

# Knowledge and Attitude of Care-Givers about Their Children S Bronchial Asthma in Taif Region KSA

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**Abstract:** ***Background:** Asthma is a serious global health problem; proper management of bronchial asthma of children requires attention to the behavior of mothers of asthmatic children, which is much effected by their knowledge about bronchial asthma in general. **Objective:** The aim of our work was to study the knowledge and attitude of care-givers of children with bronchial asthma in Taif region. **Methods:** (104) Care giver of asthmatic children were interviewed from in-patients and pulmonology clinic of Taif children hospital over one year period (1 November 2015- 31 October 2016). The Arabic version of the Chicago Community Asthma Survey was applied, which collects data in 2 domains-knowledge (10 items) and attitude (4 items) from care-givers of asthmatic children. **Results:** Our result Showed that the majority of care- givers 86(82.7%) their knowledge concerning asthma was fair, meanwhile only 6(5.8%) was good, and 12 (11.5%) had poor knowledge. Although their mean asthma knowledge score was high (68.94 ± 11.82), the majority had lake of knowledge concerning the diagnosis of bronchial asthma and its chronicity, reflecting its perception of being stigmatizing. Moreover majority 63.5% (66/104) of responders believed that the asthmatic child should not be permitted to play sports. Thus sustained efforts are required from health providers to spread knowledge about aspects of asthma, and public health education programs are needed to dispel myths and misconceptions, thus trying to eliminate stigma in community regarding bronchial asthma.*

## 1. Introduction

Asthma is a serious global health problem affecting all age groups, its prevalence is increasing in many countries, especially among children.<sup>(1)</sup> It is the commonest chronic illness of childhood and accounts for more school absenteeism than any other chronic illness.<sup>(2)</sup> It is characterized by symptoms of reversible airflow obstruction, and bronchospasm.<sup>(3)</sup> Symptoms include episodes of shortness of breath, wheezing, coughing, and chest tightness. These episodes may occur a few times a day or a few times per week.<sup>(4)</sup>

Intensified asthma public health concern was secondary to its increase prevalence, morbidity and mortality.<sup>(5)</sup> In China 2000, asthma affected an estimated 0.12–3.34% of children (aged 0–15), with a wide range of associated school absenteeism, ambulatory visits and hospitalizations among children, and high health costs.<sup>(6)</sup> In Dammam, and Riyadh Saudi Arabia, the reported prevalence of asthma ranges from 7% to 12% respectively.<sup>(7,8)</sup> Among urban schoolboys of Abha, a prevalence of 9% was found.<sup>(9)</sup> In Aseer region KSA a recent community based study revealed a prevalence of bronchial asthma of 6.9% in a high altitude area and 19.5% at sea level.<sup>(10)</sup>

Proper management of bronchial asthma of children requires attention to the behavior of mothers of asthmatic children, which is much effected by their knowledge about bronchial asthma in general. Studies<sup>(11,12)</sup> had shown that basic misconceptions about the illness and drug treatment understood by mothers, interfered with drug compliance for their asthmatic children. Thus the aim of our work was to

study the knowledge and attitude of care-givers of children with bronchial asthma in Taif region.

## 2. Methods

### Sample

With an anticipated population proportion of 10%, and an absolute precision of 5% at 95% confidence interval, the minimal sample size required for the study was calculated to be 100 participate.<sup>(13)</sup>

### Data collection

The target population were care-givers of children who were consecutively admitted with bronchial asthma to the department of pediatrics, or following with their asthmatic children in the pulmonology clinic of Taif Children Hospital over one year period (1 November 2015- 31 October 2016).

During their child's stay in the hospital or attending pulmonology clinic, the care-giver were invited to participate in the study and their informed consent was obtained. The response rate was 90.0%. Trained, Arabic-speaking nurses interviewed the care-giver accompanying the patient who agreed to participate and completed the questionnaire. On average, each interview lasted for 10–15 minutes.

Inclusion criteria: 2- 12 y old children diagnosed with bronchial asthma

Exclusion criteria: Children with chronic illness, on therapy for tuberculosis, bronchiectasis, and cardiac diseases were excluded from the analysis, or who refused to participate in the study

### Study instrument

Background data were also collected about, source of data, sex, age of the child, duration of bronchial asthma. The Arabic version of the Chicago Community Asthma Survey<sup>(14)</sup>, which had previously been tested and validated in a community-based study in Egypt<sup>(15)</sup> and a hospital based study in Aseer region KSA.<sup>(16)</sup> was applied

The questionnaire collects data in 2 domains-knowledge (10 items) and attitude (4 items) from care-givers of asthmatic children. Knowledge questions consist of dichotomous items (true/false or Don't know), which measure information related to symptoms, mechanisms, aggravating factors, treatment and complications of bronchial asthma.

Attitude questions consist of dichotomous items (true/false) and measure care-giver attitude towards asthma and its treatment

### Analysis

Data were analyzed using SPSS PC.

Mothers knowledge items were given scores (1-10), the total percentage score was calculated then classified as follows

- <60% = Poor Knowledge
- 60% - 80% = Fair Knowledge
- > 80% = Good Knowledge

## 3. Results

Table (1) showing that a total of (104) cases were enrolled for the study and the interview was completed. Fathers were the respondents in 28 (26.9%) of cases, mothers in 57 (54.8%), brothers in 8 (7.7%), others constituted only 11 (10.6%). While in 47 (45.2%) of cases the duration of disease was less than 5 years, 57 (54.8%) their duration was five years or more. Fig (1) showing that amongst asthmatic children, 46 (44.2%) were boys and 58 (55.8%) were girls, their age ranged from 18 months to 14 years.

**Table 1:** Distribution of the studied cases according to demographic data (n=104)

	No. (%)
<b>Sex</b>	
Male	46(44.2%)
Female	58(55.8%)
<b>Child age (years)</b>	7.0 (1.50 – 14.0)
< 7	44(42.3%)
≥ 7	60(57.7%)
<b>Duration of disease (years)</b>	5.0 (0.42 – 12.0)
< 5	47(45.2%)
≥ 5	57(54.8%)
<b>Source of information</b>	
Mother	57(54.8%)
Father	28(26.9%)
Brother	8(7.7%)
Other	11(10.6%)

Qualitative data were described using number and percent. Abnormally distributed data was expressed using Median (Min. – Max.)



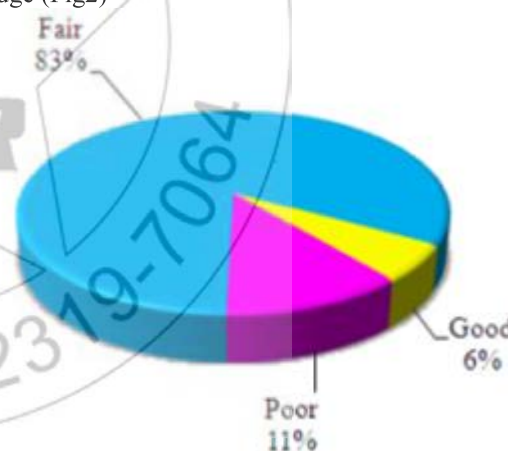
**Figure 1:** Distribution of studied sample according to their sex

**Table 2:** Distribution of the studied cases according to knowledge score (n=104)

Knowledge	No	%
<60% (Poor)	12	11.5
60% - 80% (Fair)	86	82.7
> 80% (Good)	6	5.8
Mean ± SD	68.94 ± 11.82	

Qualitative data were described using number and percent

Table (2) Showing that the majority of care-givers 86 (82.7%) their knowledge concerning asthma was fair, meanwhile only 6 (5.8%) was good, and 12 (11.5%) had poor knowledge (Fig2)



**Figure 2:** Distribution of the studied cases according to knowledge score (n=104)

**Table 3:** Distribution of the studied cases according to knowledge of asthma among mothers (n=104)

	No	Yes	Don't know
1- Is Bronchial asthma lung disease?	33(31.7%)	71(68.3%)	0(0.0%)
2- Your patient is not suffering from bronchial asthma, he or she is having only allergy	34(32.7%)	70 (67.3%)	0(0.0%)
3- Is Bronchial asthma Hereditary disease?	33(31.7%)	71(68.3%)	0(0.0%)
4- Is Bronchial asthma is a chronic disease?	68(65.4%)	36(34.6%)	0(0.0%)
5- Bronchial asthma can be accompanied by other type of allergies (skin – Eye - nose) ?	31(29.8%)	73(70.2%)	0(0.0%)
6- Exposure to different types of allergies (smoke – pats – pollens) can cause asthma?	0(0.0%)	104(100.0%)	0(0.0%)
7- Symptoms of asthma are difficulty in breathing, cough and wheeze ?	3(2.9%)	101(97.1%)	0(0.0%)
8- Continuous cough, fever, respiratory distress, warning signs that need hospital referral ?	5(4.8%)	99(95.2%)	0(0.0%)
9- Are bronchodilator inhalers the best treatment for acute attacks of asthma?	24(23.1%)	80(76.9%)	0(0.0%)
10- Are inhalers used as prophylactic treatment of bronchial asthma in-between attacks	52(50.0%)	37(35.6%)	15(14.4%)

Qualitative data were described using number and percent

Table (3) showing the distribution of the studied sample according to knowledge about asthma among their care-givers. In seven out of ten questions (1, 3, 5, 6, 7, 8, 9) the majority of care-giver answer was correct. Regarding

questions (2, 4) the majority of the care-giver 70 (67.3%) and 68(65.4%) respectively responded incorrectly. Moreover for question (10),

52(50.0%) responded incorrectly, and 15(14.4%) didn't know

**Table 4:** Distribution of the studied cases according to attitude of care-givers (n=104)

Attitude	No	Yes
1- Do you permit asthmatic children to play sports ???	66(63.5%)	38(36.5%)
2- Adherence to corticosteroid inhalers is important for controlling asthma	13(12.5%)	91(87.5%)
3- Not using medications for asthmatic patients will deteriorate their condition	21(20.2%)	83(79.8%)
4- Do you think that continuous follow up for asthmatic patients is important	5(4.8%)	99(95.2%)

Qualitative data were described using number and per cent

The attitudes component of the questionnaire contained four items Table (4). A total of 87.5% (91/104) of care-givers knew that adherence to corticosteroid inhalers is important for asthma control. In relation to asthma treatment, 79.8% (83/104) of care-givers were aware about importance of drug compliance, and not using medications will deteriorate the condition. Moreover 95.2% (99/104) of care-givers understood the importance of follow up for asthmatic children. Most 63.5% (66/104) of care-givers believed that the asthmatic child should not be permitted to play sports.

**Table 5:** Relation between knowledge with duration of disease and attitude

	Knowledge			p
	Poor (<60) (n = 12)	Fair (60 - 80) (n = 86)	Good (>80) (n = 6)	
Duration of disease (years)	6.0(2.0 – 10.0)	4.50(0.42 – 12.0)	5.0(2.0 – 11.0)	0.251
< 5	2(16.7%)	43(50.0%)	2(33.3%)	0.077
≥ 5	10(83.3%)	43(50.0%)	4(66.7%)	
<b>Attitude</b>				
<b>1-</b>				
No	9(75.0%)	54(62.8%)	3(50.0%)	0.504
Yes	3(25.0%)	32(37.2%)	3(50.0%)	
<b>2-</b>				
No	4(33.3%)	9(10.5%)	0(0.0%)	0.082
Yes	8(66.7%)	77(89.5%)	6(100.0%)	
<b>3-</b>				
No	3(25.0%)	18(20.9%)	0(0.0%)	0.555
Yes	9(75.0%)	68(79.1%)	6(100.0)	
<b>4-</b>				
No	1(8.3%)	4(4.7%)	0(0.0%)	0.617
Yes	11(91.7%)	82(95.3%)	6(100.0%)	

Qualitative data were described using number and percent and was compared using Chi square or Monte Carlo test. Abnormally distributed data was expressed using Median (Min. – Max.) and was compared using Kruskal Wallis test.

Table (5) showing the relation between the knowledge of care-givers to duration of bronchial asthma for their children, (66.7%), of cases whose children asthma duration was ≥ 5 years had good knowledge versus only (33.3%) of cases whose children asthma duration was < 5 years, this difference was not statistically significant. It is worth mentioning that surprisingly (83.3%) of cases whose children asthma duration was ≥ 5 years had poor knowledge versus only (16.7%) of cases whose children asthma duration was < 5 years. As for the relation between knowledge and attitude, the majority of care-giver with fair knowledge (89.5%, 79.1%, 95.3%) respectively knew the importance of corticosteroids for asthma control, were aware about importance of asthma drug compliance, and the effect of continuous follow up for asthmatic children. However, the majority 54(62.8%) of same group stated that they will not permit the asthmatic children to play sports

## 4. Discussion

In Saudi Arabi, although people are aware of the disease, there are many misconceptions regarding bronchial asthma in children<sup>(17)</sup>. Moreover, previous studies conducted worldwide on parents with asthmatic children have also shown low asthma knowledge results<sup>(18,19)</sup>. Our study revealed, that although asthmatic care-givers had a high mean score concerning knowledge about bronchial asthma ( 68.94 ± 11.82), they had some deficiencies in their knowledge.

The majority of the responders in this study knows the disease, its predisposing factors, and manifestations, however a few had correct knowledge about the nature of bronchial



asthma being a chronic disease. Moreover the majority had misconception considering bronchial asthma and bronchial allergy as two different diagnosis. This proves the continuous stigma attached to diagnosis of (Bronchial asthma) that may be the cause that hamper the acceptance of the problem in their children

It is worth mentioning that although the majority of responders were aware of the importance of inhalers for treatment of acute asthma attack, only a few had knowledge about prophylactic treatment in-between attacks. This is in concordance with a study done concerning parent knowledge about asthma in Navajo<sup>(20)</sup>. It has been observed that parents hesitate to use long-term preventive medications particularly in symptom free interval because they consider asthma to be a series of acute episodes rather than a chronic disease

As for the relation between the duration of asthma and caregiver knowledge, in concordance with our study, a study done in India<sup>(21)</sup> about knowledge of asthma among parents of asthmatic children, time factor did not play a significant role in promoting care-giver knowledge about the disease

Concerning the care-giver attitude our study showed that having fair knowledge positively affected care-giver attitude regarding the use treatment of bronchial asthma and its importance. Meanwhile, in contrast to a study<sup>(22)</sup> assessing Knowledge and attitude of parents towards the allergy and bronchial asthma in their Children, nearly 50% of parents permitted their asthmatic children to play sports, our study revealed that the majority of care givers stated that they will not permit them. This may be explained on basis of cultural differences, as in KSA people are not much aware about the importance of sports as a life style for children in general. Moreover, we need to change the misconception about the inability of asthmatic children to play sports, allowing for them a better quality of life.

In conclusion our present study, showed that- in this region - the care-givers of asthmatic children still lack adequate knowledge about asthma and have many misconceptions. Sustained efforts are required from health providers to spread knowledge about aspects of asthma, being a chronic disease and the importance of its management specially in-between attacks. Moreover, public health education programs are needed to dispel myths and misconceptions, thus trying to eliminate stigma in community regarding bronchial asthma.

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