



ASTHMATIC CHILDREN; Knowledge and practices in the parents.

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ABSTRACT: Objective: To determine the knowledge and practice of parents of children with Asthma. **Introduction:** Asthma is a disease characterized by recurrent attacks of breathlessness and wheezing typically begins in early childhood with an earlier onset in males than females. Life time prevalence of asthma is 13.5% and current asthma prevalence of 9.3% among children < 18 years. According to WHO 15 million disability adjusted life years (DALY) are lost annually due to Asthma. Prevalence of asthma in Pakistani children is 19%. Due to rapid industrialization and urbanization prevalence of Asthma has increased from 9 to 20% during the last decade. This study was conducted to assess the extent of knowledge and practice which are associated with the control of Asthma. **Methodology:** It was descriptive cross sectional study conducted in ED, Pediatric unit CHK. Sampling was convenience and the study duration six months. One hundred and twenty parents of asthmatic children from 4-13 years of age were selected. **Results:** Average age of the children was 7.69 ± 2.58 years (95% CI: 7.23 to 8.16) and average duration of illness was 3.08 ± 2.0 years (95% CI: 2.69 to 3.45). Minimum duration was two years and maximum ten years. One hundred and four mothers (86.7%) and 16 fathers (13.3%) participated in the study. Over all asthma knowledge and practice of parents was adequate in 20 (16.7%), inadequate in 46 (39.3%) and average in 54 (45%). **Conclusions:** Asthma knowledge especially about the management is inadequate and practices are also inappropriate in the urban population of Karachi.

Key words: Asthma, DALY, Knowledge

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INTRODUCTION

Asthma is a disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. In an individual, they may occur from hour to hour and day to day¹. It typically begins in early childhood with an earlier onset in males than females². The CDCC 2006 National Health Survey estimated 13.5% life time prevalence of asthma and current asthma prevalence of 9.3% among children < 18 years³. Although children visit till the age of four years represent only a small proportion of the total asthma population, they account for a sizeable proportion of the hospitalization and ER visits⁴.

It is a major public health problem that affects as

many as 300 million people worldwide and that could increase by further 100 million by 2025⁵. According to WHO 15 million⁵ disability adjusted life years (DALY) are lost annually due to Asthma. Due to rapid industrialization and urbanization, prevalence of Asthma has increased from 9 to 20% during the last decade⁶. Prevalence of Asthma has been estimated to be 19% in Pakistani children⁷.

Despite better understanding of the disease we have fallen short of reaching goals of optimum Asthma management⁸.

These goals are a) individuals to be fully active and participating in the physical education, b) sleep throughout the night, c) attend school or work

every day and d) avoid emergency room visit or hospitalization. From the perspective of both patients and society the cost of not treating Asthma is high⁹.

All Asthma management guidelines like GINA(Global Initiative for Asthma) have an important component of education¹⁰. Very few studies have been conducted in Pakistan for knowing educational status regarding the disease. In one of the study done in India it has been calculated that knowledge among the caregivers is 48% to 50%¹¹. In a study conducted in urban area of Karachi it was stated that "Asthma awareness is inadequate and majority of people unnecessarily blamed and with held nutritious food"¹².

There is significant number of school children with allergic symptoms in Karachi¹³ and a lot of general practitioners and hospital based Asthma clinic are working. In spite of this a significant number of Asthma children visit emergency department with partly or uncontrolled Asthma.

Therefore this study was conducted to assess the extent of knowledge and practice which are associated with the control of Asthma with the aim of adopting strategies which will lead to an improvement in disease management.

Operational definition

Adequate knowledge and practice means the score of knowledge and practice is more than 70% of the total score.

Inadequate knowledge means the score of questionnaire is <50%.

Average knowledge score is 50-70%

Material and method

Material

Parents of Asthmatic children

Apparatus

Questionnaire

Method

Study design

Descriptive, cross sectional

Study setting

Emergency department, Pediatric unit, Civil hospital, Karachi

Study duration

Six months

Sampling technique

Non probability convenience

Sample size

120 parents of Asthmatic children

Sample selection

Inclusion criteria

- Parents of children from 4-13 years of age
- Parents of those asthmatic children who were diagnosed as case of asthma at least two years back

Exclusion criteria

Children with other chronic illnesses like cystic fibrosis, bronchiectasis and tuberculosis

Children <4years and > 13 years of age.

Parents of those children in which asthma was diagnosed within two years.

Ethical consideration

Permission was granted from ERC of the institution. Inform consent was taken from the parents. Their autonomy and their children's anonymity were strictly maintained. They had complete authority not to answer any question or quit at any time during study and that will not affect their care in the hospital.

Data collection procedure: The interview was conducted by the researcher herself. A pretested, validated questionnaire was administered on the parents. Necessary amendments were made in the questions for easy understanding of the

Variable	Mean±SD	95% CI	Median (IQR)	Max-Min (Years)
Age (yr)	7.69±2.58	7.23 - 8.16	8 (4.5)	13-4
Duration of illness (yr)	3.08±2.0	2.69 - 3.45	2.5 (2)	10-2

Table-I. Characteristics of children

parents. The questions were close ended. Categorization of socioeconomic level was done in accordance with Pakistan social and living standard measurement survey(PSLM 2004-2005)¹⁴.

There were 22 questions included in the questionnaire for assessment of parents knowledge and practice regarding asthma. Sixteen of the questions were concerned about knowledge and six were related to practice. Score of correct answer of each question was four; consequently maximum score of correct questions was 64 for knowledge and 24 for practice.

DATA ANALYSIS

SPSS 10 was used for this purpose. Frequencies were calculated for categorical variable like gender of children and parents, occupation of parents, education of parents, income level. Mean, SD and 95%CI were estimated for quantitative variable like age of children, duration of illness, knowledge and practice scores.

RESULTS

Average age of the children was 7.69±2.58 years (95% CI: 7.23 to 8.16) and average duration of illness was 3.08±2.0 years (95% CI: 2.69 to 3.45). Minimum duration was two years and maximum was ten (table-I).

One hundred and four mothers (86.7%) and 16 fathers(13.3%) participated in the study. Ninety seven mothers (80.8%) were house wives while remaining participants were working as labors, carpenters, hair dressers, tailors and tutors (table-II).

Fifty percent participants were illiterate, 36.7% were primary educated and only 13.3% were secondary educated. Sixty percent participants

Characteristics of parents	Frequency	%age
Relation with child		
Mother	104	86.7%
Father	16	13.3%
Occupation of parents		
Housewife	97	80%
Carpenter	2	1.7%
Hairdresser	2	1.7%
Labour	15	12.5%
Tailor	2	1.7%
Tutor	2	1.7%
Education of parents		
Illiterate	60	50%
Primary	44	36.7%
Metric	16	13.3%
Income level		
Poor (<5000/month)	72	60%
Fair (5000-10000/m)	46	38.3%
Good (>10000/m)	2	1.7%

Table-II. Characteristics of parents

were earning below Rs 5000 per month, 38.3% were earning 5000-10000 per month and 1.7% participant's monthly income was more than 10,000(table-II). Forty four percent cases visited doctors less than four times per month, 40% visited 4-5 times and 16% visited doctors more than five times per month.

Average knowledge score of all parents was 36.37±7.99 (95% CI: 34.92 to 37.81). Minimum score for knowledge was 23 and maximum score was 56. Average score of practice was 11.36±5.11(95% CI: 10.44 to 12.28) with a minimum score of six and maximum of 23. Over all asthma knowledge and practice of parents was adequate in 20(16.7%), inadequate in 46(39.3%) and average in 54(45%)(table-III).

Assessment knowledge & practice scores		Knowledge & practice of parents	No. of parents	%age
Score out of 88	% of score			
≤44	≤ 50%	Inadequate	46	38.3%
44.1-61.1	51%-69%	Average	54	45%
≥61.2	≥70%	Adequate	20	16.7%

Table-III. Overall knowledge & practice of parents

DISCUSSION

Allergic diseases and Asthma are registering an alarming increase all over the country, especially in the children¹⁵. Recently a study conducted in Karachi has revealed that allergic disorders are quite common in the young population of Pakistani children¹³.

Characteristics of parents in the study reflect the back ground of Pakistani population. More than 85% of the interviewers are the mothers who are housewives mostly. Among 16 of the father only two are tutors. This data supports our daily life observation that in our culture the major responsibility of caring their offspring is on the mother. In my study 50% of the parents were illiterate and among the remaining population 36% were only primary literate. It reflects the dismal picture of basic education in our country, where the literacy rate was 48% in 2001 with great disparity between male, female and rural, urban literacy population. Socioeconomic status of the parents was found to be poor too, as 60% of the parents have income of less than 5,000 per month. The same observation was found in other studies as well^{11,16}. All these parents have frequent visits to the doctors due to illness of their children as 60% of the children have more than four visits per month which means more than one visit per week which strongly favors that in these children the disease process is not well controlled.

Regarding the analysis of knowledge it was found to be adequate (70%) in only 20% of the parents, while the remaining parents have inadequate knowledge score(<70%). In 50% of the parents the knowledge scores was 50% which is near the same results of Shivbalan et al (India)¹¹, Hazir et al (Pakistan)¹² and Prapphal et al(Thailand)¹⁷. Only

factors which increase the outcome of knowledge and practice score was found to be the duration of illness as the parents of those children who have asthma for more than four years have more better knowledge and practices similar to the results of Prapphal et al¹⁷.

In spite of fast media (internet based education program), hospital based asthma clinics and elective asthma education program the condition is deteriorating. Only 48 parents (40%) knew the actual name of their child's disease and as in the study of Shibvalen et al¹¹. While the remaining consider them as SAANS. Only 14% know that it is an allergic disorder which if compared with the Hazir's¹² study is almost half. Still 30% of the patients believe that it is contagious as found in other study¹⁶. Knowledge about the symptomatology was found to be adequate in my study which was >80% which may have been learned by disease behavior of their child. Knowledge about the risk factors are very insufficient and only 12% of the parents know about 6-10 risk factors and avoid them to some extent. It may be due to the fact that majority of single intervention have failed to achieve reduction in the allergen load which lead to clinical improvement. In the treatment option only 23% of the parents knew about the inhalers therapy and no one knew the concept of reliever and controller medication. Sixty percent of the parents gave oral medicine to their child, four of the parents started inhaled medicine as the first line therapy for the prevention, while 26% of the parents used nothing for the prevention of the disease. Only 16% of the parents used nebulizer. In comparison in Hazir study¹² 82% of the parents know about the inhalers and they considered them superior to oral medicine. This reflects the difference in the

awareness about the inhalers in the study population who visit PIMS Islamabad and CHK. Similar to my study in India¹¹ only few parents (only 13) used aerosol therapy at home.

For the treatment of acute attack 92% of the parents rushed to the hospital when their child get acute attack of asthma without giving any inhaled treatment at home. These unscheduled clinical visits, emergency department visits and use of rescue medicines imply the majority of exacerbation related medical cost which is 35-50% of the total expenditure on asthma¹⁸. None of the parents knew about measures to monitor the control of asthma other than symptoms. Monitoring is necessary to establish the lowest step and dose of treatment which minimized the cost and maximizes the safety of treatment¹⁹. Eighty percent of the parents still have the myth like the previous one that asthma aggravated by the rice and oily food like Hazir's study and they unnecessarily withheld the nutritious food. Above findings revealed that the asthma knowledge about the management is much less as compared to their knowledge about the disease process.

CONCLUSIONS

Asthma knowledge especially about the management is inadequate and practices are also inappropriate in the urban population of Karachi. There is need for further studies in the community setting and school setting to know the actual picture of asthma education and practices in order to plan the future strategies for the disease management.

RECOMMENDATIONS

1. Start national asthma campaigns all over the country using print and electronic media.
2. There should be educational component for health care professional and general public in these campaigns.
3. General practitioners should be focused specially as they are the primary health givers.

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Great things are not done by **impulse**,
but by a series of small **things** brought together.

Unknown

