

Occurrence and Distribution of Acute Bronchial Asthma in People Attending Al-Leith General Hospital, Saudi Arabia

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Abstract

A hospital-based descriptive study was conducted on occurrence and distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital, Saudi Arabia. The objectives were to know the number of acute bronchial asthma in Al-Leith General Hospital; to distribute acute bronchial asthma disease by nationality, sex and age; and to identify the approach of management towards Asthma. The study covered all patients with asthma who were attend to the hospital in the year 1439 H. The relevant data were collected by reviewing the electronic records of the year 1439 H. The findings were 10308(96.8%) of bronchial asthma patients were Saudi, more than a half of (57.5%) asthmatic patients were males, children under 15 years old were more affected (25%) than other age groups and majority (97.7%) of cases were managed at emergency department and a few of them need admission. The study concluded that acute

bronchial asthma is still public health problem among Al-Leith population.

Keywords: bronchial, asthma, occurrence, distribution, Al-Leith

INTRODUCTION

Asthma is a chronic condition, affecting millions of people worldwide. Asthma is a long-lasting condition in which the airways are affected and produce extra mucus. This leads to difficulty in breathing process and occurs coughing, wheezing and shortness of breath.

Asthma comes periodically for majority of affected people causing attacks of wheezing alternating with periods of quite normal breathing. However, some affected people suffering from chronic (long-term) shortness of breath and episodes.

Both children and adults have susceptibility to develop asthma, however asthma is obvious in children. Sometimes asthma occurs due to genetic makeup, but the environment has a role in developing asthma. Exposure to allergens, family size and structure, sex and gender are also determinants of asthma. In adulthood, recurrence of childhood asthma may be just as common as new-onset asthma, which may have an occupational basis. Well understanding of asthma risk factors will help us to control and prevent asthma (Padmaja et al, 2009).

Asthma risk factors in a workplace include dusts, gases, fumes and vapors. The implicated allergens of bronchial asthma include food, pollen, mold, dust and pets. In children, the most common triggers are viral illnesses such as cold and flu. Approximately 80% of exacerbations are associated with respiratory tract viral infections, with rhinoviral infection responsible for about two thirds of cases (Annemarie et al, 2008).

Asthma, sometimes, is considered as hereditary disease. In a study carried out on heredity of asthma in Saudi population showed a high positive correlation between the relatives of affected children with respect to asthma and hay fever. These findings support the hypothesis that asthma and hay fever may be inherited in the Saudi population (Bener et al, 1992).

Asthma is still a public health worldwide. Asthma affects not only on the patients but also their families, community members, workers, school children (Elfaki and Shiby, 2017).

The prevalence of asthma varies from region to other region in the world, ranging from 1-20% for both children and adults (Mohammed et al, 2018). Asthma is a public health problem particularly among children (Mohammadreza et al, 218).

According to the World Health Organization (WHO) about 235 million people currently are asthmatics, and since asthma is under-diagnosed and under-treated, the worldwide prevalence is likely to be higher (Mohammadreza et al, 218). According to the Saudi Initiative for Asthma (SINA 2016), the overall prevalence of asthma in children is from 8 to 25% according to some studies carried out over the past three decades (Mohammed et al, 2018). In the Kingdom of Saudi Arabia (KSA), asthma ranks 19th in terms of disability-adjusted life years (DALYs) and 26th in deaths. The prevalence of diagnosed asthma in Saudi Arabia is relatively low, however, however several patients with known asthma do not have it under good control (Maziar et al, 2018).

Shalam et al (2018) reported that asthma affects more than two million of people in Saudi Arabia. Several studies suggest that majority of those affected Saudis have uncontrolled asthma with their quality of life adversely being impacted.

Management of asthma is based not only on assessment of lung function parameters but also on clinical findings and the efficacy of previous treatment. A seasonal exacerbation of asthma in a pollen-sensitive patient is more easily treatable than an exacerbation triggered by a viral infection (Jennifer et al, 2016).

The treatment of asthma includes hospital care, long-lasting medications, observation and self-care. Therapeutic medications that used as a chronic management of asthma aim to prevent symptoms by controlling airway inflammation and hyperreactivity (Nathan et al, 2016).

Local reports in Saudi Arabia mention that the prevalence of asthma is increasing, e.g. the prevalence of asthma among Saudi school children was found to be 10% in Riyadh, compared to 13% in Jeddah and Qassim, and 17% in Abha (Alhussen et al, 2018).

The climate of Al-Leith province is a hot dusty desert climate. This type of climate induces asthma particularly in children, in addition to other risk factors. The present study is attempting to provide knowledge on asthma situation in Al-Leith which can be used health authorities in health care planning.

MATERIALS AND METHODS

The study was hospital-based descriptive study. This study was conducted in Al-Leith general hospital. The hospital located in Al-Leith which is a city in the Tihamah region on the coast of the Red Sea south west of the holy city of Mecca. It is the fifth largest city in population in Makkah Province, and it is one of the large sea ports of the Kingdom of Saudi Arabia on the Red Sea, and Miqat Yalamlam is located north of it. The estimated population of Al Lith is over 72,000 people. The hospital contains several departments such as Department of clinics, emergencies, nutrition. It equipped with 50 beds in addition to the laboratory and the pharmacy. The study covered all patients with asthma who were attend to the hospital in the year 1439 H. The relevant data were collected by reviewing the electronic records of the year 1439 H.

RESULTS

Table 1 is about the nationality distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital, 10308(96.8%) of patients were Saudi and the rest were non-Saudi. Table 2 shows the sex distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital, more than a half of (57.5%) asthmatic patients were males. Table 3 illustrates the age distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital, children under 15 years old were more affected (25%) than other age groups. Table 4 shows the approach of asthma management, majority (97.7%) of cases were managed at emergency department and a few of them need admission.

Table 1: Nationality distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital

Nationality	No	%
Saudi	10308	96.8%
Non-Saudi	336	3.2%
Total	10644	100%

Table 2: Sex distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital

Sex	No	%
Male	6117	57.5%
Female	4527	42.5%
Total	10644	100%

Table 3: Age distribution of Acute Bronchial Asthma in people attending Al-Leith General Hospital

Age (years)	No	%
0 - 14	2665	25%
15 - 24	1414	13.3%
25 - 44	2065	19.4%
45 - 64	2702	25.4%
≥ 65	1798	16.9%
Total	10644	100%

Table 4: Management of Acute Bronchial Asthma in people attending Al-Leith General Hospital

Type of management	No	%
Treatment at E.R only	10613	99.7%
Admission	31	0.3%
Total	10644	100%

DISCUSSION

Asthma, sometimes referred to as bronchial asthma, can start at any age but commonly begins in childhood. Many children grow out of asthma by their teens. Others first develop asthma in adulthood (adult-onset asthma). Asthma often runs in families and can be associated with allergic conditions such as eczema and hay fever.

Asthma is one of the most common chronic diseases in Saudi Arabia (KSA), it affects more than 2 million Saudis, and local reports suggest that the prevalence of asthma in Saudi Arabia is increasing (Elfaki and Shibby, 2017). The present study found most cases were Saudi. Because of that health services in the hospital are delivered freely to Saudis and of course the majority of residents in the study area are Saudis.

Children have smaller airways than adults, which makes asthma especially serious for them. Asthma in children is more common among boys than girls. Children who develop asthma at a very young age are more likely to 'grow out' of the condition as they get older.

In this study it was found that acute bronchial asthma was more frequent among children compared to all other age groups, the percentage was 25% of all asthma cases occurred during the year 1439

H. This result was going along with so many previous studies done in the Kingdom of Saudi Arabia as well as other regions throughout the world. Maziar et al (2015) in their study among Saudi adults found that asthma attack was less frequent in older patients. In a study on Prevalence of asthma among children in Saudi Arabia, there was a very high prevalence of asthma among children (77%) (Nada et al, 2018).

Asthma is the most common chronic illness in children, which lead to more school absenteeism than any other chronic childhood conditions (Alhussen et al, 2018).

Gender differences in asthma incidence, prevalence and severity have been reported worldwide.

According to findings of this study, males were more affected with acute bronchial asthma compared to females, the percentage was 57.5% of cases were males. Most of previous literature reported this differentiation.

For example, in study risk factors associated with asthma among Saudi adults in Najran, it was found that asthma more frequent in males compared to females (Elfaki and Shibby, 2017). Joe and Serpil (2016) found the cumulative asthma incidence is lower in girls as compared to boys.

In contrast some previous studies reported the opposite, in a study carried out on Gender differences by Nienke et al (2010), it was found that the prevalence of asthma was significantly higher in female (6.2%) than male (4.3%) subjects at 16.3 years of age.

Most of asthma cases subjected to quick management in emergency department as the condition usually comes in episodes, so the patients receive treatment and go to their home without need to hospitalization except few cases.

CONCLUSION

There were a lot of cases of acute bronchial asthma occurred in Al-Leith during the year 1439 H. children were more affected compared to other age groups as well as males compared to females. The positive point was that most of cases received treatment at emergency department and did not need hospitalization.

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