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The Effect of Asthma on the Quality of Life in Children

Dr. Tariq Khudair Hussein[1*], Dr. Mustafa Khalil Hussein[2], Dr. Mohammed Shareef Odhaib Altaher[3]

[1]Assistant Professor M.B.Ch.B., C.A.B.P., F.I.C.M.P. (Pediatrics) Ministry of Higher Education and Scientific Research, Department of Pediatrics, College of Medicine, University of Thi-Qar, Thi-Qar, Iraq.*
[2]M.B.Ch.B., C.A.B.P., F.I.C.M.S. (Pediatrics) Iraqi Ministry of Health, Kirkuk Health Department, Pediatric General Hospital, Kirkuk, Iraq.
[3]M.B.Ch.B., M.Sc., D. Resp. Med. (Pulmonologist) Iraqi Ministry of Health, Al-Rusafa Health Directorate, Al-Rusafa Pulmonary and Chest Diseases Specialized Clinic, Baghdad, Iraq.

Email: [2]Mustaphak79@gmail.com, [3]altaherm79@yahoo.com
Corresponding Email: [1]tarek.kh@utq.edu.iq*

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Abstract: Background: Asthma is one of the most prevalent respiratory disorders, causing considerable morbidity and death among people of all ages.
Objective: This paper aims to study and analyze the effect of asthma on the quality of life in children.
Patients and methods: 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.
Discussion: 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.
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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Keywords: Asthma, Allergic Rhinitis, Obesity, Inappropriate.

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. [5-8]

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. [9-12]

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). [13-17]. This paper aims to study and analyze the effect of asthma on the quality of life in children.

2. MATERIAL AND METHOD

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.

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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 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 in Figure 4. 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

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	

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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 (%)
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

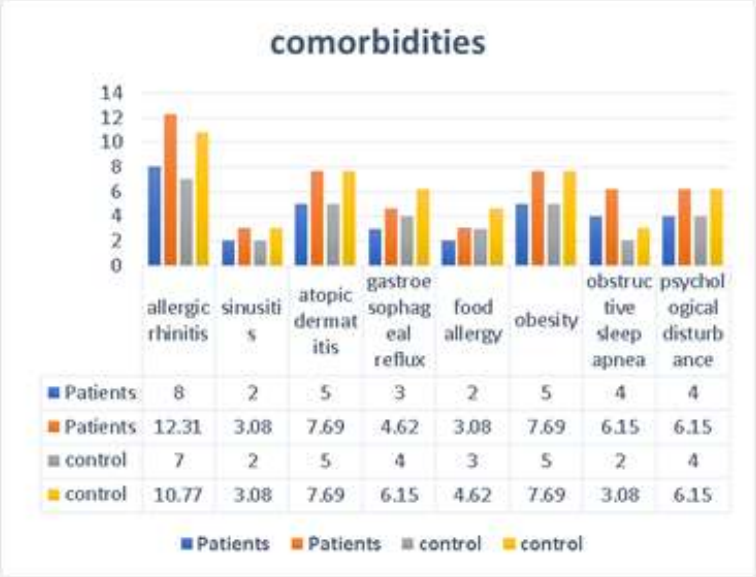

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Figure 2: Estimations of drug adherence into children's patients with asthma.

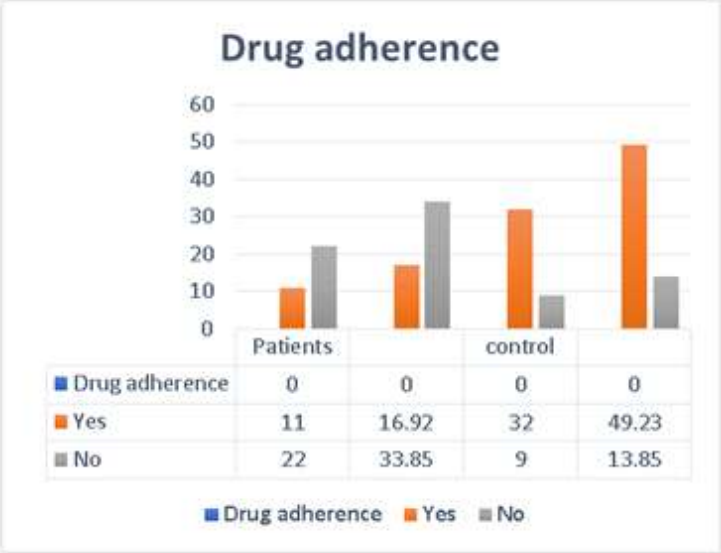

Table 5: Treatments used for children's patients with asthma.

		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 4: Post-operative complications outcomes in compare between patients and controls asthma.

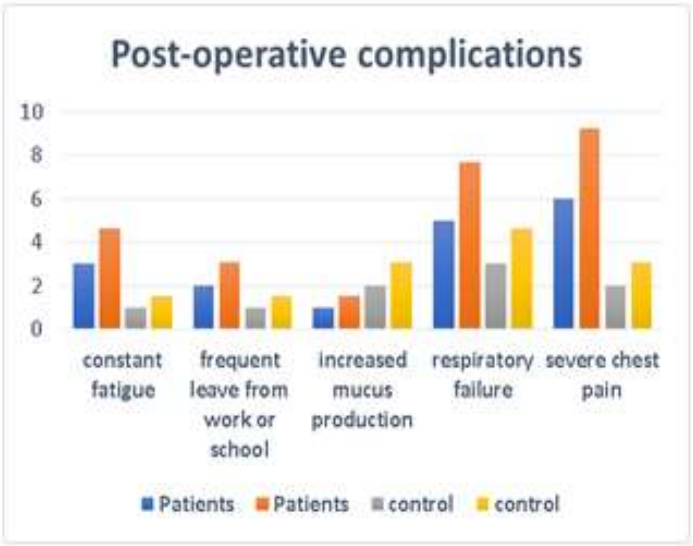

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Table 6: Assessment of multivariable regression outcomes in compare between patients and controls asthma.

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**

4. 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

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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

5. 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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