

Research Paper



The effect of asthma on the quality of life in children

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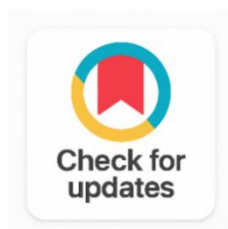
Allergic Rhinitis

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ABSTRACT

Background: Asthma is one of the more frequent long-term respiratory problems around the world, it causes lots of sickness and even mortality in every age group, but it feels harsher during childhood.**Objective:** To look at and sort through how asthma affects quality of life in children who are under 13 years old.**Methods:** We did a case control study, across several hospitals in Iraq from 18 March 2021 to 24 July 2022. 65 pediatric patients, all under 13 years, were included. They were placed into a patient group and a control group. The data was collected then analyzed and interpreted with SPSS statistical software, yes.**Results:** The symptom load-like chest tightness, cough, and trouble breathing-seemed to slow recovery and also raise asthma risk among the affected children. Also, complications were not just present, they were significantly harder to control in the asthmatic pediatric group than in the controls. Kids with high obesity showed more vulnerability to asthma, roughly 70% had increased risk that stayed even through childhood and adolescence.**Discussion:** Coexisting conditions, such as allergic rhinitis, atopic dermatitis, and obesity were taken as key factors that worsen asthma severity. Improper inhalation technique was also noted as a multivariate predictor for poor asthma outcomes, and this was especially visible in children with higher obesity indices, compared to the control group.**Conclusion:** Obesity, along with coexisting comorbidities and incorrect inhaler use, are major predictors linked to asthma susceptibility and also to worse disease control in children under 13 years old. Spotting these issues early, and then doing targeted, practical management for the modifiable risk factors, could lessen the overall asthma burden and help improve quality of life for children through adolescence.

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1. INTRODUCTION

A breathing disorder called asthma is characterized by episodes of bronchial spasms that make it difficult to breathe. Typically, an allergic response or other types of hypersensitivity are involved [1]. The International Health Organization (WHO) estimated that 339 million people worldwide suffer from asthma. Asthma is one of the most frequent pediatric disorders among American children, ranging from 16% in Greece to 30% throughout European [2], [3]. According to a recent study, the total prevalence of asthma in American children under the age of 15 was 13.9% (95% CI 9.6-18.3) [4].

By limiting pre-inflammatory environmental exposures, utilizing daily anti-inflammatory medications, and managing the condition of the start of the disease that aggravates asthma, asthma can be managed to reduce inflammation of the airway. Less inflammation often results in improved asthma management, with fewer attacks and a need for fast-acting asthma drugs, but attacks still occur. Systemic corticosteroids administered early may significantly lessen the severity of such episodes. Everyone may live normally now because to advancements in asthma management, particularly in pharmacotherapy, with the exception of children with severe asthma [5], [7], [8].

A prevalent chronic illness with a substantial etiology is asthma. Over ten million children (14 percent of all-American children) had asthma diagnoses in 2011, and 70 percent of this group have asthma in 2015. Male gender and living in poverty are risk factors in childhood asthma: 18% of all children lived in low-income homes compared with 12% of children that were not poor, and 15% of males had asthma comparing to 13% of girls [9], [10], [11], [12].

Numerous studies in European nations have revealed a prevalence of childhood asthma of about 50%. Overall, there are significant regional differences in the frequency of pediatric asthma. An extensive range of present outbreaks among 6-7-year-old (2.4 to 27.6%) as well as 13-14-year-old children (from 0.8 until 32.6%) was found in significant worldwide research on the prevalence of childhood asthma, which included 233 centers from 97 countries (worldwide research of allergies and asthma in Childhood, Phase 3) [13], [14], [15], [16], [17]. This paper aims to study and analyze the effect of asthma on the quality of life in children.

2. METHODOLOGY

This paper studied and analyzed the effect of asthma on the quality of life in children with ages under 13 years were divided into two groups to patients and controls. The data collected were got on patients with 65 cases from 18th March 2021 to 24th July 2022 in different hospitals in Iraq. The collected data were estimated and designed by the SPSS program.

To progress of data methodology, this paper was examined the demographic characteristics of asthma for children based on age and sex as well as symptoms where have Chest tightness, coughing, Difficulty breathing, Shortness of breath, and Whistling noise when breathing which can find in Table 1 and Table 2 as well as Table 3. To follow up of the data methodology, this study was examined the BMI of asthma for children in between <24.6 and >24.6 where this can be determined in Table 4.

To further of outcomes, this study was estimated of comorbidities into children's patients with asthma, which are allergic rhinitis, sinusitis, atopic dermatitis, gastroesophageal reflux, food allergy,

obesity, obstructive sleep apnea, psychological where these results can be seen in Figure 1. This study was also estimated of drug adherence in children's patients with asthma with yes or no that have been found in Figure 2. Moreover, this study was supported through the Inhaler techniques with children's patients with asthma, which include appropriate and inappropriate where these outcomes can be cleared in Figure 3. As well as this study was determined post-operative complications outcomes in compare between patients and control asthma in comparison between patients group and control group include constant fatigue, frequent leave from work or school, increased mucus production, respiratory failure, and severe chest pain where these results can be found. Besides that, this paper was presented participated with patients that clarify into treatments used for children's patients with asthma, which include Inhalational Steroids, Montelukast, and Stepped down and off, that can be found in Table 5. Furthermore, this paper was assessed of multivariable regression outcomes in compare between patients and controls with asthma, which are allergic rhinitis, sinusitis, obesity, Chest pain, Appropriate, and Inappropriate, where these outcomes can be determined in Table 6.

3. RESULTS AND DISCUSSION

Table 1. Distributions of Asthma for Children Based on Age

N	V	65
	Mi	0
M		7.0000
StEM		.46771
Me		7.0000
Mo		1.00 ^a
SD		3.77078
Var		14.219
Ske		.000
SES		.297
R		12.00
Min		1.00
Max		13.00
S		455.00

Table 2. Distributions of Asthma for Children Based on Sex

		Freq	P (%)	VP (%)	CP (%)
V	Female	23	35.4	35.4	35.4
	Male	42	64.6	64.6	100.0
	T	65	100.0	100.0	

Table 3. Distributions of Asthma for Children Based on Symptoms

		Freq	P (%)	VP (%)	CP (%)
V	Chest tightness	11	16.9	16.9	16.9
	coughing	18	27.7	27.7	44.6
	Difficulty breathing	6	9.2	9.2	53.8
	Shortness of breath	10	15.4	15.4	69.2
	Whistling noise when breathing	20	30.8	30.8	100.0
	T	65	100.0	100.0	

Table 4. Distributions of Asthma for Children Based on BMI

	Freq	P (%)	VP (%)	CP (%)
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V	>24.6	45	69.2	69.2	69.2
	<24.6	20	30.8	30.8	100.0
	T	65	100.0	100.0	

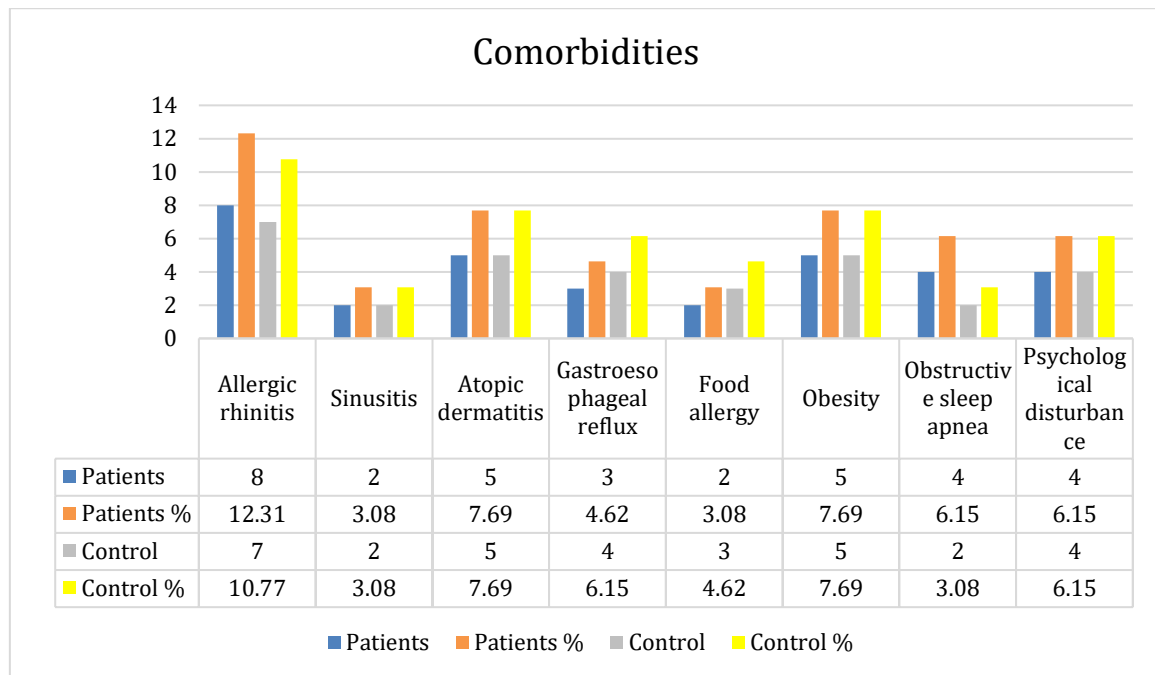


Figure 1. Estimations of Comorbidities into Children's Patients with Asthma

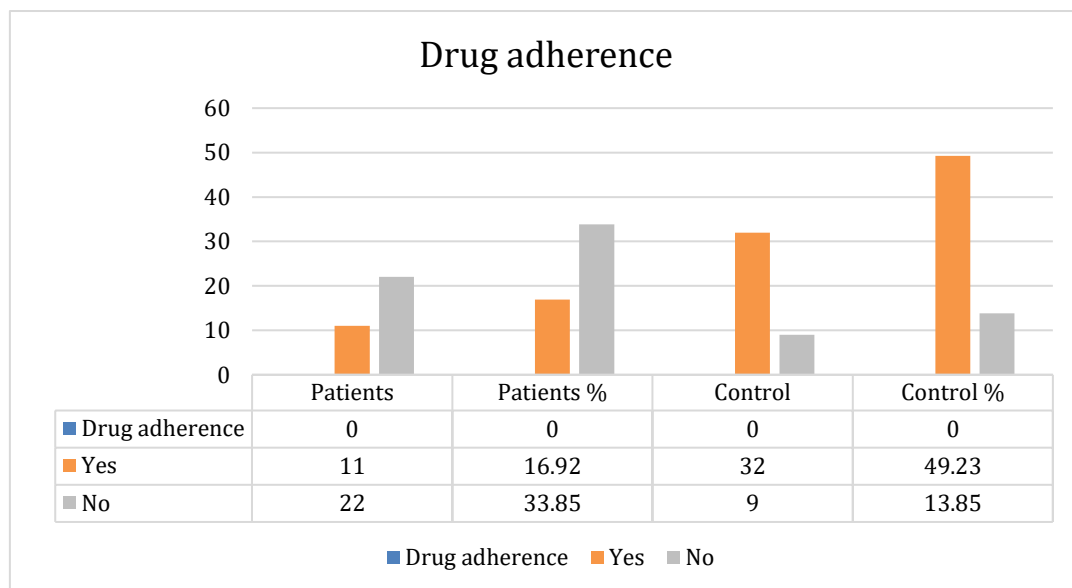


Figure 2. Estimations of Drug Adherence into Children's Patients with Asthma

Table 5. Treatments Used for Children's Patients with Asthma

		Freq	P (%)	VP (%)	CP (%)
V	Inhalational Steroid	44	67.7	67.7	67.7
	Montelukast	14	21.5	21.5	89.2
	Stepped down and off	7	10.8	10.8	100.0
	T	65	100.0	100.0	

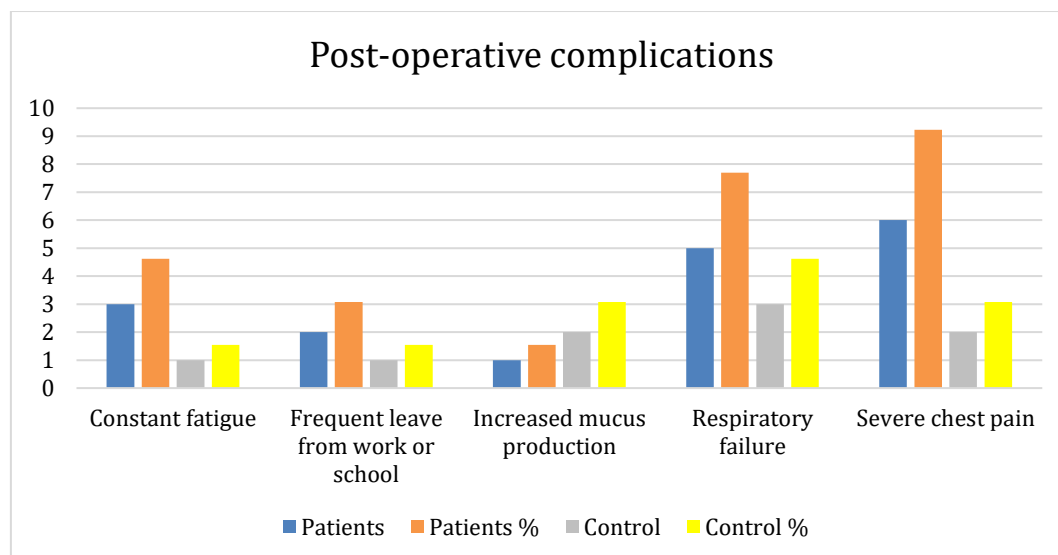


Figure 3. Post-Operative Complications Outcomes in Compare Between Patients and Controls Asthma

Table 6. Assessment of Multivariable Regression Outcomes in Compare between Patients and Controls Asthma

Categories Basics	Asthma Control/ Patients' Group	Asthma Control/ Controls Group	COR (95% CI)	P-Value
allergic rhinitis	35%	65%	1.64 (0.88-4.83)	0.486
sinusitis	57%	43%	3.21 (2.55-6.57)	0.053
obesity	25%	75%	4.55 (3.11-8.47)	0.0066
Chest pain	64%	36%	5.28 (2.88-8.53)	0.00113
Appropriate	60%	40%	1.75 (0.52-5.68)	0.438
Inappropriate	47%	53%	4.176 (1.63-13.66)	0/0388

3.1. Discussion

Compared to our study, previous studies found that allergic conditions had a high and significant effect on asthma control, which indicated that the Saudi and Australian studies indicated that lack of adherence to medications, as well as inhalation techniques, may be inappropriate in the case of increased uncontrolled asthma in sick children [18], [19].

Moreover, our study noted that the factors associated with allergic rhinitis and dermatitis, as well as obesity, do not predict the presence of asthma control in a special group of children who suffer from obesity resulting from a genetic condition as well as immunological conditions on the patient group, and with less variation in control patients. They have obesity as well as allergic rhinitis and dermatitis, at a lower risk than the patient group.

Current results showed that males were more susceptible than females, as it was found that the percentage of males recruited was 42, which represented 64.6% of patients, compared to females, which found 35.4%. Moreover, this study showed that children with a BMI above 24.6 had 45 medical conditions compared to children with a BMI below 24.6.

In addition, our study noted that chest tightness, coughing, and difficulty breathing affect the difficulty of recovering from asthma patients, which increases the risk of developing asthma. With regard to complications, our study found that most of the complications were found to be difficult to control in asthmatic patients of the pediatric patients' group compared to the control group [20].

In addition, this study noted the results of comorbidities, where we found that allergic rhinitis (12.31%) 8 and atopic dermatitis 5 (8%) where the most influential factors were found on the patients' group compared to the control group.

In evaluating the results of multivariate regression in the comparison between patients and control asthma, our study found that allergic rhinitis, obesity, and inappropriate have a lower proportion of control asthma patients compared to the control group, and this is what our study timed that children with high obesity may reach BMI Older than 30, you are more likely to develop asthma, which increases the risk of respiratory arrest and chest pain

4. CONCLUSION

In conclusion, the current results show that 70% of children with high obesity may be more susceptible to asthma than those with less obesity, than they may be at constant risk during childhood and adolescence. In addition, this study found comorbidities such as allergic rhinitis, atopic dermatitis, and obesity, as well as inappropriate and successful inhalation techniques for multivariate predictors of asthma performed in patients with high obesity over the control group, which had less obesity.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Dr. Tariq Khudair Hussein	✓	✓	✓	✓		✓		✓	✓	✓	✓			
Dr. Mustafa Khalil Hussein	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Dr. Mohammed Shareef Odhaib Altaher		✓	✓	✓	✓			✓	✓	✓	✓			

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

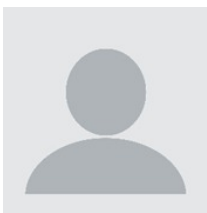
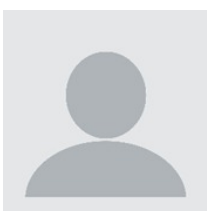
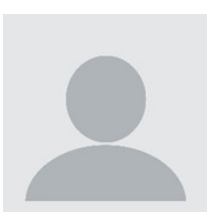
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