

*Research Article*

## Perception and behavior of parents about the health of their children with bronchial asthma in El-Minia University hospital.

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### Abstract

**Background:** Bronchial Asthma among children is an important health problem in Egypt. Perception and behavior of Parents affect greatly the management of their diseased children. The education of affected children and their parents is very important for realistic follow up and good management process. **The aim of the work:** Assessment of Perception and behavior of parents about the health of their children with bronchial asthma in El-Minia, and analyze how knowledge and attitudes related to healthcare practices. **Methods:** Our study includes the parents of 200 children aging 2–14 years diagnosed as asthmatic patients attending outpatient clinics and department of pediatrics in El-Minia University hospital from May 2017 to August 2017. By using a well-constructed questionnaire we collect the data of the study. The questionnaire score was 30 points totally 13 points for knowledge, 7 points for attitudes and 10 points for practices. **The result:** The average score of knowledge was  $5.58 \pm 2.11$  and 19% of the parents have more than 8 points score. (64%) of parents knew that asthma is a chronic inflammation induced by allergens. Parent attitude average score was  $4.97 \pm 2.013$  and (80%) of the parents scored more than 4 points. (85%) of children, parents think that the child can practice sports when the asthma was medically controlled. About practice, the score was average  $6.17 \pm 1.56$  and 65% of asthmatic children Parents scored more than 6 points. (66%) of asthmatic children had done tests for allergens, and 66% had done pulmonary function tests. Regarding monitoring, 75% of asthmatic children parents take the child to the doctor regularly. Asthmatic Children Parents knowledge about asthma were associated with regular physician visits, pulmonary function testing, avoidance of bronchial asthma precipitating factors, regular use of inhaled corticosteroids and bronchodilators. Asthmatic children parents attitudes were significantly associated with regular doctor visits, doing tests for allergens, pulmonary function tests, regular use of inhaled corticosteroids and bronchodilators. A positive parent attitude leads to better practices. Food allergy, rhinitis, regular doctor visits, the frequency of doctor visits and parent education were associated with positive scores of knowledge, attitude, and practice of asthmatic Children Parents. **Conclusions:** In the present study, we identified a strong relation between parent perception, and behavior. The results showed that proper health education programs and pediatrics doctor advice about bronchial asthma increases the perception of asthmatic Children Parents and improve the practice of them in follow up and treatment process.

**Keywords:** Asthma, Perception, behavior, parents, children, El-Minia University hospital.

### Introduction

Bronchial Asthma among children is an important health problem in Egypt. Perception and behavior of Parents affect greatly the management. The education of affected children and their parents is very important for realistic follow up and good management process. Bronchial Asthma is a common chronic pulmonary disease

among children. This disease is an inflammation which increases airways responsiveness induces obstruction, mucus overproduction, and airway deformation, Cough attacks, and dyspnea in patients with asthma increased by factors such as dust, exercise, smoking, and air pollution.<sup>[1]</sup> Repeated students absence from school occurs among children with asthma and this

leads to frequent doctor visits and hospitalizations among children<sup>[2]</sup>. Bronchial asthma carries a high burden for the children, and the community<sup>[3]</sup>.

Healthcare of bronchial asthma includes regular follow up and control of the attacks and the prevention of recurrences.<sup>[4]</sup> Many children with bronchial asthma may go without treatment,<sup>[5]</sup>. There is a great distance between suggested practice and what already done, due to the lack of adequate asthma-related knowledge<sup>[6]</sup>. Health education for asthmatic Children Parents rises their perception, and behavior about bronchial asthma and improves the health care of the patients<sup>[1,7]</sup>. Knowledge about bronchial asthma includes information about the pathology of the disease, treatment, and prevention<sup>[8]</sup>. The confidence and positive relationships with physicians lead to a good attitude of parents<sup>[9]</sup>. The positive behavior of the parents leads to perfect follow up and treatment of cases<sup>[10]</sup>.

Improvement of management process of asthmatic children needs, a good assessment of asthmatic children Parents KAP. A cross-sectional hospital-based study was done among asthmatic children Parents in El-Minia University hospital from May 2017 to August 2017.

## Methodology

### Study questionnaire and ethical consideration

The study was a hospital based cross sectional study. We use a well-constructed questionnaire; consisted of different questions including a parent's personal information, disease condition of the child, knowledge of the parents, their attitude and behavior. The approval of the Medical Ethics Committee was taken for the study and verbal consent taken from the asthmatic children parents after giving them sufficient information about the study.

Our study included 200 children with asthma aged 2–14 years attending outpatient clinics and department of pediatrics in El-Minia University hospital from May 2017 to August 2017.

### Management and Statistical analysis of the data

The data of the present study were collected and the Statistical analysis of the data was done by using version 20 of the SPSS program (statistical package for social science).

### The results of the study:

We filled totally, 200 questionnaires. There were 130(65%) male children the females were 70(35%). The average age was  $7.20 \pm 3.09$  years, (34%) of them gave a positive past history of food allergy, (56%) of them gave a positive past history of rhinitis. There was a positive family history of asthma in (28%) of them. The scoring average of KAP was  $18.22 \pm 4.01$ . Less than 18 points (fourth level) was 51%, From 18 to 20 points (third level) was 29%, the second level (21–24 points) 18%, and the highest level (> 24 points) 2%.

### Children Parents asthma-related knowledge

The average score of knowledge was  $5.58 \pm 2.11$  and 19% of the parents have more than 8 points score. (64%) of parents knew that asthma is a chronic inflammation induced by allergens. 6% of the parents knew that repeated wheezing, coughing respiratory infections more than 6 times in the year indicates asthma. More than half (65%) had the knowledge of wheezing repetition more than three times indicates asthma. 23% of the parents known that bronchial asthma may be presented by a chronic cough, dyspnea There was a low level of knowledge about asthma and its clinical manifestations among children Parents.

### The attitude of asthmatic Children Parents

Parent attitude average score was  $4.97 \pm 2.013$  and (80%) of the parents scored more than 4 points. (85%) of children, parents think that the child can practice sports when the asthma was medically controlled, and 60 % believed that children with asthma could exercise like healthy children. However, 34% of parents would allow their children to participate in minor sports only. About the regular use of corticosteroids inhalers, 67% of parents think that there are negative effects on children's growth, 40%

anxious about drug dependence. Regarding access to asthma knowledge, 80% of asthmatic children parents take their information from pediatrics doctor.

**The behavior of asthmatic Children Parents**

About practice, the score was average  $6.17 \pm 1.56$  and 65% of asthmatic children Parent scored more than 6 points. (66%) of asthmatic children had done tests for allergens, and 66% had done pulmonary function tests. Regarding monitoring, 75% of asthmatic children parents take the child to the doctor regularly. Most parents avoid smoking exposure to children (91%). Many (80%) of them keep their child regular on their medical treatment, of which 77% adhered to the correct use of inhaled corticosteroids. In addition, 19% of parents give antibiotics, anyway with or without infection.

**Influence of asthmatic children parents knowledge and attitudes on practices**  
Asthmatic children parents knowledge

about asthma was associated with regular physician visits, pulmonary function testing, avoidance of bronchial asthma precipitating factors (like smoke and dust), regular use of inhaled corticosteroids and bronchodilators. This is shown in Table 1.

Table 2 shows that asthmatic children parents attitudes were significantly associated with regular doctor visits, doing tests for allergens, pulmonary function tests, regular use of inhaled corticosteroids and bronchodilators. A positive parent attitude leads to better practices.

Table 3 shows statistical analysis using logistic regression for the independent variables which are the education of asthmatic children parents, the income of family per month, past history of food allergy, allergic rhinitis, and positive family history of bronchial asthma. Food allergy, rhinitis, regular doctor visits, the frequency of doctor visits and parent education were associated with positive scores of knowledge, attitude, and practice of asthmatic children parents.

**Table 1: The effect of asthmatic children parents knowledge on healthcare behavior in El-Minia University hospital from May 2017 to August 2017.**

	chi-squared test,	Significance.	Odds ratio	Confidence Interval 95%	
lung function assessment	9.106	0.003	1.417	1.131	1.774
Regular doctor visit	19.615	0.001	1.783	1.379	2.037
peak flow meter follow up	2.953	0.001	5.924	4.770	7.356
Avoid passive smoking	17.275	0.001	4.885	2.141	11.151
Bronchodilators inhalation	36.451	0.001	2.115	1.537	2.331
Regular medical treatment	46.806	0.001	3.412	2.356	4.935

**Table 2: The effect of asthmatic children Parents attitudes on practices in El-Minia University hospital from May 2017 to August 2017.**

	chi-squared test,	Significance.	Odds ratio	Confidence Interval 95%	
Tests for allergens	5.178	0.021	1.363	1.046	1.781
lung function assessment	5.923	0.012	1.390	1.068	10809
Regular doctor visit	55.837	0.001	2.585	2.003	3.336
peak flow meter follow up	23.399	0.001	2.473	1.697	3.604
Avoid passive smoking	7.768	0.003	1.933	1.209	3.091
Bronchodilators inhalation	21.361	0.002	2.116	1.532	2.922
Regular medical treatment	3.865	0.001	11.303	8.536	14.967

**Table 3: Factors associated with asthmatic children parents KAP scores in El-Minia University hospital from May 2017 to August 2017.**

	B	S.E	Wald test	Significance.	Confidence Interval 95%	
<b>Parent education</b>	0.389	0.061	43.896	0.001	1.315	1.652
<b>Past history of food allergy</b>	0.230	0.105	4.933	0.029	1.030	1.536
<b>Allergic Rhinitis</b>	0.595	0.104	34.130	0.001	1.485	2.209
<b>Regular doctor visits</b>	0.913	0.290	10.053	0.002	1.418	4.365
<b>Frequency of review</b>	0.158	0.076	4.464	0.036	1.014	1.350

### Discussion

Bronchial asthma guidelines for prevention and treatment stated that the classification of asthma treatment standard is very important in the management process<sup>[14]</sup>. Our study showed that asthmatic children parents had an extensive gap between suggested practices and what already done by the parent and insufficient knowledge about bronchial asthma leads to deficiencies in the management. There was a study found that a lack of knowledge about asthma and unsuitable managing are risk factors for asthma fatality. This study found a direct association between of asthmatic children parents knowledge and prevention of asthma and behavior in managing process<sup>[12]</sup>

Health Education for of asthmatic children parents is fixed in developed countries<sup>[13]</sup>. The health system in Egypt and especially El-Minia governorate is not perfect so there is a lack in health education programs for asthmatic children parents.

### Children Parent asthma-related knowledge

In our study, (51%) of asthmatic children parents had a score less than 18 which indicates a lack of perception and behavior among them. A study was done in Beijing, 2009, gave a Similar results (64%) of the of asthmatic children Parents in our study knew the nature of asthma<sup>[14]</sup>. An Indian study found that the majority of subjects (54%) were not aware of the nature of bronchial asthma<sup>[15]</sup>. However, 18% of asth-

matic children Parents in our study correctly answered more than 60% of the questions in the questionnaire.

There were many Studies found that bronchial asthma leads to a chronic cough in children<sup>[16,17]</sup>. Cough Variant Asthma is a special type of bronchial asthma presented only by a cough<sup>[1,18]</sup>. Cough Variant Asthma is presented by a persistent cough, reduced expiratory flow rate and resolved by bronchodilators<sup>[19]</sup>. the present study found that (23%) of asthmatic children parents perceived that bronchial asthma can be presented by a chronic cough. Asthmatic children parents, knowledge is deficient in our study, with a lack of awareness of the manifestations of bronchial asthma and the initiators of asthmatic attacks. A study done in the United States, found that patients with bronchial asthma had little knowledge about bronchial asthma with 50% of subjects answering correctly more than 50% of the questionnaire<sup>[20]</sup>.

The parents of asthmatic children should be educated about the initiators of the bronchial asthma attack, and the importance of repeated lung function testing, and regular treatment.<sup>[21]</sup> A study, done among 115 parents of asthmatic children parents in Head Start Centers received an education program about bronchial asthma its results showed that the education improved the knowledge about bronchial asthma and 98.4% of the asthmatic Children Parents had a positive practice in managing process<sup>[22]</sup>.

### The attitudes of asthmatic Children Parents

The present study found that about one-third of asthmatic children parents allowed light sport practice to the children. A study showed that children on regular treatment can practice sport, and have good physical fitness,<sup>[23]</sup> 67% of parents stated that there are steroid inhalers side effects on children's growth. Although this, many research studies found that steroid inhalers have not these side effects<sup>[24,25]</sup>. Perception of asthmatic children Parents taken from communication with pediatrics doctors and this help in managing process<sup>[26]</sup>. A study done in the United States found that the asthmatic children Parents who obtain a paper of plan of action from doctors can offer a good healthcare for the child with status asthmatics<sup>[27]</sup>.

### The practices of asthmatic Children Parents

In this study, we found that the situation is good regarding asthmatic children doing pulmonary function tests and it is inferior regarding regular checking up. A research study found that asthmatic children with a past history of allergic rhinitis have double the risk of bronchial asthma<sup>[28]</sup>. Other studies found that allergy of respiratory tract should be treated by combined treatment regimen. Repeated regular education programs for asthmatic children parents are very important, and referral system and advanced investigation are essential for perfect managing process<sup>[29][30]</sup>.

### Conclusions

In the present study, we identified a strong relation between parent perception, and behavior. The results showed that proper health education programs and pediatrics doctor advice about bronchial asthma increases the perception of asthmatic children parents and improve the practice of them in follow up and treatment process.

### Recommendations

Further investigations required to develop an asthma-related education program for parents. We recommend that health education of asthmatic children parents is very essential in the follow-up and the

managing process of the diseased children with bronchial asthma. Also, this will help in the prevention and control of status asthmatics attacks.

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