APPROACHES IN MANAGING THE PSYCHOLOGICAL AND PSYCHOSOMATIC IMPACT OF PEDIATRIC BRONCHIAL ASTHMA

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Abstract: Bronchial asthma is a chronic respiratory disorder with significant psychosomatic implications, particularly in pediatric patients. This study evaluates the psychological impact of asthma on children's quality of life using validated tools, the Pediatric Asthma Quality of Life Questionnaire (PAQLQ) and Children's Depression Inventory (CDI-2)**.** A cross-sectional study of 26 pediatric asthma patients in Tashkent examined asthma duration, attack frequency, medication adherence, and emotional distress. Statistical analysis revealed a strong correlation between asthma duration and increased anxiety ($r = 0.73$, $p<0.001$) and fatigue ($r = 0.81$, $p<0.001$)**.** Additionally**,** 12 children often and 6 always experience breathing difficulties**,** and 22 report frequent school absences due to asthma symptoms. The findings suggest that pediatric asthma significantly affects psychological well-being, leading to increased stress, social withdrawal, and emotional distress. This study emphasizes the need for integrating psychological interventions such as cognitive-behavioral therapy (CBT), mindfulness techniques, and structured emotional support programs in asthma management. By highlighting the connection between asthma and psychosomatic health, this research supports **a** holistic, multidisciplinary approach for better asthma control and overall well-being.

Keywords: Pediatric Asthma, Quality of Life, Psychosomatic Medicine, Psychological Distress, Cognitive-Behavioral Therapy, Pediatric Mental Health

Purpose of the Study**:** The primary objective of this study is to evaluate the psychological and psychosomatic effects of bronchial asthma on pediatric patients and to determine how emotional distress, anxiety, and social limitations correlate

with disease duration and severity. Additionally, the study seeks to explore the effectiveness of integrating psychological interventions, such as cognitive-behavioral therapy (CBT), mindfulness practices, and structured counseling, into pediatric asthma management. By identifying key emotional challenges faced by asthmatic children, this research aims to advocate for a holistic treatment model that incorporates both medical and psychological support**.**

Introduction: Bronchial asthma is a chronic inflammatory disease of the airways that significantly affects pediatric patients worldwide. It is characterized by recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or early in the morning. According to the Global Initiative for Asthma (GINA), nearly 14% of children globally suffer from asthma, with its prevalence increasing due to environmental pollution, genetic predisposition, and lifestyle factors [1]. The burden of pediatric asthma is especially concerning in developing regions, including Uzbekistan, where limited awareness, underdiagnosis, and inadequate management strategies contribute to poorer health outcomes. Beyond its physical manifestations, asthma has profound psychosocial and emotional effects on children. Studies have shown that children with asthma are at a higher risk for anxiety, depression, and social difficulties, which can negatively affect their overall quality of life [2]. The unpredictable nature of asthma attacks often leads to heightened anxiety and fear, particularly in severe cases where exacerbations may require emergency care [3]. This psychological distress can further result in avoidance behaviors, causing children to limit their participation in physical activities, social interactions, and school attendance. Moreover, feelings of embarrassment or frustration over medication use and physical limitations may lower self-esteem and increase emotional distress. Parental stress and family dynamics also play a significant role in the psychological impact of pediatric asthma. Research suggests that parents of children with severe asthma experience increased anxiety and emotional strain, which can further influence the child’s coping mechanisms and mental health [4].

A strong support system, including parental understanding, peer support, and professional psychological interventions, is crucial in helping children manage their condition effectively. The relationship between asthma severity and psychological well-being has been well-documented in literature. Severe and uncontrolled asthma has been linked to higher rates of depression and emotional distress in children, affecting their cognitive and social development [5]. The bidirectional nature of this relationship suggests that poor asthma control can contribute to mental health issues, while psychological distress may, in turn, exacerbate asthma symptoms through stress-induced airway inflammation and behavioral factors such as poor medication adherence [6]. Several assessment tools have been developed to evaluate the psychological burden of asthma in children. The Pediatric Asthma Quality of Life Questionnaire (PAQLQ) is widely used to measure how asthma affects children's emotions, activity limitations, and daily functioning [7]. Similarly, the Children's Depression Inventory-2 (CDI-2) is an effective tool for assessing depressive symptoms in pediatric patients with chronic illnesses, including asthma [8]. These validated instruments provide a comprehensive evaluation of both physical and emotional aspects of asthma, enabling early identification of psychological distress and the implementation of appropriate interventions. Despite increasing awareness of the psychosocial impact of pediatric asthma, limited research has been conducted on its psychological consequences in children from Uzbekistan. This study aims to address this gap by assessing the emotional distress, social limitations, and quality of life among pediatric asthma patients in Tashkent. By utilizing validated psychological assessment tools, this research seeks to emphasize the need for a holistic approach to asthma management that integrates psychological support alongside medical treatment. The findings may offer valuable insights for healthcare professionals and policymakers, advocating for integrated care strategies that address both the physical and emotional needs of children with asthma.

Methods and Materials: This cross-sectional study included 26 pediatric patients (ages 1–17 years) diagnosed with stage 3 bronchial asthma at a pediatric clinic in Tashkent. Data collection involved structured questionnaires **based on** validated psychological assessment tools: the Pediatric Asthma Quality of Life Questionnaire (PAQLQ) and the Children's Depression Inventory (CDI-2)**.** Variables included asthma duration, frequency of attacks, medication adherence, school attendance, social difficulties, and emotional responses**. Statistical analysis was performed using** SPSS 26.0**, applying** descriptive statistics (mean, standard deviation), Pearson's correlation analysis, and chi-square tests **to evaluate** relationships between asthma severity, psychological distress, and quality of life.

Results and Discussion: **The study revealed** significant psychological and psychosomatic impacts **of asthma on pediatric patients. The** mean asthma duration was 2.3 years (SD ±1.42)**, with** 22 children experiencing 1–2 asthma attacks per month**. Emotional distress was prevalent, with** 18 children (69.2%) reporting frequent worry about worsening symptoms ($M = 1.92$, SD ±0.75, $p < 0.001$) **and** 23 (88.5%) sometimes feeling embarrassed about using an inhaler in public**.** Fatigue was significantly correlated with asthma duration ($r = 0.81$, $p < 0.001$), and anxiety increased with disease severity ($r = 0.73$, $p < 0.001$) (Table 2)**. Nocturnal symptoms disrupted sleep, with** 8 patients (30.8%) often and 4 (15.4%) always waking up at night **due to asthma. School participation was also affected, as** 15 children (57.7%) reported difficulty keeping up with classmates, and 22 (84.6%) missed school sometimes due to asthma-related issues**. These findings indicate that** pediatric asthma significantly impacts quality of life (Table 1, Figure 1, Figure 2), necessitating psychological interventions like cognitive-behavioral therapy (CBT), **structured emotional support, and mindfulness techniques** to improve overall well-being.

Conclusion: This study demonstrates that **pediatric asthma significantly affects emotional well-being, social interactions, and school participation**,

emphasizing the need for **integrated medical and psychological care**. Statistical evidence supports a strong correlation between **asthma duration and increased anxiety and fatigue**, highlighting the importance of early psychological intervention. To improve asthma outcomes, **cognitive-behavioral therapy (CBT), mindfulness training, and structured counseling** should be incorporated into treatment plans. A **holistic, multidisciplinary approach**—combining **respiratory care with mental health support**—can enhance overall well-being and **reduce the psychosomatic**

burden on children with asthma. Further research on **long-term psychological interventions** is recommended to develop more **comprehensive asthma care models**.

Table 1: Descriptive Statistics of Study Variables

Variable	**Mean (M)**	**Standard deviation (SD)**	**p-value**
Asthma duration	**2.3**	**±1.42**	**-**
Frequency of attacks (per month)	**1.85**	**±0.76**	**-**
Emotional distress (worry)	**1.92**	**±0.75**	**<0.001**
Fatigue	**1.38**	**±0.69**	**<0.001**
Social limitation	**1.08**	**±0.72**	**<0.05**
School Absence	**1.46**	**±0.81**	**<0.05**

Significance level: $p<0.05$, $p<0.001$

Table 2: Correlation Analysis (Pearson's r)

Variable 1	**Variable 2**	**Correlation coefficient (r)**	**p-value**
Asthma duration	Anxiety	0.73	<0.001
Asthma duration	Fatigue	0.81	<0.001
Asthma severity	School absence	0.52	<0.05

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