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Research Article

KNOWLEDGE AND PREVALENCE AND TRENDS OF BRONCHIAL ASTHMA AMONG INTERMEDIATE SCHOOL STUDENTS IN AL BAHA REGION

Jameel Mohammed Alghamdi ^{1*}, Abuobaida E.E.Abukhelaif², Mohammed Yanallah³,
Abdulrahman Al Shehri³, Badr Al Asmari³ and Abdullah saad Alzahrani³

¹Paediatrics Department, Faculty of Medicine, Albaha University; Saudi Arabia

²Pathology Department, Faculty of Medicine, Albaha University; Saudi Arabia

³Medical interns, Faculty of Medicine, Albaha University; Saudi Arabia

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ABSTRACT

This study aimed to determine knowledge and the prevalence of asthma and its associated factors among intermediate school students at Albaha, Saudi Arabia. A cross sectional descriptive study was conducted in Al Baha region during the period from Jan to June 2017. Two hundred intermediate school students were randomly selected from a purposively selected intermediate school at Albaha, Saudi Arabia by self-administered questionnaire.

Results The age group of the participants was between 13 to 15 years of age with an equal distribution among these age group, the prevalence rate of asthma among the participants was 13.7%. Most of the participants (85.6%) show a satisfactory level of knowledge. About two thirds (71.8%) their response was "yes" while 23.2% of the participants said "No" and only 5% they do not know any inheritance for asthma. Among the 31.7% who has an attack of asthma, 28.9% experience symptoms of shortness of breath, 22.2% have cough, 16.7% show fatigue during exercise, 12.3% show both shortness of breath and cough, 6.7 % show both shortness of breath and fatigue during exercise and 12.3% show shortness of breath, cough and fatigue during exercise. The type of treatment used by the asthmatics among participants was bronchodilator (51.1%), antihistamine by (33.3%), steroid (8.9%), and immunotherapy (6.7%). Regarding knowledge of risk factors evoking asthma among participants was not satisfactory for allergens and smoking, while 74.6% of the respondents show a satisfactory knowledge regarding knowledge of that if relatives encounter asthma this can be a risk factor.

We recommend further studies in future to investigate more on asthma prevalence based on clinical and laboratory diagnosis to discover the link between asthma and other risk factors as obesity.

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INTRODUCTION

Asthma is a substantial health problem that occurs at any age, particularly among people under 40 years old worldwide¹, and considered to be one of the most prevalent chronic disease with 300 million sufferers globally² including Saudi Arabia, where more than 2 million Saudis were encountered, with a prevalence of 11.5% among Saudi children.³⁻⁹ The prevalence of asthma among Saudi school children is rising¹⁰⁻¹² with a substantial public health impacts, with effects on patients' quality of life, healthcare costs, morbidity, and mortality^{13,14}

MATERIALS AND METHODS

Study design: A cross sectional descriptive study was conducted in Al Baha region during the period from Jan to June 2017.

Study area and study population: Albaha city considered as capital of the province at Southwest Saudi Arabia. The Intermediate School Students was used for drawing the sample of the study,

Sampling technique and sample size: the participant schools were randomly selected from the schools located at Albaha area. A convenient sampling method was adopted. A total of 200 questionnaires were disseminated to representative schools in the area of Albaha. The questionnaire developed

*Corresponding author: **Jameel Mohammed Alghamdi**

Paediatrics Department, Faculty of Medicine, Albaha University; Saudi Arabia

particularly for the purpose of this study in Arabic language. A consent form was clarified by members of the research team, and signed by the school authorities prior the completion of the questionnaire.

RESULTS

Out of 200 questionnaires, total of 197 questionnaires with completed data were analyzed with a respondent rate of 93.8 %. The age group of the participants was between 13 to 15 years of age with an equal distribution among these age group 28.9% were at 13th years , 34.5% were at 14th years and 36.6% were at 15th as shown in table (1). The prevalence rate of asthma among the participants was 13.7%

Table 1 Age Distribution of the Respondents'

Item	Frequency	Percentage
13 th years	41	28.9%
14 th years	49	34.5%
15 th years	52	36.6%
Total	142	100%

When asked about their knowledge about asthma, most of the participants (85.6%) show a satisfactory level of knowledge, as shown in Fig. (1) and when asked whether asthma can be inherited as a disease from parent about two thirds (71.8%) their response was "yes" while 23.2% of the participants said "No" and only 5% they do not know any inheritance for asthma, as shown in Fig. (2)

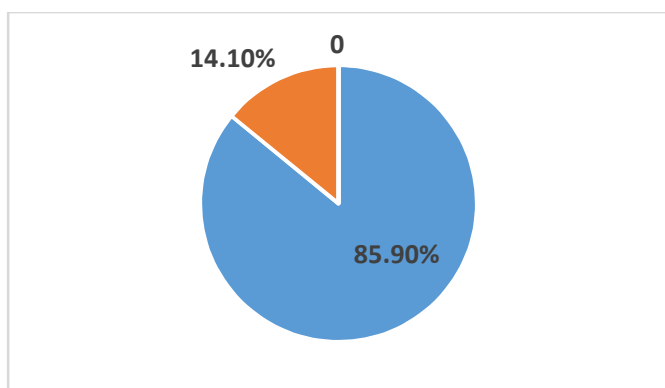


Fig 1 Participants' Knowledge about Asthma

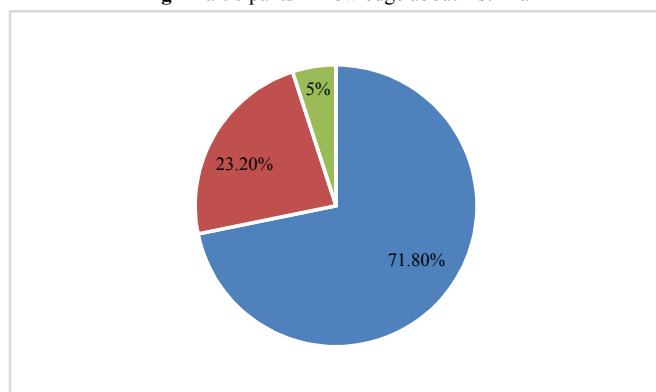


Fig 2 Participants' Knowledge about Asthma Inheritance

Among the 13.7% who has an attack of asthma, 28.9% experience symptoms of shortness of breath, 22.2% have cough, 16.7% show fatigue during exercise, 12.3% show both shortness of breath and cough, 6.7 % show both shortness of breath and fatigue during exercise and 12.3% show shortness of

breath, cough and fatigue during exercise as shown in table (2).

Table 2 symptoms of Asthma among respondents who were asthmatics

Symptom	Frequency	Percentage
shortness of breath	13	28.9%
Cough	10	22.2%
fatigue during exercise	7	16.7%
shortness of breath and cough	6	12.3%
shortness of breath and fatigue during exercise	3	6.7 %
shortness of breath, cough and fatigue during exercise	6	12.3%
Total	45	100%

The type of treatment used by the asthmatics among participants was bronchodilator (51.1%), antihistamine by (33.3%), steroid (8.9%), and immunotherapy (6.7%) as shown fig.(3)

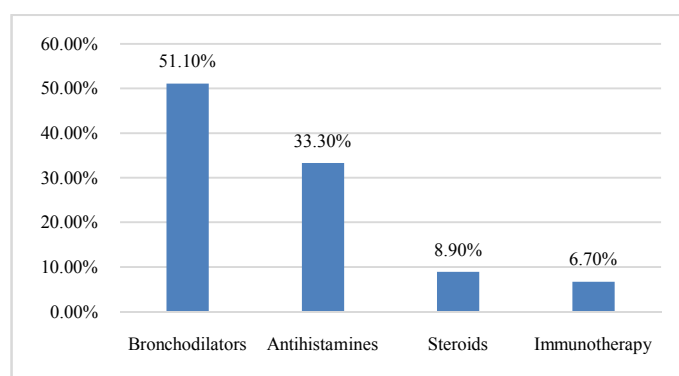


Fig 3 Type of treatment therapy used by asthmatics among participants

Knowledge of risk factors of asthma

Regarding knowledge of risk factors evoking asthma among participants was not satisfactory specially for allergens and smoking as only 33.8% and 25.4% of them know that allergens and smoking can be risk factor for asthma respectively, while 74.6% of the respondents show a satisfactory knowledge regarding knowledge of that if relatives encounter asthma this can be a risk factor, as show in table (3)

Table 3 Knowledge of risk factors of asthma

Risk factors					
Allergens		Relative		Smoking	
Yes	No	Yes	No	Yes	No
48(33.8%)	94(66.2%)	92(64.8%)	50(35.2%)	36(25.4%)	106(74.6%)

DISCUSSION

The ages of our respondents were between 13 to 15 years of age as this is the age of those who were at the intermediate school at Saudi Arabia. The prevalence rate of asthma among our participants was 13.7% which was within the national range (8-23%) in the country. ⁸Our finding was the same with a study done at Yanbu, Saudi Arabia by Bener *et al.*¹⁴ who found that the prevalence of asthma in this area was 13.9% but our finding was a bit higher than that found in Dammam (3.59%) and Riyadh (9.28%).⁷

Regarding the symptoms of asthma that experienced by our study participants, shortness of breath was shown to be the most frequent occurred symptoms among asthmatic children. Cough was ranked the second common symptom while the fatigue during exercise was the least frequent occurred

symptom. These was found to be the same as many others studies.¹⁵⁻¹⁶

Our findings regarding asthma treatment among our asthmatic participants revealed that most of them used bronchodilator in the treatment of asthma while few of them used antihistaminic syrup. This agreed by other studies done on this objective.^{8,13,15,17}

CONCLUSION

The knowledge of asthma, its inheritance, associated risk factors, symptoms were satisfactory. History of asthma in the family as a risk factor was shown by most of our participants whereas allergens and smoking show the least. Asthma prevalence rate among our participants was 13.1% which coincide with the national range (8-23%) in the Saudi Arabia.

We recommend further studies in future to investigate more on asthma prevalence based on clinical and laboratory diagnosis to discover the link between asthma and other risk factors as obesity.

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