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A STUDY OF CLINICAL PROFILE AND FACTORS ASSOCIATED WITH BRONCHIAL ASTHMA IN PEDIATRIC PATIENTS AT PERIPHERAL HEALTH INSTITUTE

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ABSTRACT

Background: The prevalence of the asthma in childhood is very much in Indian population and is second common cause of chronic illness associated with high morbidity. Word Asthma was used first time in Homer's lliad with meaning of short drawn breath but this medical term is first found in corpus Hippocraticum. The Disease Asthma is a chronic inflammatory condition of small airways resulting in episodic airflow limitation. Status asthamaticus is very dreadful condition causing extreme airflow limitation**.**

Aim and objectives: In this study we aimed to study the factors associated with bronchial asthma from history recovered regarding various factors in OPD patients who presented with symptoms.

Methods: Children aged between 0 to 14 years presenting to pediatric OPD with the symptoms who has been previously treated for asthma or who have more than three episodes of airflow limitation/wheeze were studied. The study was conducted over 2 years from May 2018 to May 2020.

Results: In our study 80 patients were included from age between 0-14 years and were studied for different variables. In our study 58.7% cases were males and 47.3% were females. Maximum cases (53.7%) were between 5-9 years old followed by 25% in age group 0-4 years and then 21.3% cases in age group 11-14 years. 77.5% cases reported audible wheeze, 88.75% cases reported subcostal indrawing and silent chest and cyanosis was reported in 10% and 2.5% cases respectively**.** Altered sensorium was present in 5% cases. Cough was the prominent complaint for presenting in OPD in 90% cases, followed by breathlessness in 80% cases, fever (41%), and Nocturnal Cough in 58.7% cases. Feeding difficulty was present in 17.5%. In our study 33.7% were low birth weight babies at birth and 66.25% were appropriate for their gestational age. H/o atopy was present in 46.25% cases in the study and history of allergy from dust mite was reported by 66.25% cases. About 29% sibling had similar history of asthma/wheeze. Seasonal variations were seen in 85% cases and about 31% cases reported exacerbations which required Hospitalisation.

Conclusion: In our study of clinical profile of asthma, 47(58.7%) out of 80 asthmatic patients were male showing male predominance of asthma. In our study most common age group of presentation of asthma was between 5 to 9 years in 53.7% cases. Most common risk factor for asthma was found to be allergy from dust mite and 90% cases presented with cough and 80% cases of asthmatic patients were presented with breathlessness as most common symptoms.

Key words: Asthma, atopy, breathlessness, cough

Introduction: Rhino viral infection is the main causative agent responsible for the execrations in asthma. Its role has been studied both in pediatric age group as well as in adults and these patients are on regular therapy of Beta2 agonists and inhaled steroids to prevent exacerbations. A study has been shown the results regarding acute asthma exacerbations in children with peak flow reduction in 80 -85% cases with underlying etiology as Rhino viral infection in upper airway. Rhinovirus is also detected in about 80% of child with wheezing in school age children and 50% adults (1). In India, rough estimates indicate a prevalence of asthma between 10-15% in 5-11 year children. Asthma is a serious public health problem throughout the world, affecting of all ages when uncontrolled. It can place severe limit in daily life and is sometimes fatal (2, 3). Cause of chronic morbidity affecting about 300 million people worldwide is Bronchial asthma (4) and number could increase further by another 100 million by year 2025(5). Various associated factors that may trigger or worsen asthma symptoms include viral infections, tobacco smoke exposure, exercise and stress, domestic or occupational allergens (e.g. house dust mite, pollens, and cockroach).(6) Risk factors may be different in different geographical conditions and locations and no studies had been conducted with regard to this in this area. Recognition of such associated factors will be useful for taking specific interventional measures at community level. This study was done to identify the clinical profile and various associated factors in patients with bronchial asthma at peripheral health care centre.

Material and Methods: The study was conducted over 2 years from May 2018 to May 2020 in peripheral health institute in Civil Hospital Jwalamukhi of district Kangra in Himachal Pardesh.Children aged between 0 to 14 years presenting to Pediatric OPD with the symptoms who has been previously treated for asthma/labelled as asthmatics or who have more than three episodes of airflow limitation (wheeze) were studied. The history was obtained from the caregivers who were mothers in most of cases regarding birth weight, h/o atopy of any kind in parents, h/o of allergy to dust mite in child, h/o asthma in parents, h/o asthma execrations episodes requiring hospital admissions, seasonal variations, sibling with similar history and symptoms with which patients presented to OPD were studied.

Results: In our study 80 patients were included from age between 0-14 years and were studied for different variables. In our study 58.7% cases were males and 47.3% were females. Maximum cases (53.7%) were between 5-9 years old followed by 25% in age group 0-4 years and then 21.3% cases in age group 11-14 years. 77.5% cases reported audible wheeze, 88.75% cases reported subcostal indrawing and silent chest and cyanosis was reported in 10% and 2.5% cases respectively. Altered sensorium was present in 5% cases. Cough was the prominent complaint for presenting in OPD in 90% cases, followed by breathlessness in 80% cases, fever (41%), and Nocturnal Cough in 58.7% cases. Feeding difficulty was present in 17.5%. In our study 33.7% were low birth weight babies at birth and 66.25% were appropriate for their gestational age. H/o atopy was present in 46.25% cases in the study and history of allergy from dust mite was reported by 66.25% cases. About 29% sibling had similar history of asthma/wheeze. Seasonal variations were seen in 85% cases and about 31% cases reported exacerbations which required Hospitalisation

Table 1. Distribution of patients according to age group

Age group	No. of cases	Percentage (%)
0-4 yrs.	20	25%
5-9 yrs.	43	53.7%
10-14 yrs.	17	21.3%

Table 2. Show sex distribution (n=80)

Sex	No.(n)	Percentage (%)
Male	47	58.7%
Female	33	41.3%

Table 3. Clinical Presentation (Symptoms & signs)

Clinical features & Signs	No. of patients (n=80)	Percentage
Breathlessness	64	80%
Cough	72	90%
Fever	33	41.25%
Nocturnal cough	47	58.7%
Feeding difficulties	14	17.5%
Altered sensorium	4	5%
Audible wheeze	62	77.5%
Subcostal indrawing	71	88.75%
Silent chest	8	10%
Cyanosis	2	2.5%

Table 4. History regarding different variables of patients

History of Characters		No of cases (n)	Percentage (%)
Birth weight	<2.5kg	27	33.75%
	>2.5kg	53	66.25%
History of Atopy		37	46.25%
History of allergy from dust mite		53	66.25%
History of similar complaints in sibling		23	28.75%
History of atopy in parents		21	26%%
History of hospitalisation for exacerbation's		25	31.25%
Seasonal Variations		68	85%

Discussion: During the 2 years of period, total 80 patients qualified for this study. Out of 80, 52 patients were newly diagnosed/labeled as asthma where 28 patients were known case of asthma presented with exacerbation. . In our study 58.7% cases were males and 47.3% were females thus male sex has more chances to develop asthma. Maximum cases (53.7%) were between 5 yrs. to 9 yrs. It can be explained on the basis that in this period max children takes admissions to schools and the chances of getting infected with viral diseases get increased. Symptoms of breathlessness present in 80% of patients and cough were present in 90% of patients which were comparable to studies by Batra (7), Ratageri et al. (8) and Gandhi P (9). 94.5% patients in the present study had audible wheeze in 77.5% which was less as comparable to other studies like in Batra et al 87% (7)

and Ratageri at el(8) 88.16%. 10% patients presented with silent chest with severe exacerbation. Which were comparable to Gandhi P 6.66% (9). 2.5% patients presented with cyanosis and 5% patients presented with altered sensorium secondary to hypoxia in severe attack which was less as comparable to other studies like in Gandhi P 6.66% (9). Nocturnal cough was present as a symptom in 58.7% cases in our study .It was found in 90% patients in study done by schntzer et al.(10) while Batra et al.(7) found 60% and Gandhi P(9) found 73.3% had nocturnal symptoms. According to study done by Pearson et al. family history of atopy was present in 18% cases and in our study it was 26% in parents. This is in accordance with the fact that asthma risk doubles when parents have history of atopy. In our study seasonal variation were seen in almost 85% cases which thus proves that parents have to be very careful and alert during change of seasons. We found that the 31% children presented with the exerbations in hospital which is very large as it might be fatal for the children sometimes. Therefore the early recognition and firstaid treatment at home should be made practiced and compliance to the treatment with regular visits to physician should be done to decrease the incidence of the exerbations.

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