

KNOWLEDGE OF ASTHMA AMONG PARENTS OF ASTHMATIC CHILDREN

Ashutosh Lai
Lata Kumar
Savita Malhotra

ABSTRACT

The knowledge and attitude towards asthma, of parents, of 85 asthmatic children was assessed using a 17 item questionnaire. Results showed that 34.1% believed asthma to be contagious, 48.2% of the parents hesitated in referring to their child's illness as asthma. Other, commonly held beliefs were that asthma is a life long illness (35.3%); food items are important precipitating factors for acute attacks (88.2%); mild exacerbations need to be treated with bronchodilators (6.3%); bronchodilators should be started at home before consulting a physician in case of an acute attack (61.2%); and cure of asthma is possible through modern drugs (30.6%) or through alternative systems of medicine (65%). Ninety one per cent of parents lacked an awareness of the side effects of anti-asthma medication. It is concluded that parental education through improved physician parent communication is necessary for enhancing the quality of care being provided to children with asthma, a fact also highlighted by the International Consensus Report on Management of Asthma.

Key words: Childhood asthma, Parental knowledge, Parental attitude.

Asthma is the commonest chronic illness of childhood and accounts for more school absenteeism than any other chronic illness(1,2). According to Starfield(3), 10.5% of children have suffered from one or more episodes of asthma by age of 17 years. Western studies have also unequivocally established the increase in prevalence of asthma(4). The number of hospital admissions and deaths due to asthma have also increased(5).

Parental perception of the child's illness is a significant factor in the compliance with treatment. In addition, parental perception of what the child may or may not be able to do greatly influences what the child then believes he or she is capable of accomplishing(6,7). Studies conducted in the past have shown inadequate *physician-parent communication, basic misconceptions about the illness and drug treatment and problems pertaining to discipline and overprotection. The present study was conducted to assess the level of understanding and the beliefs held by parents of asthmatic children regarding the causation, prognosis and treatment of asthma.

Material and Methods

The sample consisted of 85 asthmatic children attending the Out Patient Department, Emergency and Allergy

From the Departments of Pediatrics and Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012.

Reprint requests: Dr. Lata Kumar, Additional Professor, Department of Pediatrics, PGIMER, Chandigarh 160 012.

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Clinic of Postgraduate Institute of Medical Education and Research (PGI), Chandigarh between January 1989 and August 1990. 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=30), Group B (age 10-13 years, n=30) and Group C (age 14-17 years, n=25). 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. The socioeconomic status (SES) of the family was determined according to Gupta and Sethi's (8) SES scale and divided into high, upper middle, middle, lower middle and low SES groups. 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. A pilot study was carried out on 10 patients to test the questionnaire before using it for the present study.

The interview was conducted in a separate room with either the mother or the father of the patient depending upon whoever had brought the child to the hospital on that day. No attempt was made to correct a wrong answer till the end of the interview. Statistical analysis was performed using Chi-square test and paired t-test.

Results

The respondent was the father in 25 cases and the mother in 60 cases. Forty three (56.6%) patients belonged to Chandigarh. Of the others 20 (20.5%) came from Punjab, 8 (9.4%) came from Haryana, 7 (8.2%) came from U.P. and 7 (8.2%) were from other states. Sixty six (77.6%) families were urban and 19 (22.3%) were rural in origin. Sixty five (76.5%) of the patient were Hindus and 18 (21.2%) were Sikhs. The SES of the families is given in *Table I*. Sixty seven per cent of the families belonged to middle and lower middle SES. Thirteen families had another asthmatic member in the family. The duration of illness varied from 2-12 years. In 25 (29.4%) cases, the onset of illness was before 3 years of age and in 28 (32.9%) cases it was between 4-6 years of age.

Overall, 29 (34.1%) of those interviewed believed that asthma is a hereditary disease. Twenty six (36.6%) held that asthma is contagious. The response to this item was significantly associated with the age of the child ($\chi^2 = 10.28$, $p < 0.01$); a greater proportion of parents

TABLE I-Groupwise Distribution of Socio-economic status

SES	Groups			Total (%)
	A	B	C	
High	0	0	1	1 (1.2)
Upper Middle	2	3	5	10 (11.8)
Middle	10	11	9	30 (35.3)
Lower Middle	11	11	5	27 (31.8)
Lower	7	5	5	17 (20.0)

of younger children stating that asthma is a contagious disease. Significantly more rural subjects as compared to urban parents held this belief ($\lambda^2 = 7.16$, $p < 0.01$). There was no significant association, however, with either the SES of the family ($\lambda^2 = 3.34$) or the sex of the respondent ($\lambda^2 = 0.66$).

When asked about the chances of asthma occurring in other children in the family, only 6 (7.1%) stated the chances to be very high, fifteen (17.6%) said the chances were high and 18 (21.2%) said there was only a small chance. Nearly half ($n=42$, 49.4%) said that the siblings were at no risk at all. Twelve (14.1%) parents believed that asthma occurred due to supernatural influences.

The chief source of asthma related knowledge was the physician in 42.3% cases. Friends and relatives (9.4%) and rarely books (3.5%), were the other sources. Half of those interviewed (49.2%) said that there was no particular source from where they had acquired knowledge about asthma.

A large number of parents (48.2%) admitted that they hesitated in disclosing the fact that their child suffered

from asthma. The relationship of this attitude towards asthma with the SES of the family is depicted in *Table II*. It is evident that there is a strong correlation 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. Significantly more mothers (64%) when compared to fathers (35%) said they felt hesitant in disclosing the diagnosis of asthma ($\lambda^2 = 7.35$, $p < 0.01$).

One-third (35.3%) of those interviewed believed that asthma is a life long disease. Forty one (48.2%) said that cure is possible in some cases. Only 9 (10.6%) believed that asthma is always self limited.

Seventy five (88.2%) 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 ($n=81$, 95.3%) 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 ($n=66$, 77.6%).

TABLE II—Asthma, A Stigma: Relationship to SES

Stigma	High	Upper middle	Middle	Lower middle	Lower	Total
Yes	0	0	14 (16.5)	18 (21.2)	10 (11.8)	42 (49.4)
No	1 (1.2)	10 (11.8)	16 (18.8)	9 (10.6)	7 (8.2)	43 (50.6)
Total	1	10	30	27	17	85

Chi square = 14.41, $p < 0.001$, Degrees of freedom = 2.
 Figures in parentheses indicate percentages.

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 UL*. The majority of the parents (89.4%) either gave bronchodilators 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. The relationship of various other variables to the practice of administering bronchodilators at home is given in *Table IV*.

Parents were asked whether there was a cure for asthma. Twenty six (30.6%) 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 (9.9%) and God men (16.6%) (*Table V*).

When asked about the side effects of drugs which their child was receiving, only 8 (9.4%) could enumerate them correctly. Nineteen (22.6%) enumerated incorrect side effects. Fifty eight (68.2%) were not aware of the side effects and 10 out of these believed that there were no side effects at all.

Most parents (81.2%) said that they were regular in their follow up visits to the hospital. Again, 72 (84.7%) said that they were able to comply with the

TABLE III—First Step Taken in Case of an Acute Attack of Asthma (n=85)

Action	Groups			Total (%)
	A (%)	B (%)	C (%)	
Give drug	15 (50.0)	19 (63.3)	18 (72.0)	52 (61.2)
Consult doctor	10 (33.3)	8 (26.7)	6 (24.0)	24 (28.2)
Go to hospital immediately	4 (13.3)	3 (10.0)	0 (0.0)	7 (8.2)
Go to hospital next morning	1 (3.3)	0	1 (4.0)	2 (2.4)

TABLE IV—Administration of Bronchodilators at Home at the Beginning of Attack

Variable	Chi-square value	p value
1. SES	8.10	<0.02
2. Chandigarh residents versus other states	7.54	<0.01
3. Urban versus rural family	8.24	<0.01
4. Duration of illness (<6 yr versus >6 yr)	3.15	>0.05
5. Severity of asthma	3.15	>0.05
6. Mothers versus fathers assuming primary responsibility for the child's treatment	0.00	>0.05

TABLE V—Is There a Cure for Asthma?

Cure	Groups			Total (%)
	A (%)	B (%)	C (%)	
None	13 (44.3)	11 (36.7)	11 (44.0)	35 (41.2)
PGI	10 (33.3)	10 (33.3)	6 (24.0)	26 (30.6)
Saints	3 (10.0)	6 (20.0)	0 (0.0)	9 (10.6)
Homeopathy	2 (6.7)	2 (6.7)	4 (16.0)	8 (9.4)
Ayurved	1 (3.3)	0 (0.0)	3 (12.0)	4 (4.7)
Acupressure/yoga	0 (0.0)	1 (3.3)	1 (4.0)	2 (2.5)
Don't know	1 (3.3)	0 (0.0)	0 (0.0)	1 (1.2)

doctors instructions regarding administration of drugs.

Discussion

The main source of asthma related knowledge was the physician (42.3%). 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 in spite of the fact that the child had been symptomatic for over two years and receiving bronchodilator drugs. Previous studies(9,10) 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. Fifty per cent 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(11) 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(12). 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 Chandigarh and 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 (65% of the sample). 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(12) and give serious attention towards educating the family regarding asthma so that they can become partners in management of their child's illness. Pediatricians must take the lead in this regard.

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