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A Survey of Knowledge, Attitude and Practices of mothers of asthmatic children; an Indian Experience

Gynaecology

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ABSTRACT

Background; wheezing disorders like asthma have significant negative impact on disability adjusted life-years (DALY) index. Their timely recognition, which is highly dependent on care givers knowledge, is the most important step in the management of such disorders. Aim; The purpose of this study was to assess the knowledge, attitude and practices of mothers of asthmatic children. Methods; a total of 300 mothers having children aged 6 months to 18 years were enrolled in the study. Results; Maximum number of mothers (79.3%) reported change in weather as the most important precipitating factor for their child's illness. Dust (47.3%), food/drinks (42.7%) and cold air (37.3%) were other commonly reported precipitating factors. Mothers had poor knowledge about home management of an acute attack of asthma. Only 34% of mothers give aerosol therapy during an acute attack. Although majority of mothers knew about aerosol therapy, but they were not using it because of various false beliefs like addictive nature of therapy, social stigma associated with its use and its side effects. Conclusion: information about wheezy disorders like asthma was inadequate among mothers of asthmatic children in our setting. Misconceptions about the disease and the available therapies and paucity of information about current trends in management are significant findings. Keywords: Wheezing disorders, Children, Asthma, knowledge

KEYWORDS:

INTRODUCTION : A wheeze (formally called "sibilant rhonchi" in medical terminology) is a continuous, coarse, whistling sound produced in the respiratory airways during breathing.1 Population studies have shown that approximately one in three children has at least one episode of wheezing prior to his third birthday, and the cumulative prevalence of wheeze is almost 50% at the age of 6 yrs.2, 3 Asthma, the most common cause of wheeze in children, affects an estimated 300 million individuals worldwide. Annually, the World Health Organization (WHO) has estimated that 15 million disability-adjusted life-years are lost and 250,000 asthma deaths are reported worldwide4. Timely recognition, which is highly dependent on care givers knowledge, is the most important step in the management of such disorders. This prompted us to conduct a survey to assess knowledge, attitude and practices of mothers of asthmatic children aged 6 months to 18 years.

Methods: This cross sectional study was carried out in the Department of Pediatrics, Government Medical College, Amritsar. The mothers, 300 in number, having children aged 6 months to 18 years were enrolled in the study. Before the enrollment clearance from hospital ethical committee was obtained and written informed consent was taken from the mothers of all the participants. The sampling for the study was done randomly among the mothers of children visiting the Outdoor Department, Indoor Department and Allergy and Asthma clinics. Inclusion criteria: Mothers accompanied by children aged 6 months to 18 years, having two or more episodes of wheezing in the preceding six months; Mothers of children diagnosed as asthma. Exclusion criteria: Mothers of children having cerebral palsy or significant congenital abnormalities; Mothers with adopted child/children; Mothers belonging to medical or paramedical profession. The method adopted for the collection for the data was of Structured Interview Questionnaire Type. The questions translated in vernacular language from the questionnaire were asked in a face to face interaction session and the responses were recorded in the proforma attached to the plan. Mothers were asked about their qualification. Those who could not read and write were labeled illiterate. Those who had studied up to 10th standard were labeled less than high school and those who had studied more than 10th standard were labeled more than high school. Questions were asked regarding type of household. To label a house overcrowded, any of the following criteria of persons per room was used: 1 room : 2 persons ; 2 rooms: 3 persons; 3 rooms :5 persons; 4 rooms: 7 person ; 5 or more rooms: 10 persons; (additional 2 for each further Room). A baby under 12 months was not counted and children 1 to 10 years were counted as half a unit. Socioeconomic status was assessed by Modified Kuppuswamy scale. The estimated time taken to fill one questionnaire was 20-25 minutes.

RESULTS: A total of 300 mothers were selected for the study. They were asked questions pertaining to the study in a structured questionnaire having both open ended and closed ended responses. Demographic and other baseline characteristics have been depicted in table 1. Tablet 2 depicts factors precipitating child's illness and measures taken.

Table 1 Demographic and other Baseline line characteristics

Attribute		Count(n)/ %age	Attribute		Count(n) /%age
Age: M= Months; Y= Years			Residence		
	6 M – 3 Y	162 / (54)		Rural	177 (59)
	3 – 6 Y	75 (25)		Urban	123 (41)
	6 – 10 Y	39 (13)	Type of fuel		
	10 – 18 Y	24 (8)		Cow dung	4 (1.3)
sex				Firewood	6 (2)
	Male	183 (61)		Kerosene	8 (2.7)
	Female	117 (39)		LPG	203 (67.7)
Education of mothers				Mixed	79 (26.3)

	Illiterate	45 (15)	Any pet in the house		
	Less than high school	160 (53.3)		Yes	117 (39)
Type of household				No	183 (61)
	Kutcha	39 (13)	Any smoker in the house		
	Pucca	261 (87)		Yes	138 (46)
Overcrowding				No	162 (54)
	Yes	187 (62.3)	Socioeconomic status (by Kuppuswamy scale)		
	No	113 (37.7)		Upper	38 (12.7)
Ventilation				Upper middle	73 (24.3)
	Adequate	243 (81)		Lower middle	83 (27.7)
	Not adequate	57 (19)		Upper lower	75 (25)
				Lower	31 (10.3)

Tablet 2 Factors precipitating child's illness and measures taken

Factors (Mothers reply)	Count (n) / % age	What Measures do you take (Mothers reply)	Count (n) / % age
Change in weather	238/79.3	Avoid dust exposure	No. of Mothers
Tobacco smoke	31/10.3	Avoid smoke exposure	110/36.7
Dust	142/47.3	Avoid cold food items	28/9.3
Animal dander	0/0	No pets at home	125/41.7
Cockroach	0/0	Who advised you these methods? (Mothers	1/0.3
Strong odour/other smells	22/7.3	Medical staff	141/71.6
Exercise/sports	25/8.3	Paramedical staff	30/15.2
Cold air	112/373	Quacks	10/5.1
Medicines	10/3.3	Relatives/friends	16/8.1
Swimming	6/2		
Food/drinks	128/42.7		
Indoor mould	0/0		

Table 3 Mothers answer when asked whether her child is receiving any regular oral medication is shown in table 3. Remedies taken are depicted in table 4.

Table 3 Mothers answers when asked about aerosol therapy

Mother's answer		Count (n)/ % age
	Yes/no	38(12.7)/ 262(87.3)
If yes, Nature of medication	Beta agonist	6/15.8
	Steroids	5/13.2
	Antihistaminics	12/31.6
	Leukotriene modifiers	7/18.4
	Desi medication	3/7.9
	Homeopathic	3/7.9
	Nature not known	2/5.3

Table 4 remedies taken if child would develop acute wheezing/breathlessness/cough at home

Remedies	Count (n) / % age	Nature of medication (oral) available at home	Count (n) / % age
Give oral medications	205 (68.3)	Beta agonists	114 (38)
Steam inhalation	51 (17)	Steroids	19 (6.3)
Aerosol therapy	104 (34.9)	Antihistaminics	189 (63)
Immediately take child to doctor without doing anything at home	30(10)	Leukotriene modifiers	30 (10)
Others	6(2)	Desi medication	21 (7)
		Homeopathic	16 (5.3)
		Nature not known	32 (10.7)

Table 5 and table 6 depict the age of onset of wheeze and family history and knowledge of mothers about the disease respectively. Table 7 presents mother's answers when asked about aerosol therapy and table 8 mother's knowledge and perception about therapy and cure

Discussion: Out of the total 300 mothers, 54% had children in the age group 6 months - 3 years, 25% in 3 - 6 years, 13% in 6 -10 years and 8% had children above 10 years. Sixty one percent were having male and 39% were having female wards. Of the mothers who participated in the study, only 15% were illiterate, 53.3% had Fifty nine percent of them belonged to rural areas whereas 41% were residing in urban areas. Only 13% of them were living in kutcha houses and 87% were residing in pucca houses. Overcrowding was present in 62.3% of houses. Sixty seven percent of mothers were using LPG as fuel in their houses while 33 percent were using other fuels like firewood, cow dung and kerosene. Thirty nine percent were having pet(s) in their houses. Forty six percent mothers reported to have smoker(s) in their houses (Table 1).

Out of the 300 mothers, 12.7% belonged to upper class, 24.3% to upper middle class, 27.7% to lower middle class, 25% to upper lower and minimum i.e. 10.3% to lower socioeconomic class as assessed by Modified Kuppuswamy scale (table 1).

Mahdi B et al 5 in their study on asthmatic patients have shown that family history of asthma was present in 44.5% cases of asthma. Zhao J et al 6 in their study on parents of asthmatic children in 29 cities of China had reported family history of asthma in 29.7% cases. In our study family history of asthma is given by 53% participating mothers (Table 5).

Table 5 Age of onset of wheeze and family history

Age	Count (n) / % age	Family history	Count (n) / % age
< 6 months	12 (4)	Siblings	49 (1.3)
6months – 3 years	183 (61)	Parents	56 (18.7)
3 – 6 years	94 (31.3)	Grandparents	35(11.7)
6 – 10 years	8(2.7)	Others	19(6.3)
10 – 18 years	3(1)	No history	141(47)

Asthma is a global problem due to ignorance or distorted information/knowledge of patients about their disease.7 Ignorance about the disease is not only a problem in rural areas, it is equally affecting asthma management in urban areas. Lai A et al 8 in their

study had found that 48.2% parents of asthmatic children hesitated in referring to their child's illness as asthma. Shivbalan S 9 in their study had shown that only 39% parents of asthmatic children accepted their child's illness as asthma. The physician was the only source of information regarding the diagnosis and disease related scientific knowledge to these parents. Out of rest of the parents 46% attributed their child's illness as wheeze, 8% as recurrent respiratory infections, 3% as eosinophilia, 2% as primary complex,1% as allergy and 1% as respiratory distress. In the present study 32.3% mothers accepted their child's illness as asthma. Of the mothers who accepted their child as suffering from asthma, 84.5% had come to know this from their physician. Out of 110 parents who refused their child's disease as Asthma, 43% attributed it to allergies, 17.3% to recurrent respiratory tract infections and 0.006% to pulmonary tuberculosis. There were 0.06% mothers who had no opinion about their child's illness (table 6).

Table 6 knowledge of mothers about the disease

Does your child has asthma?	Count (n)/ % age		Count (n)/ % age
Yes/ No	97 (32.3)/203(67.7)	Factors precipitating illness	
How did you come to know?		Change in weather	238 (79.3)
Medical staff	82 (84.5)	Tobacco smoke	31 (10.3)
Paramedical staff	8 (8.2)	Dust	142 (47.3)
Quacks	5 (5.1)	Animal dander	0 (0)
Relatives/friends	2 (2)	Cockroach	0(0)
your child is suffering from?		Strong odour/other smells	22 (7.3)
Allergy	129 (63.5)	Exercise/sports	25 (8.3)
Recurrent respiratory tract infections	52(25.3)	Cold air	112 (37.3)
Pulmonary tuberculosis	2 (0.9)	Medicines	10(3.3)
Don't know	20 (9.8)	Swimming	6 (2)
Who is treating your child ?		Food/drinks	128 (42.7)
Medical practioner(s)	211(70.3)	Indoor mould	0 (0)
Paramedical	50 (16.7)	Is your child's illness a hereditary disease?	
Homeopathic/ayurvedic	15 (5)	Yes/No	38 (12.7) / 262 (87.3)
Quacks	6 (2)	Is asthma/your child's illness a contagious disease	
No treatment	18 (6)	Yes/No	88 (29.3)/ 212 (70.7)

Lai A et al 8 in their study showed that 34.1% of parents had believed asthma to be contagious. Rodríguez MR et al 10 in their study have shown that 53.1% of parents considered asthma an emotional illness and 52.5% believed that the way that parents raised their children caused asthma. Mavale-Manuel S et al 11 in their study had found that 11% of parents considered asthma to be contagious. Prasad R et al 12 in their study had found that 11.1% ascribed heredity as the underlying cause of asthma. Fifty percent patients believed this disease to be infectious, 12.6% due to curse of God and 5.2% to be associated with TB. Shivbalan S et al 9 in their study found that 35% of parents believed asthma as hereditary and 26% as contagious. In our study, 12.7% mothers believed it to be hereditary and 29.3% as contagious (Table 7).

Table 7 Mothers answers when asked about aerosol therapy?

		Count (n) / % age	Nature of drug	Count (n) / % age
Do you know about aerosol therapy?			Beta agonist	12/15.3
	Yes/ no	280(93.3)/ 20(6.7)	Steroids	10/12.8
Do you regularly use aerosol therapy for your child?			Both	45/57.6
	Yes/no	78(26)/222(74)	Don't know	11/14.1
Which one you prefer			If no then why?	
	Nebulizer	14/17.9	Not advised by treating doctor	74/33.3
	Metered Dose Inhaler (MDI) with spacer	48/61.5	Addictive	66/29.7
	MDI without spacer	10/12.8	Social stigmata	41/18.5
	Rotahalers	6/7.6	Financial reasons	34/15.3
			Harmful	7/3.1

We found that majority of participating mothers (70.3%) were getting their child treated from a Registered Medical Practitioner. As found in other chronic ailments, parents of asthmatic children also have a tendency to seek alternative systems of medicine for treatment of their child's illness (Table 6). Lai A et al 8 found that 65% parents in their study had attempted other systems of medicine. Homeopathy was the most common alternative therapy used. Parsad R et al 7 in their study concluded that alternative modes of treatment were sought by 46.7% participating patients. In the present study, 18% mothers had sought alternative modes of treatment. Desi medication was the most common alternative attempted (Table 4). Parents have diverse views regarding the prognosis and treatment of asthma. Lai A et al 8 in their study found that only 30.6% parents believed that treatment from the hospital would cure their child. Shivbalan S et al 9 34% parents thought that disease would wane off with increasing age. Nineteen percent of them were not aware of the prognosis. In a study by MavelManuel S et al 11 50% parents answered that asthma is curable. In the present study, 26% mothers thought it to be curable and a large number (54%) was unaware about the prognosis of their child's illness (Table 8).

Table 8 mother's knowledge and perception about therapy and cure

Do you know about peak flow meter?	Count (n) / % age
Yes / No	13 (4.3)/ 287 (95.7)
If yes, are you using one?	
Yes / No	1 (7.6) /12 (92.4)
Any alternative system of medicine attempted?	
Yes / No	54 (18) /246 (82)

Do you think asthma is curable?	
Yes / No	78 (26)/ 60 (20)
Don't know	162 (54)

Conclusions: There are many misconceptions about the nature and management of wheezing disorders in the society. Asthma management programs are incomplete without good parents' and patients' education program. Such programs would augment awareness; eliminate social stigma and misconceptions in the community regarding asthma. Knowledge about the prevailing perception about asthma in the community would be the first step in achieving it. This study is a step towards it.

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