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Research Article

**PREVALENCE OF ASTHMA AND RISK FACTORS IN  
KINGDOM OF SAUDI ARABIA**

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**Abstract:**

**Background:** Asthma is a common airway disease among both adults and children. Therefore, it constitutes a global public health problem. Asthma is not curable, though the treatment can control the symptoms. **Methodology:** This was an analytical cross-sectional study that included 2015 participants who completed an online questionnaire within the period from March 17/ 2020 until July 30/ 2020, and covered the different regions of Saudi Arabia. **Results:** A total of 2015 participants, 51.2% of them were females, and the majority of the 73.3% were non-smokers. The prevalence of bronchial asthma among this population was 13.9%. These results demonstrated significant associations between family history ( $P=0.000$ ), other allergic conditions ( $P=0.000$ ) and passive smoking ( $P=0.002$ ) and the incidence of bronchial asthma. The region also was significantly associated with the prevalence of bronchial asthma ( $P=0.002$ ), as the central region ranked with the highest prevalence (17.8%). **Conclusion:** This study estimated a low prevalence among the adult population in the different regions of Saudi Arabia. The study indicated that the asthmatic patients were mainly irritated due to the following factors; air pollution, strong odors, fumes, common cold and sinusitis, tobacco smoking, and the weather changes. Most of the asthmatic patients inhabited the central region of Saudi Arabia.

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**INTRODUCTION:**

Asthma is a condition in which your airways narrow and swell and produce extra mucus. This can make breathing difficult and trigger coughing, wheezing and shortness of breath.

For some people, asthma is a minor nuisance. For others, it can be a major problem that interferes with daily activities and may lead to a life-threatening asthma attack.

Asthma can't be cured, but its symptoms can be controlled. Because asthma often changes over time.<sup>(1)</sup>

**Rationale:**

Asthma is one of the most common widespread respiratory problems, the treatment of which is simple and not complicated, and on the other hand there are causes and effects that increase the irritation of asthma or make it worse according to certain conditions that affect it, and then asthma will be a fatal health condition, we are working to find a ratio The presence and prevalence of asthma In addition to knowing the causes that provoke it, this matter will help us a lot in knowing the extent of the development of asthma at this time and whether this is closely related to the external factors affecting, we will work to find a better treatment solution and give awareness information beneficial to the patient and doctors Also

**Literature review:**

**According to the other previous study like:**

- **Prevalence of asthma in Saudi adults: findings from a national household survey, 2013.** (Moradi-Lakeh *et al.*, 2015)

**The Conclusion was:** Saudi Arabia has a relatively low prevalence of diagnosed asthma; however, many of the patients with known asthma do not have it under good control. Our study calls for programs to inform patients about the importance and proper means of controlling their condition. Implementing and monitoring of clinical guidelines can also help to improve asthma control among patients as well as identify undiagnosed cases.<sup>(2)</sup>

**The previous study** is excellent, although it is an old study, but the result is clear, as it was focused on the type of patients who were uncooperative or aware of the importance of treatment, which raises concern about the increase in complications associated with asthma patients due to lack of health awareness of the importance of treatment.

- **Impact of allergic rhinitis on quality of life in patients with bronchial asthma.** (Maha M. Elkholy, 2020)

**The conclusion was:** Allergic rhinitis has a limited role in reduction of HRQOL. HRQOL is markedly reduced in patients with asthma with or without rhinitis than in those with allergic rhinitis only; this could be related to the severity of asthma more than the presence of associated allergic rhinitis. These findings indicated that allergic rhinitis does not seem to further impair quality of life in subjects with asthma. We recommend that patients with bronchial asthma with or without allergic rhinitis in need of great help from physicians and social workers to improve their physical and mental health. Moreover, further studies with larger populations and longer duration are needed in order to determine the extent to which asthma and rhinitis comorbidities are associated in HRQOL.<sup>(3)</sup>

**The previous study** examined one of the external factors affecting asthma, which is allergic rhinitis, which is one of the causes that causes asthma quickly, and we know that this has a relationship in that most asthmatic patients have types of allergies that are related to asthma, either chest allergy or allergic rhinitis or even skin allergy.

**The current research aim:**

Prevalence of asthma in the regions of the Kingdom of Saudi Arabia.

**Research objectives**

1. To assess the risk factors of asthma.
2. Determine the most common factors irritate an asthmatic patient.
3. Relationship between residential areas and the number of people with asthma.
4. Most common gender effected by asthma.
5. Associated types of allergy.
6. Associated disease.
7. How effective is cortisone in treatment.

**METHODOLOGY:****Study design:**

This is an analytical cross-sectional study.

**Study Setting and period:**

This is an analytical cross-sectional study conducted in kingdom of Saudi Arabia (from the general population IP and OP), from March 17/ 2020 till July 30/ 2020.

**Study population and sampling:**

General population (IP and OP)

**Study participants and sampling method:**

Participants were conducted study by carrying the questionnaire during the period of data collection from 17/03/2020 till 30/06/2020.

Inclusion criteria: General population and asthmatic patient .

Exclusion criteria: other's

**Sampling size:**

400

**Measurements**

Explanatory variables:

1. Sociodemographic characteristics: age, sex and residence area.
2. Asthmatic patient: types of asthma, risk factors, irritate factors associated diseases, associated types of allergy, types of treatment and compliance of treatment.

**Outcome measure**

The outcome measure is by counting the ratio of the number of asthmatic patients this will be measured using:

By determining the extent of the associated factors that lead to suffering from asthma disease.

Prevalence study: will be carried to test the questionnaire if easily understood and the response of the participants.

Data from the cross-sectional study will be used to calculate the sample size.

**Data management and analysis plan:**

Data will be entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 17. Descriptive statistics will be displayed as frequencies and percentages for categorical variables. Measures of central tendencies (the median), and measures and dispersion (minimum – maximum) will used to summarize continuous variables, as the continuous variables not normally distributed. Univariate analysis will be performed to investigate the association between the exposure factors (age, sex, residence area and Asthmatic patients : types of asthma, risk factors, irritate factors associated diseases, associated types of allergy, types of treatment and compliance of treatment )

This was performed using Chi-squared test and Mann-Whitney test. Multivariate analysis to investigate factors independently will be performed using binary logistic regression. P value was set at a significance level of < 0.05.

**Ethical considerations:**

Administrative approval will be sought from the unit of biomedical ethics research committee Ethical approval will be sought from the ethical committee of the faculty of medicine, ministry of health.

An informed consent will be sought from the participants.

**Source of funding:**

Self-funded

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