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THE PREVALENCE OF ASTHMA SYMPTOMS AND ASSOCIATED FACTORS AMONG MEDICAL STUDENTS IN AL-BAHA UNIVERSITY DECEMBER 2014

Dr. Sami Mahmoud Assil[1*], Saif Abadi Alzahrani[2], Hussam Abdullah Alghamdi[3]

[1]Assistant Professor of Community Medicine, Faculty of Medicine, Baha University.
[2]Medical Student, Faculty of Medicine, Baha University.
[3]Medical Student, Faculty of Medicine, Baha University.

***Correspondence for Author: Dr. Sami Mahmoud Assil**

Assistant Professor of Community Medicine, Faculty of Medicine, Baha University.

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ABSTRACT

Background: Bronchial asthma is a common chronic respiratory disease affecting adolescents nationality and worldwide. **Objective:** The aim of this study was to determine the prevalence of asthma symptoms and associated factors among medical students. **Methods**: This is a cross-sectional study conducted at Al-Baha University, Al-Baha, Kingdom of Saudi Arabia. The subjects were all the students in the faculty of Medicine. Prestructured self – administered questionnaire was used to collect the data. **Results:** One hundred twelve out of one hundred eighty medical students were participated in the study with a response rate of 62.2%. The prevalence of recurrent asthma symptoms was as follow: shortness of breath (SOB) and cough in 35 (31.3%), sleep interruption by SOB (shortness of breath)or cough at night in 20 (17.9%),wheezing in 14(12.5%). Aggravating factors were: dust in 13(11.6%), exercise induced in 11 (9.8%) perfumes in 5(4.5%), smoking in 4(3.6%), pets in 4(3.6%). Use of inhalers in 3 (2.7%); and present asthma in 2 (1.8%). **Conclusion**: The prevalence of asthma symptoms was high corresponding to almost one third of the medical students. The low rate of current asthma diagnosis and inhalers use suggests under-diagnosis and under-management of asthma. Accordingly, proper asthma awareness, diagnosis and management are highly recommended among medical students and health workers.

KEYWORDS: Accordingly, proper asthma awareness, diagnosis and management are highly recommended among medical students and health workers.

INTRODUCTION

Background

Asthma is a common chronic disorder of the airways, which characterized by variable reversible and recurring symptoms related to airflow obstructions, bronchial hyperresponsiveness, and underlying inflammation.[1] With 2 million suffering, it has been ranked as one of the most common chronic diseases in Saudi Arabia.[1] patients' life is disturbed in many ways such as; loss of work and school days, frequent emergency department visits, poor quality of life, hospitalizations, and deaths sometimes.[1] As there is a shift in the world's population life style, it is predicted that the number of individuals with asthma will increase markedly around the world.[2] It has been reported by a community based study in Aseer region (KSA) a prevalence of bronchial asthma of 19.5% at sea level and 6.9% in high altitude areas.[2]

Problem statement

There is paucity in literature about the prevalence of asthma among medical students. Most of the asthma prevalence studies in Saudi Arabia and other Gulf countries were mainly conducted in children below the age of 15 years.[3]

Literature review

Asthma is one of the most common chronic diseases in Saudi Arabia and the reports suggest that the prevalence of asthma is markedly increasing.[1] Despite the abundance of high-caliber medical services and the availability of international guidelines, the recent studies have shown that the burden of the illness might be significantly higher than previously estimated.[1] Fear of use of new drugs, poor knowledge, and the lack of awareness of the importance of controlling of the disease are common among primary care physicians who care for asthma patients in the Kingdom of Saudi Arabia (KSA). These factors are important in contributing to the magnitude of this burden.[1] Consequently, many asthma patients continue to be underdiagnosed, so they are under-treated, and are at a risk of acute exacerbations resulting in missing school or work, increased use of expensive acute healthcare services, and affected quality of life.[1] A recent asthma control survey showed that 64% of patients were uncontrolled, 31% were partially controlled, and only 5% were controlled.[1] Although the prevalence of asthma in Saudi Arabian adults is unknown, based on studies conducted over the past three decades, the prevalence of asthma among Saudi children has been reported to range from 8% to 25%.[1] The

highest prevalence of physician-diagnosed asthma in KSA was reported to be 25% in 2004.[1] Epidemiological studies in the past three decades revealed an increasing prevalence of asthma in KSA, which may be related to rapid lifestyle changes like changes in dietary habits, exposure to environmental factors such as indoor allergens, sand storm, dust, and tobacco.[1] In addition to the previous factors, high prevalence could be attributed to an increase in the disease awareness in both general population and healthcare workers, allowing more individuals to be diagnosed.[1] Another explanation has attributed the increased prevalence of asthma to the hygiene hypothesis, which proposes that there is insufficient microbial exposure early in life due to pharmacological manipulations and vaccines.[1] The aim of this study was to determine the prevalence of asthma symptoms and associated factors among medical students.

METHODOLOGY

This cross-sectional study was carried out during November – December 2014; it covered all students of the faculty of medicine in Albaha town in Saudi Arabia. The response rate of the participants was 62.2%.

Sample

With students' population of 180, we used a complete census as a sample size required for the study. During the study period 112 students were interviewed. The participants included second year student 31(27.7%), third year student 27 (24.1%), fourth year student 23 (20.5%), fifth year student 12 (10.7%), sixth year student 19 (17%).

Study instrument

The study instrument was the Arabic version of pre-structured questionnaire. Background data were also collected about the age of the student, study level, smoking history, family history of bronchial asthma and aggravating factors.

Data collection

The target population was all students of the faculty of medicine in Albaha over the period (1 November 2014 to 30 December 2014). All the students were invited to participate in the study and their informed consent was obtained. On average, each interview took 10 – 15 minutes.

Analysis

Data were analyzed using *SPSS* version 17. Student's knowledge and behaviors items were included and given dichotomous scores (Yes, No). A p – value of 0.05 or less is considered significant.

RESULTS

Table – 1: Base line data of participants

	Yes	No
Shortness of breath	21 (18.7%) (n = 112)	91 (81.3%) (n = 112)
Recurrent coughing	24 (21.4%) (n = 112)	88 (75.5%) (n = 112)
Are smoker	16 (14.3%) (n = 112)	96 (85.7%) (n = 112)
Is your friend smoker	100 (89.3%) (n = 112)	12 (10.7) (n = 112)
One at home smoker	35 (31.3%) (n = 112)	77 (68.8%) (n = 112)
Food sensitivity	19 (17%) (n = 112)	93 (83%) (n = 112)
Wheezing	14 (12.5%) (n = 112)	94 (87.5%) (n = 112)
Use of medication	3 (2.7%) (n = 112)	94 (83.9%) (n = 112)
Sleep interruption	20 (17.9%)(n = 112)	92 (82.1%) (n = 112)
Diagnosis of asthma by physician	9 (8%)(n = 112)	103 (92%)(n = 112)
Current asthma	2 (1.8%) n = 112	50 (44.6%) n = 112
Use of inhalers	3 (2.7%) n = 112	109 (97.3%) n = 112
Relative with BA	68 (60.7%) (n = 112)	44 (39.3%) (n = 112)

Table – 2: Aggravating factors of SOB (shortness of breath). Total (n=112)

Risk factor	SOB or coughing		P – value
	Yes	%	
Smoking	4	11.4%	.000
Perfumes	5	14.3%	.000
Dust	13	37.1%	.000
Pets	3	8.6%	.000
Exercise induced	11	9.8%	.000

A total of 180 questionnaires were distributed to the students, and 68 students refused to participate. The overall participation rate was 62.2%. The baseline characteristics of the study population are shown in Table 1. The prevalence of recurrent asthma symptoms was as follow: shortness of breath (SOB) in 21 (18.7%), and recurrent cough in 24 (21.4%), sleep interruption by SOB (shortness of breath) or cough at night in 20 (17.9%), wheezing in 14 (12.5%). Aggravating factors were: dust in 13 (11.6%), exercise induced in 11 (9.8%) perfumes in 5 (4.5%), smoking in 4 (3.6%), pets in 4 (3.6%). Diagnosis of asthma by physician in 9 (8%), use of inhalers in 3 (2.7%) and present asthma in 2 (1.8%).

DISCUSSION AND CONCLUSIONS

This study has established the prevalence of asthma symptoms and associated factors among medical

students at Al-Baha University, Al-Baha area in Saudi Arabia. The prevalence of recurrent asthma symptoms was as follow: shortness of breath (SOB) in 21 (18.7%), and recurrent cough in 24 (21.4%), sleep interruption by SOB (shortness of breath) or cough at night in 20 (17.9%), wheezing in 14 (12.5%). Aggravating factors were: dust in 13 (11.6%, p< .000), exercise induced in 11 (9.8%, p < .000) perfumes in 5 (4.5%, p < .000), smoking in 4 (3.6%, p < .000), pets in 4 (3.6%, p < .000). Diagnosis of asthma by physician in 9 (8%), use of inhalers in 3 (2.7%) and present asthma in 2 (1.8%). The study revealed high prevalence of shortness of breath (SOB) and recurrent cough as (18.7%) and (21.4%) consecutively.

Also there was low rate of physician diagnosed asthma (8%), and use of inhalers (2.7%). This
study is distinctive in that it is the first assessment of the prevalence of asthma symptoms among medical students in Saudi Arabia. Many of the previous asthma prevalence studies in Saudi Arabia and other Gulf countries were primarily conducted in children below the age of 15 years.[3]

In conclusion, the prevalence of asthma symptoms was high corresponding to almost one fifth of the medical students. The low rate of physician diagnosed asthma, current asthma diagnosis and inhalers use suggests under-diagnosis and under-management of asthma. Accordingly, proper asthma awareness, diagnosis and management are highly recommended among medical students and health workers.

Conflict of Interest: None declared.

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