ORIGINAL RESEARCH PAPER

Medicine

A STUDY OF CLINICAL PROFILE OF BRONCHIAL ASTHMA IN A TERTIARY CARE HOSPITAL IN UTTARAKHAND

KEY WORDS: asthma, smoking, allergy, atopy, bronchodilator, triggering factors.

Dr Makrand Singh	Associate Professor Department of Medicine GMC Haldwani Nainital U.K
Dr Anamika Yadav *	Jr3 Department of Pathology BMCHRC Jaipur *Corresponding Author

ABSTRACT

There is paucity of studies and limitations of information available on the clinical profile of asthma patients in Kumaun region of Uttarakhand.

Aims and objectives: To study the clinical profile of asthmatic patients presented in medicine OPD of GMC Haldwani. Materials and **Methods:** This is a prospective study to ascertain clinical profile of asthmatic patients of adult age group. We studied 335 cases of bronchial asthma presented in medicine OPD of GMC Haldwani from July 2014 to july 2017 Patients received clinical diagnosis of asthma by detailed history, examination and spirometry of stable cases. Detailed demographic and clinical data were collected at time of presentation. Results-we found that asthma is more prevalent in males (M=64%),non-smokers [69%]and young to middle age group[80%].

Conclusion: In our study we found significant differences in clinical presentation of asthma in different age groups ,gender wise ,environment wise and with different risk/triggering factors.

INTRODUCTION-

Asthma is a heterogenous disease, usually characterized by chronic airway inflammation. It is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness, and cough that vary over time and in intensity, together with variable expiratory airflow limitation (global initiative for asthma [GINA] 2017)[1]. It is diagnosed by characteristic symptom patterns along with documentation of variable airflow limitation and bronchodilator induced reversibility. Asthma is one of the most common diseases confronted not only by the physicians and paediatricians, but also by primary care physicians and general medical practitioners [2] .Its prevalence is increasing continuously. There is paucity of studies and limitations of information available on the clinical profile of asthma patients reporting at tertiary care hospital in Kumaun region of Uttarakhand. While searching literature, it was clear that there were none of the studies in this area or nearby, focusing on this common ailment. Considering all these points in a wider perspective, this study was planned and executed.

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Materials and Methods: A prospective study of bronchial asthma patients over 16 years of age was conducted at GOVERMENT MEDICAL COLLEGE HALDWANI and DR STM GOVT HOSPITAL over three years (July 2014 to July 2017).

Methods of collecting data –After taking fully informed consent, and fulfilling inclusion criterion of asthma, patients over 16 years of age were included. Patients of acute ischemic heart diseases, bleeding diathesis, emphysema, left ventricular failure myocardial infarction were excluded from the study ,along with the patients who refused to give consent. Asthma was diagnosed by taking detailed relevant history, clinical examination and if required ,spirometry having obstructive pattern with post short acting bronchodilator reversibility showing increase in forced expiratory volume in 1st second[FEV1] by 12% and 200 ml from prebronchodilator value. Also collected were detailed demographic data, smoking habits, atopic symptoms, and any family history suggestive of asthma along with relevant environmental history.

Results – The study included 335 cases .out of which 282 patients were diagnosed in OPD and 53 patients were diagnosed after being admitted to the ward. Majority of the cases were male [63%]. Urban areas were represented more [76%]. Socioeconomically middle and lower class were having equal prevalence [41.7%each]. Most of the cases were non-smokers. Age wise most of the cases were below 45 years [83%]

Symptom wise cough was the most common symptom [96%] followed by dyspneoa [90%],wheezes[82%]sputum production[60%]chest discomfort[58%] and nocturnal awakenings[30%]

Among associated conditions rhinitis was commonest [55%], followed closely by obesity[38%],sinusitis[37%] and urticaria[20%].

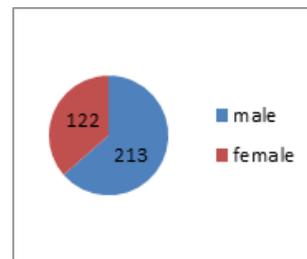In severity, most of the newly diagnosed cases were moderate persistent [37%] followed by mild persistent [35%] .
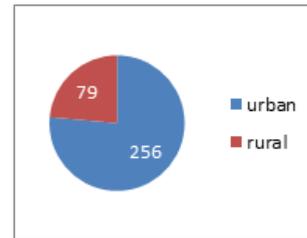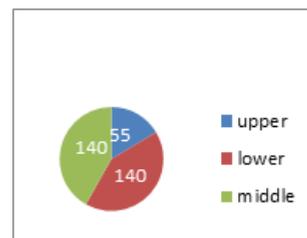

Figure 1 Sex ratio

Figure 2 Residence

Figure 3 Socio-economic strata

Table 1.Demography profile of patients of Bronchial Asthma	
Demography pattern	**Number (%)**
Gender-Male	213[63.58]
Female	122[36.41]
Residence - Urban	256[76.41]
Rural	79 [23.58]
Socioeconomic status –Upper	55 [16.41]
Middle	140[41.79]

Lower	140[41.79]
Diagnostic status –New	245[73.13]
Old	90 [26.86]
Smoking status-Smoker	102[30.44]
Non-smoker	233[69.55]
Age distribution 16-30 yrs	214[63.88]
31-45 yrs	67[20.00]
46-60 yrs	36[10.74]
>60 yrs	18[5.37]
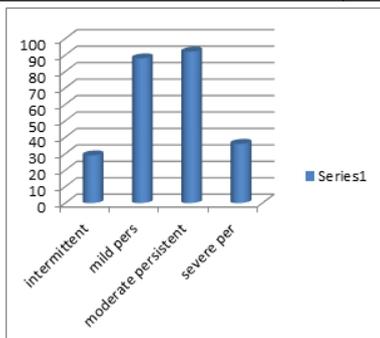
monthwise cases and percentage

JAN	21	6.268
FEB	18	5.373
MAR	33	9.850
APR	45	13.43
MAY	29	8.656
JUNE	23	8.656
JULY	19	5.671
AUG	22	6.567
SEP	16	4.776
OCT	42	12.53
NOV	39	11.64
DEC	28	8.358

- **Maximum cases were reported in months of April, October and November.**

Discussion – According to WHO, Between 100 and 150 million people around the world suffer from asthma and this number is rising. India has an estimated 15-20 million asthmatics. Strongest risk factors for developing asthma are exposure, especially in infancy, to indoor allergens (such as domestic mites in bedding, carpets and stuffed furniture, cats and cockroaches) and a family history of asthma or allergy.

Present study shown male predominance, also reported by other studies [3, 4, 5.] Maximum cases were in age group 16-30 similar to previous studies [4, 5] Maximum cases were pertaining to urban areas as opposed to rural, again similar to previous studies.[3,6] Here it is also prudent to mention that nearest urban area of Lalkuan is having a paper mill, which might be resulting into serious air pollution causing urban predominance as well.

The socioeconomic strata commonly involved was lower and middle ,which was in concordance with other studies showing predominantly lower socio economic strata involvement.[3]

Rhinitis was commonest associated condition, which again shows consistency with previous studies[7 8, 9,] Cough as a commonest symptom was also reported by other studies. Maximum cases presented to us during March- April and October –November. Mild representation of atopy and history of passive smoikng was also there in the study population.

Conclusion

In conclusion, our study provided information regarding the demographical etiological and clinical pattern of bronchial asthma in a tertiary care centre in Uttarakhand. In solidarity with trends in rest of India, its having male predominance, young age, urban area, low socio-economic status ,and there is a need to convey the society that early detection and compliance to medication can make the life of an asthma patient near normal.

REFERENCES

1   GINA. Global iniatitive for Asthma Management and Prevention. [Last revised on 2017 Aug 12] web link www.ginasthma.org
2   SK Jindal. Do we care asthma? Indian J Med Res, 2012; 135 : 157-9
3   Aggarwal AN, Chaudhry K, Chhabra SK, D'Souza GA, Gupta D,Jindal SK, et al. Prevalence and risk factors for bronchial asthma in Indian adults: A multi-centre study. Indian J Chest Dis Allied Sci 2006;48:13-22.
4.   Vijayakumar S, Sasikala M, Mohammed TS, Gauthaman K A perspective study of asthma and its control in Assam. World Acad Sci Eng Technol 2009;55:134-36.
5.   Olufemi O, Alakija KS, Oluboyo PO. Self reported risk factors of asthma in a Nigerian adult population. Tur Toraks Der 2009;10:56-62.
6.   Navarro A, Valero A, Juliá B, Quirce S Coexistence of asthma and allergic rhinitis in adult patients attending allergy clinics: ONEAIR study. J Investig Allergol Clin Immunol 2008; 18:233-8..
7.   Demoly P, Bousquet J. The relation between asthma and allergic rhinitis. Lancet 2006;368:711-3.
8.   Bugiani M. Allergic rhinitis and asthma comorbidity in a survey of young adults in Italy. Allergy 2005;60:165-70.
9.   Singh AK' Jain VK, Mishra M. Clinical profile of bronchial asthma patients reportingat respiratory medicine outpatient department of teaching hospital. Indian J Allergy Asthma Immunol 2015 29:3-6