

Bronchial Asthma Prevails Among Saudi Adults in Najran, Saudi Arabia

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Asthma is a chronic public health problem with gradually increasing importance that affects people of all ages [1]. Asthma is a complex inflammatory condition of the airways, which makes breathing difficult due to airflow obstruction, bronchial hyper-responsiveness and an underlying inflammation [2,3]. Its development is seen as an intricate interaction between genetic and environmental factors [4].

Despite the fact that the Saudi Thoracic Society (STS) is committed to a long-term enhancement plan for the best practice in the asthma field by creating asthma guidelines, periodic scientific meetings, frequent asthma courses and educational brochures, but local reports suggest that the prevalence of asthma is increasing in Saudi Arabia, this could be due to environmental changes, beside exposure to indoor and outdoor allergens as well as occupational and industrial exposure [5,6].

Its impact goes beyond the patients to their families as well as to the community as a whole in terms of lost work and school days, poor quality of life, frequent emergency department visits, hospitalizations and death cases may occur [7,8].

The aim of this study was to explore the common risk factors that associated with asthma among Saudi adults in Najran during the period between December 2016 up to October 2017. One hundred eighty four patients who were over 18 years of age and who had a diagnosis of definite asthma (cases), beside another 184 healthy individuals as control group, that matched the cases in terms of age and sex constituted the study sample. A questionnaire as a tool of data collection was completed by cases as well as from controls. It was consisting of data that include personal, familial and indoor environmental factors that could be potential risk factors for asthma.

The results show that the mean ages for cases and controls were 21.3($\pm$ 16.5) and 21.7 ($\pm$ 16.8) years respectively. Each group consisted of 108 (58.7%) males beside 76(43.3%) females. There were no significant association between asthma occurrence and level of education and indoor plants with P -value >0.05 . On the other hand, multivariate logistic regression analysis showed that family history (OR= 5.01,

and CI = 2.09 – 8.42), using sprays of insecticides or air fresheners (OR = 8.5, CI= 2.34 – 11.09) were significantly associated with asthma occurrence.

The current study revealed that allergic rhinitis increases the risk for developing asthma, (OR = 4.76, CI= 2.19 – 6.45) which is in consistent with what was concluded by several other studies that shown similar relationship [9-11]. Additionally, active or passive smoking was significantly (P -value = 0.041 and 0.012) associated with asthma among adults. The same results had been reported by Cerveri et al. and Skoner who stated that exposure to tobacco smoke was one of the strongest and most consistent risk factors in regard to development and exacerbation of asthma [12,13].

This study showed that females' cases were slightly higher than males among the total asthmatic cases within the studied sample, which is consistent with other studies that yielded similar results among adults [14,15]. In contrast, Bjerg et al concluded that asthma was observed to be more in males than females [16]. Very interestingly, a gender variation in asthma had been studied in Nigeria which reported a weak independent association between prevalence of asthma and gender [17].

It was concluded that family history, smoking, allergic rhinitis and smoking among the most risk factors for developing asthma among Saudi adults. Further studies for investigating other factors were recommended. Moreover, health education programs for educating people about the risk factors, preventive measures, early diagnosis and proper management were highly recommended too.

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