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KNOWLEDGE AND PRACTICE OF PARENTS AND GUARDIANS ABOUT CHILDHOOD ASTHMA: A SURVEY

[1]*Dr. Mohammad Zaeem Khan and [2]Dr. Raja Raman Bir Singh

[1]Registrar, Chest and TB Department, GMC Jammu.
[2]Senior Resident ENT ASCOMS Jammu.

***Corresponding Author: Dr. Mohammad Zaeem Khan**
Registrar, Chest and TB Department, GMC Jammu.

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INTRODUCTION

With more than 300 million cases found worldwide, asthma is one of the most common chronic diseases,[1] Morbidity and Mortality has intensified public health concerns with the increase in asthma prevalence.[2] In 2006, it was estimated that 14% of the world's children experienced symptoms of asthma.[3] According to studies conducted over the past three decades, the prevalence of asthma in children ranges from 8% to 25%.[4–7] Asthma is considered the third leading cause of hospitalization among children under the age of 15 and one of the leading causes of absenteeism from school.[8] This issue results in inadequate or low assessment made by teachers of their social, psychological, and educational needs.[9]

All asthma management guidelines intensify the importance of the role of the family in managing childhood asthma. Reports in the literature indicate that the severity of asthma among children can greatly be controlled by proper management of the disease by the family.[10] Moreover, family management of children with asthma is affected by several factors, such as parent's knowledge and attitude toward asthma, level of education, income, access to health care, and medications. An example was found in a study conducted in China where most parents of children with poor adherence to medication regimen were worried about the effect of medication on their children's growth and where 23.98% of parents were worried about the potential harm to their children's intelligence.[2] Similarly, in Pakistan, a study exploring the knowledge of asthma among parents of asthmatic children revealed many misconceptions regarding the triggers of asthma, and up to 37% of participants thought that asthma was contagious.[11]

In a study carried out in 2013 in Riyadh, to explore the caregiver's knowledge and its relationship to asthma control among children, found that the prevalence of uncontrolled asthma was three times higher in children of the participants who have misconceptions about the proper time to stop asthma medication. They believed that medication should be stopped once the coughing is over and after an acute asthma attack has resolved.[12] Likewise, a study of the perception of parents and guardians toward asthma in their children, conducted in the emergency unit at King Saud Bin Abdulaziz University, Saudi Arabia, found that most of the participants were aware of asthma.[10]

MATERIALS AND METHOD

This study was conducted in outpatient clinics of a private Hospital in Himachal Pradesh during the period from August 2017 to March 2018.

The inclusion criteria were: (i) a minimum duration of 2 years since the onset of symptoms; and (ii) age between 6-17 years at the time of interview.

The sample was divided into Group A (age 6-9 years, n=50), Group B (age 10-13 years, n=50) and Group C (age 14-17 years, n=50). The diagnosis of asthma was based upon history of recurrent reversible bronchospasm and response to bronchodilator drugs.

After obtaining informed consent, the family characteristics were noted down. Following this, the questionnaire for assessment of knowledge about asthma was administered. This questionnaire contained 17 questions, each answerable as one of a limited number of choices.

Some questions allowed for spontaneous answers. The questions dealt with the nature of the illness, natural history and prognosis, etiology and treatment of asthma. Parents were asked as to how they reacted when the child developed an acute attack. The responses for various age groups are displayed in Table 1.

ACTION	Gp A (%age)	Gp B (%age)	Gp C (%age)
Give drug	21	29	37
Consult doctor	13	12	9
Go to hospital immediately	6	3	3
Go to hospital next morning	10	6	1

The majority of the parents either gave broncholdilators to the child at home, or consulted a doctor. The less favored actions were taking the child to the hospital-on that very day, or the next day. Parents were asked whether there was a cure for asthma.75 (50%) believed that treatment from our hospital would cure their child. The rest of the group was divided between various alternative systems of medicine, with more people favoring homeopathy, other systems of medicine and God men.

When asked about the side effects of drugs which their child was receiving, only 8 (5.3%) could enumerate them correctly. 23 (15.3%) enumerated incorrect side effects. 78 (52%) were not aware of the side effects and 41 (27.3%) out of these believed that there were no side effects at all.

Most parents 110 (73.3%) said that they were regular in their follow up visits to the hospital. Again, 88 (58.7%) said that they were able to comply with the doctors instructions regarding administration of drugs.

CURE	Gp A (%age)	Gp B (%age)	Gp C (%age)
None	11	9	4
Hospital	23	21	31
Homeopaty	4	7	3
Ayurveda	9	4	3
Saints	1	4	1
Accupressure	1	3	4
Yoga	1	2	4

RESULTS

The respondent was the father in 89 cases and the mother in 61 cases. Eighty two (54.6%) patients belonged to Himachal. Of the others 29 (19.3%) came from Punjab, 22 (14. 6%) came from Haryana, 7 (4.4%) came from U.P. and 10 (6.6%) were from other states. Sixty six (77.6%) families were urban and 19 (22.3%) were rural in origin. Ninety eight (65.3%) of the patient were Hindus and 44 (21.2%) were Sikhs and 8(5.3%) were Muslims. Most of the families belonged to middle and lower middle SES. 21 families had another asthmatic member in the family. The duration of illness varied from 2-12 years. In 35 (23.3%) cases, the onset of illness was before 3 years of age and in 48 (32%) cases it was between 4-6.years of age. Overall, 49 (32.7%) of those interviewed believed that asthma is a hereditary disease. 18 (12%) held that asthma is contagious. Significantly more rural subjects as compared to urban parents held this belief. When asked about the chances of asthma occurring in other children in the family, only 15 (10%) stated the chances to be very high, 25 (16.6%) said the chances were high and 38 (25.3%) said there was only a small chance. Nearly half (n=72, 48%) said that the siblings were at no risk at all.

Twenty one (14%) parents believed that asthma occurred due to supernatural influences. The chief source of asthma related knowledge was the physician in 47.3% cases. Friends and relatives (14.4%) and rarely books (4.5%), were the other sources. Half of those interviewed (61.2%) said that there was no particular source from where they had acquired knowledge about asthma. A large number of parents (78%) admitted that they hesitated in disclosing the fact that their child suffered from asthma. A strong correlation was found between SES of the family and the response with none of the respondents in high and upper middle SES considering asthma to be a stigma. No association was found with religion or urban/ rural background of the family. 53 (35.3%) of those interviewed believed that asthma is a life long disease. 87 (58%) said that cure is possible in some cases. Only 10 (6.6%) believed that asthma is always self limited.

84 (56%) parents were aware of situations that precipitated an acute attack of asthma. Food items, change in weather and exposure to cold were frequently mentioned. Nearly all parents (n=131, 87.3%) believed that even a mild attack of asthma should be treated. Related to this was the fear that the child might die during an acute attack (n=93, 62%).

DISCUSSION

The purpose of this study was to explore the level of knowledge and practice of parents and guardians in the management of asthma in their children. The majority of participants in the current study were parents with a mean age of 38 years. Diagnosis of asthma is difficult before the age of 6,owing to inability of children below this age group to perform spirometery effectively. So, children of age group below 6 yrs were not included in the study.

Most children were boys aged ≥6 years. This is a similar finding to that of another local study that found most

children with asthma (86%) to be between the ages of 8 and 12 years.[13]

The main source of asthma related knowledge was the physician (47.3%). However, the results point towards a poor level of communication between the parents and the physician. It was surprising to find that in many cases, it was the investigator who first disclosed the diagnosis of asthma to the parents inspite of the fact that the child had been symptomatic for over two years and receiving bronchodilator drugs. Previous studies[14,15] have also pointed out that parents feel unsatisfied with the information provided by the physician.

In the present study no attempt was made to find out the correlation between the satisfaction level of the parents and the seniority of the clinician with whom they interacted. In our society the diagnosis of asthma is viewed as a stigma. 78% of those interviewed in this study confessed that they hesitated to disclose to others that their child suffered from asthma. Parents used terms like allergy, chronic cough, chest congestion, *etc*. to refer to their child's illness. The fact that parents were told of their child's diagnosis only in the hospital although they had been symptomatic and being treated, for variable durations before presenting to us, speaks volumes about the euphemisms being used for asthma by the doctors in the community. The colloquial term for asthma-'DAMA'-in particular evoked anxiety. It was observed that this problem is prevalent only in the middle and lower socio-economic status. Class values and educational status are probably the basic determinants. Another possible reason why this attitude exists is that many people believe asthma to be contagious. One third of those interviewed held this belief which was more common amongst parents of younger children and rural background. Although it is difficult to postulate the basis of this belief, the consequences, as far as the child is concerned, are probably serious. In many families the affected child was not allowed to share food with the other siblings. It is reasonable to presume that such actions on the part of the mother make the asthmatic child feel different or inferior to other children by repeatedly reminding him of the fact that he has asthma. It remains to be studied whether this contributes to behavioral disturbances in asthmatic children.

Parents described a variety of factors which could precipitate an attack of asthma in their child. These were foods, cold weather, change in season, exertion and others. Most parents were restricting certain foods in their child's diet because of these beliefs. These foods were rice, curd and orange (which are considered to be cold), pickles, chutney and sauces (which one considered to be sour), dais like urad and moong, rajmah (kidney beans), rice and green peas (which are believed to produce gas), and bananas. In a previous study[16] similar observations were made and it was pointed out that foods generally known to be allergenic like bovine milk, eggs, nuts and peanuts were not listed by the parents. Such beliefs were not restricted to any particular SES group.

Similarly, urban and rural patients did not differ significantly in this regard. It is important for the better control of asthma that acute exacerbations be recognized and treated at the onset.[17] Most parents in this study agreed that even a mild attack should be treated with drugs. In nearly two-third of the cases, bronchodilator drugs were started at home without consulting a doctor. Patients belonging to the upper SES groups were more likely to receive drugs at home. An important observation was that those parents whose children had a longer duration of asthma (over 6 years) were still as likely to self administer bronchodilators as those with a shorter duration of the disease. Parents held diverse views regarding the prognosis and treatment of asthma.

Out of the 60% who believed that asthma can be cured, only half expressed faith in allopathy. There was a general tendency to seek treatment from other systems of medicine. Because the study was hospital based, this figure should be considered an underestimate. Homeopathy appeared to be the most popular alternative. This is a manifestation of the well known tendency to seek alternatives in regard to treatment leading to cure for all chronic ailments. Also, there is a fear expressed by people that modern medicines are very 'strong' or produce 'heat' in the body and thus harm the individual in the long run.

Childhood asthma is an illness which is going to become more common in the coming years. Considering the chronic and unpredictable nature of the illness, there is an urgent need to improve communication between parents of asthmatic children and the treating physician [17]and give serious attention towards educating the family regarding asthma so that they can become partners in management of their child's illness.

The role of the family physician in caring for childhood asthma is growing, and a stricter referral system is being implemented, where patients need to be checked and managed first by family physicians and in the more difficult cases to be referred to specialists. The Internet is a growing source of health information in developing countries, and in this study, very less no. of participants reported the Internet as a source of information about asthma. Considering the brevity of clinic visits and the lack of asthma educators in many health facilities, the role of the Internet as a source of asthma education needs to be enhanced, and more professional and certified Arabic Web sites for health education should be made available for patients and their families. Despite most of the participants in this study having a good knowledge of the background of asthma, common symptoms, and aggravating factors, still there is a knowledge gap regarding medications.

CONCLUSION

This study revealed a moderate level of knowledge about asthma among the parents and guardians of asthmatic children. For better control of asthma, more effort is needed to educate caregivers and to enhance their awareness about asthma, at both hospital and community levels. Regarding the limitations of this work, this study was carried out in the outpatient department of a private hospital, and the findings may not be generalizable to all communities; we used a self-administered questionnaire in this research, and recall bias cannot be excluded. In addition, information reported by fathers may not be accurate since they are not usually the caregiver of asthma management at home.

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