL) was used for assessment of quality of life. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

Table 1: Quality of life score

Quality of life Domains		Mean	p-value
Physical	ADHD	97.51	0.001 (Significant)
	Asthma	70.23	
Emotional	ADHD	83.22	0.001 (Significant)
	Asthma	94.12	
Social	ADHD	76.26	0.001 (Significant)
	Asthma	92.81	
Psychosocial health summary	ADHD	70.13	0.001 (Significant)
	Asthma	81.28	
Total	ADHD	82.56	0.125
	Asthma	85.46	

Graph 1: Quality of life score



RESULTS

100 children were enrolled. All were divided into two study groups- 50 were children with recently established diagnosis of ADHD from the Child Psychiatry services and 50 were children with established diagnosis of Bronchial Asthma. The mean age of the

patients of ADHD group and Asthma group were 12.3 years and 13.1 years respectively. While assessing the quality of life score, it was seen that physical domain, emotional domain, social domain and psychosocial domain was significant higher among patients with ADHD.

DISCUSSION

Attention-deficit/hyperactivity disorder (ADHD) is a common neurobehavioral disorder characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity. In the majority of cases, symptoms begin in childhood and continue to affect a person's functioning well into adulthood. Gender differences have been reported in the prevalence rates of ADHD, with the published literature indicating that the prevalence of ADHD in boys is 2- to 9-fold higher than in girls in clinical samples and 2- to 3-fold higher in epidemiologic samples. These findings are consistent with the 3- to 16-fold higher prevalence of ADHD in boys than in girls across European countries as well.⁹⁻¹¹ The relatively prevalence of the disorder is high, affecting approximately 4% of all children, although estimates vary widely from 3% to 11% or more. The disorder usually begins in early childhood and is characterized by excessive activity, even when developmental level and limited behavioral control are taken into consideration. reviewed the findings of six large epidemiological studies that identified cases of ADHD within these samples. The prevalences found in these studies ranged from a low of 2% to a high of 6.3%, with most falling within the range of 4.2% to 6.3%.¹⁰⁻¹²

Physicians who inherit a patient with a previous ADHD diagnosis should review the diagnostic process, and current symptoms and treatment needs. Coexisting conditions (e.g., anxiety, learning, mood, or sleep disorders) should be identified and treated. Behavioral treatments are recommended for preschool-aged children and may be helpful at older ages. Effective behavioral therapies include parent training, classroom management, and peer interventions. Medications are recommended as first-line therapy for older children. Psychostimulants, such as methylphenidate and dextroamphetamine, are most effective for the treatment of core ADHD symptoms and have generally acceptable adverse effect profiles. There are fewer supporting studies for atomoxetine, guanfacine, and clonidine, and they are less effective than the psychostimulants.¹³

100 children were enrolled. All were divided into two study groups- 50 were children with recently established diagnosis of ADHD and 50 were children with established diagnosis of Bronchial Asthma. The mean age of the patients of ADHD group and Asthma group was 12.3 years and 13.1 years respectively. While assessing the quality of life score, it was seen that physical domain, emotional domain, social domain and psychosocial domain was significant higher among patients with ADHD. Anand P et al provided a quantitative description of the factors affecting the help-seeking pathway. The average delay from the onset of the illness to first consultation with a qualified health professional was 2.32 ± 1.9 years. Children with an urban background, from a nuclear family, with literate mothers, with a family income of more than Rs. 30,000/month, having hyperactive and combined type of ADHD, and who were referred by school teachers presented significantly earlier. The main source of referrals was school teachers and general medical practitioners. The most common parental beliefs for delay were the views that the "child is naughty" and that "hyperactivity is part of normal growth." Parents' help-seeking behavior is affected by different sociocultural beliefs. Such factors as the lack of recognition and awareness of ADHD, resulting in the delay in seeking treatment should be addressed through health promotion programs.¹⁴ Liu X et al investigate whether intrauterine exposure to maternal asthma or asthma exacerbations increases

the risk of attention-deficit/hyperactivity disorder (ADHD). Using Danish register data, this cohort study comprised of 961,202 live singletons born in Denmark during 1997–2012. Cox regression models were used to evaluate the association between maternal or paternal asthma, asthma exacerbations and offspring ADHD. During 11.4 million person-years of follow-up, 27,780 (2.9%) children were identified as having ADHD. ADHD risk was increased among offspring born to asthmatic mothers (hazard ratio (HR) 1.41, 95% CI: 1.36–1.46) or asthmatic fathers (HR 1.13, 95% CI: 1.08–1.18). Antenatal antiasthma medication treatment did not increase offspring ADHD. However, higher risks were observed among offspring of mothers with asthma exacerbations compared with children of asthmatic mothers with no exacerbations: HR 1.12 (95% CI: 1.00–1.25) for pre-pregnancy exacerbations; 1.21 (95% CI: 1.00–1.47) for exacerbations during pregnancy; and 1.25 (95% CI: 1.08–1.44) for exacerbations after delivery. These results supported theories regarding shared genetic and environmental risk factors having a role in the development of ADHD.¹⁵

CONCLUSION

ADHD is a childhood disorder that can have an equally severe impact on a child's quality of life as a chronic physical illness such as asthma. Treatment for ADHD and a focus on parenting styles can greatly improve the child's quality of life, and clinicians can work on these factors through programs like psychoeducation and parenting skills training to improve patient outcomes and care overall.

REFERENCES

1. International study of Bronchial Asthma and allergies in childhood (ISAAC) Worldwide variations in the prevalence of Bronchial Asthma symptoms. *Euro Respir J.* 1998;12:315–35.
2. Reid J, Marciniuk DD, Cockcroft DW. Bronchial Asthma management in the emergency department. *Can Respir J.* 2000;7:255–60.
3. Gürkan F, Ece A, Haspolat K, Derman O, Bosnak M. Predictors for multiple hospital admissions in children with Bronchial Asthma. *Can Respir J.* 2000;7:163–6.
4. World Health Organization. Bronchial Asthma: scope of the problem. Available from: <http://www.who.int> [last cited on 2005 Aug 23]
5. Singh M, Singh SP, Singh K, Bhatia AS, Kajal NC, Aggarwal D, et al. Prevalence of Bronchial Asthma among school children in urban and rural areas. *Chest.* 2004;126:762S.
6. Mistry R, Wickramasingha N, Ogston S, Singh M, Devasiri V, Mukhopadhyay S. Wheeze and urban variation in South Asia. *Eur J Pediatr.* 2004;163:145–7.
7. Lehti V, Niemelä S, Heinze M, et al. Childhood predictors of becoming a teenage mother among Finnish girls. *Acta Obstet Gynecol Scand.* 2012;91(11):1319–1325.
8. Küppers E, Ivanova T, Karolczak M, et al. Estrogen: a multifunctional messenger to nigrostriatal dopaminergic neurons. *J Neurocytol.* 2000;29(5–6):375–385.
9. Del Campo N, Chamberlain SR, Sahakian BJ, et al. The roles of dopamine and noradrenaline in the pathophysiology and treatment of attention-deficit/hyperactivity disorder. *Biol Psychiatry.* 2011;69(12):e145–e157.

10. Sheppard B, Chavira D, Azzam A, et al. ADHD prevalence and association with hoarding behaviors in childhood onset OCD. *Depression Anxiety* 2010;27:667-74.
11. Zimetkin AJ, Ernst M. Current concept problems in the management of attention deficit hyperactivity disorder. *N Engl J Med* 1999;340:1.
12. Elia J, Ambrosini PJ, Rapoport JL. Treatment of attention deficit disorder. *N Engl J Med* 1999;340:780-8.
13. Felt BT, Biermann B, Christner JG, Kochhar P, Harrison RV. Diagnosis and management of ADHD in children. *Am Fam Physician*. 2014 Oct 1;90(7):456-64. PMID: 25369623.
14. Anand P, Sachdeva A, Kumar V. Pathway to care and clinical profile of children with attention-deficit hyperactivity disorder in New Delhi, India. *J Family Community Med*. 2018;25(2):114-119.
15. Liu X, Dalsgaard S, Munk-Olsen T, Li J, Wright RJ, Momen NC. Parental asthma occurrence, exacerbations and risk of attention-deficit/hyperactivity disorder. *Brain, Behavior, and Immunity*. 2019;82:302–308.

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