

# Original Research

## Assessment of cases of Asthma in known population- A clinical study

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### ABSTRACT:

**Background:** The present study was conducted to assess cases of asthma in known population.

**Materials & Methods:** 128 cases of asthma of both genders were enrolled. Symptoms such as wheezing, chest tightness, coughing and shortness of breath were recorded. Family size, paternal and maternal education was also recorded.

**Results:** Common symptoms were cough seen in 54 males and 40 females, wheezing in 69 males and 34 females, shortness of breath in 70 males and 41 females and chest tightness in 36 males and 48 females. The family size < 3 was seen in 46 and >3 in 80 patients, paternal education was high in 32, secondary in 60 and college level in 34. Maternal education was high in 53, secondary in 52 and college level in 21 patients. The difference was significant (P< 0.05).

**Conclusion:** Maximum cases in males and common symptoms were cough, wheezing and shortness of breath.

**Key words:** Asthma, cough, wheezing

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### INTRODUCTION

Asthma is a chronic respiratory disease, characterized by episodes or attacks of impaired breathing, affecting up to 10% of adults and 30% of children.<sup>1</sup> Symptoms are caused by inflammation of small airways and may include bronchial hyper-responsiveness, recurrent attacks of wheezing, shortness of breath, chest tightness and coughing, particularly at night or early morning. The variable airflow obstruction is often reversible, either spontaneously or by treatment with bronchodilators or corticosteroids.<sup>2</sup>

In particular, patients with severe asthma are hospitalized more often than other asthma patients, experience frequent exacerbations, and incur the majority of health care costs associated with this group of patients. The Global Initiative for Asthma (GINA) guidelines state that asthma severity is a retrospective label that is assessed based on the treatment needed to

control asthma, which in turn is assessed from two domains: symptom control and risk factors.<sup>3</sup>

Some environmental triggers are well-established, investigation into possible gene-by-environment and environment-by-environment interactions may help to better uncover the determinants of asthma.<sup>4</sup> Work-related asthma from occupational sensitizers (asthmagens) and/or irritants is common and is an important consideration for individuals who present with asthma symptoms during their productive working years. For children, asthma may impair airway development and reduce maximally attained lung function, and these lung function deficits may track (or persist) into adulthood without additional progressive loss.<sup>5</sup> The present study was conducted to assess cases of asthma in known population.

**MATERIALS & METHODS**

The present study was conducted in the department of Chest and TB among 128 cases of asthma of both genders. All enrolled patients were informed regarding the study and their consent was obtained. Ethical clearance was obtained before starting the study.

Data such as name, age, gender etc. was recorded. Symptoms such as wheezing, chest tightness, coughing and shortness of breath were recorded. Family size, paternal and maternal education were also recorded. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 126		
Gender	Males	Females
Number	76	50

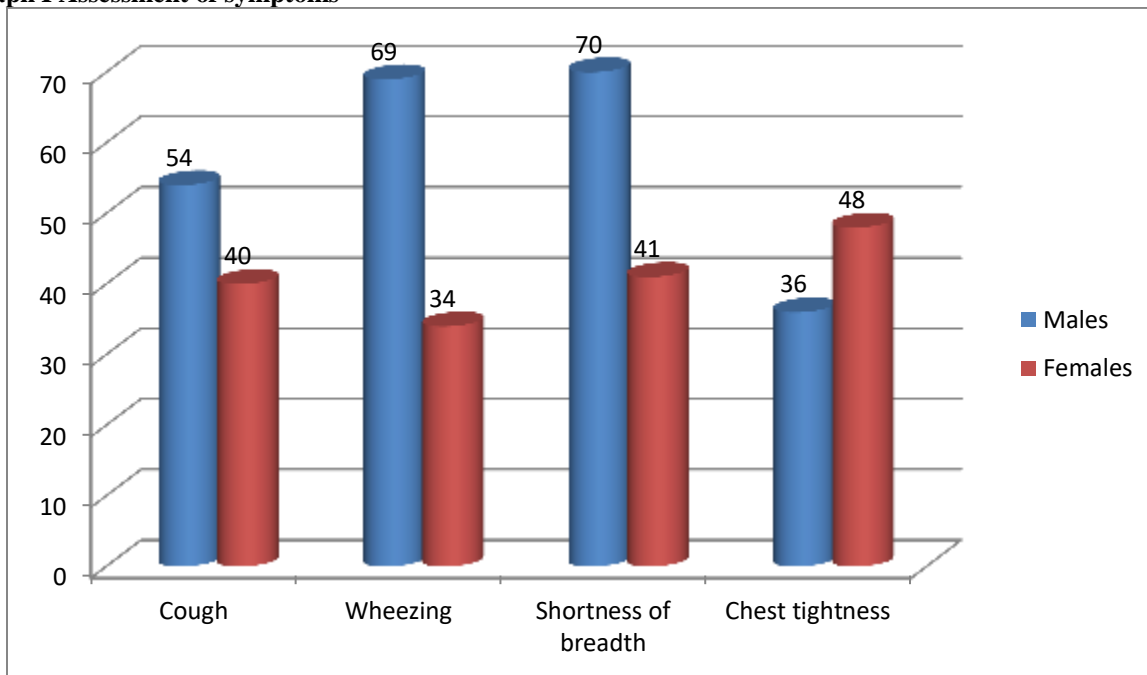
Table I shows that out of 126 patients, males were 76 and females were 50.

**Table II Assessment of symptoms**

Symptoms	Males	Females	P value
Cough	54	40	0.41
Wheezing	69	34	0.01
Shortness of breath	70	41	0.03
Chest tightness	36	48	0.05

Table II, graph I shows that common symptoms were cough seen in 54 males and 40 females, wheezing in 69 males and 34 females, shortness of breath in 70 males and 41 females and chest tightness in 36 males and 48 females. The difference was significant (P< 0.05).

**Graph I Assessment of symptoms**



**Table III Assessment of parameters**

Parameters	Number	P value
<b>Family size</b>		
>3	80	0.01
<3	46	
<b>Paternal education</b>		
High	32	0.03
Secondary	60	
College	34	
<b>Maternal education</b>		
High	53	0.05
Secondary	52	
College	21	

Table III shows that family size < 3 was seen in 46 and >3 in 80 patients, paternal education was high in 32, secondary in 60 and college level in 34. Maternal education was high in 53, secondary in 52 and college level in 21 patients. The difference was significant (P< 0.05).

## DISCUSSION

Asthma is a common long-term inflammatory disease of the airways of the lungs. It is characterized by variable and recurring symptoms, reversible airflow obstruction, and bronchospasm.<sup>6</sup> Symptoms include episodes of wheezing, coughing, chest tightness, and shortness of breath.<sup>7</sup> These episodes may occur a few times a day or a few times per week. Depending on the person, they may become worse at night or with exercise. Asthma is thought to be caused by a combination of genetic and environmental factors.<sup>8</sup> Environmental factors include exposure to air pollution and allergens. Other potential triggers include medications such as aspirin and beta blockers.<sup>9</sup> Diagnosis is usually based on the pattern of symptoms, response to therapy over time, and spirometry. Asthma is classified according to the frequency of symptoms, forced expiratory volume in one second (FEV1), and peak expiratory flow rate.<sup>10</sup> The present study was conducted to assess cases of asthma in known population.

In present study, out of 126 patients, males were 76 and females were 50. Suneja et al<sup>11</sup> conducted a study among 110 asthmatic patients of both genders. All were prescribed salbutamol for the period of 2 months and all patients were recalled and parameters such as symptoms, side effects were recorded. Out of 110 patients, males were 60 and females were 50. The difference was non- significant (P= 1). Common symptoms were wheezing (105) followed by chest tightness (100), coughing (95) and shortness of breath (78). The difference was non- significant (P> 0.05). 13 patients had dizziness, 10 had migraine headache and 8 had high blood pressure with salbutamol.

We found that common symptoms were cough seen in 54 males and 40 females, wheezing in 69 males and 34 females, shortness of breath in 70 males and 41 females and chest tightness in 36 males and 48 females. Ripabelli et al<sup>12</sup> in their study assessed prevalence of asthma through the administration of modified ISAAC questionnaires filled out by parents of 89 children and adolescents for the identification of confirmed and probable cases, and by analyzing pediatricians' databases on drug prescriptions for symptoms control and treatment of assisted population in the study area (n = 1,004), compared to a control area (n = 920) with lower industrialization. The association of asthma with risk factors was evaluated. A total of 22 (24.7%) asthmatics were identified, including both confirmed (n = 7; 7.9%) and probable cases (n = 15; 16.8%), most of them (n = 17; 77.3%) resident of Termoli town. All asthma cases were georeferenced based on the residence, however clusters were not found. Using drug prescriptions analysis, a higher prevalence (n = 138; 13.7%) of diagnosed cases was found. Lifetime history of both atopic dermatitis and bronchitis were significantly related to asthma cases, as well as an elevated body mass index, whose association is consistent with prevalence data of overweight/obese children living in the study area. Moreover, being resident of the town of Termoli was associated to the occurrence of cases.

We found that family size < 3 was seen in 46 and >3 in 80 patients, paternal education was high in 32, secondary in 60 and college level in 34. Maternal education was high in 53, secondary in 52 and college level in 21 patients.

The shortcoming of the study is small sample size.

## CONCLUSION

Authors found maximum cases in males and common symptoms were cough, wheezing and shortness of breath.

## REFERENCES

1. Miller MR, Hankinson J, Brusasco V, Burgos F, Casaburi R, Coates A, et al. Standardisation of spirometry. *Eur Respir J*. 2005;26(2):319–38.
2. Hankinson JL, Odencrantz JR, Fedan KB. Spirometric reference values from a sample of the general U.S. population. *Am J Respir Crit Care Med*. 1999;159(1):179–87.
3. Juniper EF, Buist AS, Cox FM, Ferrie PJ, King DR. Validation of a standardized version of the Asthma Quality of Life Questionnaire. *Chest* 1999;115(5):1265–70.
4. Sharma, et al. Tiotropium improves lung function in patients with severe uncontrolled asthma: a randomized controlled trial. *J Allergy Clin Immunol* 2011;128(2):308–14.
5. Mittal et al. Tiotropium in asthma poorly controlled with standard combination therapy. *N Engl J Med* 2012;367(13):1198–207.
6. Ajay et al. Tiotropium is noninferior to salbutamol in maintaining improved lung function in B16-Arg/Arg patients with asthma. *J Allergy Clin Immunol* 2011;128(2):315–22.
7. Lavorini F, Geri P, Luperini M, et al. Clinical and functional responses to salbutamol inhaled via different devices in asthmatic patients with induced bronchoconstriction. *British Journal of Clinical Pharmacology*. 2004;58(5):512-520.
8. Vonk JM, Boezen HM: Predicting adult asthma in childhood. *Curr Opin Pulm Med* 2006, 12:42–47.
9. Pedersen SE, Hurd SS, Lemanske RF Jr, Becker A, Zar HJ, Sly PD, Soto-Quiroz M, Wong G, Bateman ED, Global Initiative for Asthma: Global strategy for the diagnosis and management of asthma in children 5 years and younger. *Pediatr Pulmonol* 2011, 46:1–17.
10. Masoli M, Fabian D, Holt S, Beasley R, Global Initiative for Asthma (GINA) Program: The global burden of asthma: executive summary of the GINA Dissemination Committee report. *Allergy* 2004, 59:469–478.
11. Suneja VP. Assessment of Asthmatic Patients Treated with Salbutamol: A Hospital Based Study. *J Adv Med Dent Scie Res* 2018;6(4):20-22.
12. Ripabelli G, Tamburro M, Sammarco ML, de Laurentiis G, Bianco A. Asthma prevalence and risk factors among children and adolescents living around an industrial area: a cross-sectional study. *BMC public health*. 2013 Dec;13(1):1-9.