KNOWLEDGE, ATTITUDE AND PRACTICE OF PARENTS OF CHILDREN WITH CHILDHOOD ASTHMA IN A TERTIARY CARE HOSPITAL

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Abstract

Back ground: *Asthma is one of the most common reasons that children visit doctors, miss days at school or are admitted to hospital. If asthma is well managed, child should be able to lead a healthy and active life.*

Methods: *The study aims to investigate parental knowledge, attitudes about childhood asthma, and practices regarding the management of their children's asthma. An observational cross-sectional study was conducted among parents of children aged between 2 and 12 years with asthma who had visited the outpatient or inpatient department of Pediatrics at Dhaka Medical College Hospital over a period of approximately 6 months. Data were collected using a preformed Knowledge, Attitude, and Practice (KAP) questionnaire.*

Results: *Total 110 parents of children with childhood asthma were interviewed in this study. There were 63 (57.3%) male and 47 (42.7%) female with M:F ratio 1.34:1 (Slightly male predominance). Most of the patients 57(87.6%) visited in out-patient department (OPD). Almost half of the parents (52.7%) knew their children had asthma. Most of the parents (80.9%) thought oral form of drug (syrup/ tablet) is better than inhaler. Almost two-third parents believed asthma can be cured and they did not know the importance of adherence with asthma medications. The overall parental knowledge was poor (49.09%). Nearly half of them (49.09%) had negative attitude about childhood asthma & 50.9% parents had poor practice about avoidance of allergens, use of asthma medications and regular follow up of their children. Knowledge, attitude and practice are significantly associated with education, socioeconomic condition and living area. Statistically significant positive correlation has been found between knowledge and practice, but knowledge and attitude has not showed significant positive correlation.*

Keywords: *Childhood asthma, knowledge, Attitude and practice*

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Introduction:

Childhood asthma is a leading public health problem that accounts for much of the childhood hospitalization, emergency visits, and missed school days.[1] In Bangladesh an estimated 7 million people including 4 million children are suffering from asthma related symptoms. The common age is between 5 and 14 years and prevalence are 7.8% in urban areas.[2]

Asthma management refers to the monitoring and control of symptoms and the prevention of exacerbations. Parents need to understand the diverse triggers and basic mechanisms of an asthma attack, and to understand the necessity of maintenance medication. Knowledge and attitudes can encourage parents to correctly monitor their child's asthma condition and management.[3] KAP (Knowledge, attitude, practice) education programs for parents of children with asthma are well-established in some Western European countries.[4] The primary objective of this study was to document the knowledge, attitude, and practices of parents of children with childhood asthma.

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Materials and Methods:

This was an observational cross-sectional study conducted at the Department of Pediatrics of Dhaka Medical College Hospital from March 2017 to September 2017. Parents of children aged between 2 and 12 years with recurrent wheeze or asthma who visited the outpatient department (OPD) or were hospitalized in the inpatient department (IPD) of the Department of Pediatrics at Dhaka Medical College Hospital were included in the study with their consent. A purposive sampling technique was applied to select the sample. The sample size was 110.

Data collection instrument:

Knowledge, attitude, and practice (KAP) questionnaire was adapted from different literatures & modified according to the local context was used to collect data. It had three parts:

Section A: Measures knowledge of the parents about the childhood asthma. There were 14 items. All were positively worded items. Each item in the knowledge section of the questionnaire had 3 possible responses, namely (Yes, No, Don't know). One mark was awarded for every correct responses & No & don't know awarded as zero. Hence, the total number of marks in the knowledge section ranged from 0 to 14. The maximum and minimum knowledge score was obtained & respondents were categorized into-poor (0-4.6), fair (4.7-9.2) & good (9.3-14) knowledge quality.

Section B: Assess parent's attitudes about the disease. This part included 12 attitudes. A 5 point scale from strongly agree(1), agree(2), no statement(3), disagree(4) and strongly disagree(5). Questions were negatively worded. Total score ranged from 12 to 60. Higher scores reflecting parental positive attitudes on childhood asthma. Total scores were grouped into 3 groups, positive attitude 75-100% (45-60), neutral attitude 50-74% (30-44) and negative attitude 1-49% (12-29)

Section C: This part of questionnaire had 10 questions towards parents regarding what they had been practicing. Each question had two responses either done or not done & scored 1 & 0 respectively. So, total number of marks in practice section ranging from 0-10. According to score obtained, the respondent categorized as poor (0-3.3)**,** fair (3.4-5.9) and good (6.0-10) practices

Data collection procedure:

Written informed consent was obtained from the parents who were willing to participate in the study. Data were collected by the researcher through face-to-face interview with parents and filled-up the questionnaires from the parents

Procedure of data analysis:

Statistical analysis was performed using SPSS Software version 20 and results were presented in narratives, diagrams, and tables. The relationship between parental knowledge, attitude, and practice of childhood asthma and variables were tested by using Chi-Square test and shown with cross tabulation where p values <0.05 was considered as statistically significant. The correlation between knowledge and practices as well as knowledge and attitude were presented with scatter diagram and relation is shown by Sperman's correlation where p value <0.05 is significant.

Ethical implications:

The study was conducted after getting written permission from the concerned authority of Dhaka Medical College Hospital (DMCH) and was approved by the Ethical Committee of that hospital. Again prior to answering the structured questionnaires informed written and verbal consent was taken in both Bangla and English form from all the parents. The information was kept confidential and respondents were free to refuse to answer any question partially or in whole and even may quit the study at any time.

Results:

In this study, a total of 110 parents of asthmatic children were interviewed using a preformed questionnaire. The mean age of the children was (5.94 ± 2.98) years. There were 63 (57.3%) males and 47 (42.7%) females, with a male-to-female ratio of 1.34:1 (slightly male predominance). Most of the patients, 57 (87.6%), visited the outpatient department (OPD). All the patients were immunized. It was observed that the majority of the parents, 76 (69.1%), came from

urban areas. Children < 5 years had recent wheeze (28.8%), whereas children between 5-12 years had either intermittent (29.2%) or persistent asthma (26.1%). Most of the children, 91 (82.8%), had allergic conditions, and the remaining 19 (17.2%) children had no history of allergy. There were 90 (81.81%) children with a family history of asthma or allergic disease, and the remaining 20 (18.18%) children had no family history of asthma or allergic disease. The mean age of onset of the first wheeze in children was 17.7 months. Most of the children presented with cough, wheeze, respiratory distress, and chest tightness.

According to the scoring, 49.09% of parents had poor knowledge about signs and symptoms of asthma, use of medications, and follow-up, while 43.63% of parents had fair knowledge, and the remaining 7.28% had good knowledge. Among them, 49.09% of parents had a negative attitude about childhood asthma, 41.82% of parents were in a neutral position, and only 9.09% of parents had a positive attitude about the disease. About half of the parents (50.9%) had poor practice regarding the avoidance of allergens, use of asthma medications, and regular follow-up for their children. Two-fifths of the parents (40.9%) had fair practice, and only 8.2% of parents had good practice. Educated parents (up to SSC or above) had good knowledge about the disease, a more positive attitude, and good practices in comparison to parents who were only able to read and write. Statistically significant positive correlation has been found between knowledge and practice, but knowledge and attitude have not shown a significant positive correlation.

Table 3.1

Age distribution of children (N=110)

Age	Number of children	Percentage
24-35 months	10	9.1
36-47 months	19	17.2
48-59 months	16	14.5
5-6 years	10	9.1
7-8 years	21	19.2
9-10 years	24	21.8
11-12 years	10	9.1

Table 3.2

Breast feeding status of patients (N=110)

Breast feeding status	No.	Percentage (%)
Exclusively breast fed (up to 6 month)	48	43.6
Mixed fed (formula, cow's milk, suji along with breast milk)	62	56.4

Table 3.3

Parental knowledge about childhood asthma (N=110)

Answer of question regarding knowledge	Yes (%)	No (%)
1. Your child has asthma	52.7	47.3
2. Followings are the asthma symptoms-		
a) Cough	97.2	2.7
b) Respiratory distress	94.5	5.4
c) Wheeze	70	30
d) Chest tightness	60	40
3. Asthma is a hereditary disease	58.2	41.8
4. Following can provoke asthma attack-		
a) Tobacco smoke	20	80
b) Dust mite in carpet	30	70
c) Burning coil	30	70
d) Allergic rhinitis	96.3	3.6
e) Weather change	99.0	0.9

Table 3.3 (Cont'd)

Answer of question regarding knowledge	Yes (%)	No (%)
5. Following season can increase asthma attack-		
a) Summer	67.2	32.7
b) Winter	31.8	68.1
c) Rainy season	33.6	66.3
6. Do you know the use of-		
a) Inhaler	27.27	72.72
b) Oral form of drug (syrup/tablet)	96.36	3.6
c) Spacer	9.0	90.9
d) Nebulizer machine	90	10
e) Peak flow meter	3.6	96.3
7. Controller drugs needs to use regularly even in symptom free interval.	13.6	86.4
8. A dairy should maintain in each asthma episodes.	6.4	93.6
9. You know the side effects of drug	3.6	96.4
10. Your child has well control asthma, when-		
a) Day symptoms > 2 times /week	78.18	21.8
b) Any night waking due to asthma	80	20
c) Any activity limitation	72.72	27.27
11. Sign of acute attack-		
a) Difficulty in talking	46.36	53.63
b) Pause in talking	12.7	87.27
c) Unable to talk	6.3	93.6
12. During acute attack you should give bronchodilator inhaler at home, how many puff-		
a) 5 puffs	3.6	
b) 3 puffs	4.5	90
c) 1 puff	1.8	
13. When the acute attack did not improve within 20 minutes or child become drowsy or unconscious, it needs urgent hospitalization.	25.5	74.5
14. Your child needs at least 2 follow up visit in a year.	30	70

Table 3.4

Parental knowledge score

Knowledge (Score range)	Number of parents (%)
Poor (1-4.6)	54 (49.09)
Fair (4.7-9.2)	48 (43.63)
Good (9.3-14)	08 (7.28)

Table 3.5

Parental attitude about childhood asthma in percentage (%) (N=110)

Question	Strongly Agree	Agree	No statement	Disagree	Strongly disagree
1. Asthma is a contagious disease.	11.82	15.45	21.82	46.36	4.55
2. Asthma can damage lung.	18.18	40.00	21.82	15.45	4.55
3. Milk and milk product can increase asthma.	11.82	50.00	2.73	28.18	7.27
4. Taking antibiotics during rhinitis may shorten asthma attack.	19.09	60.91	4.55	11.82	3.64
5. Asthmatic child needs to avoid exercise.	17.27	26.36	2.73	49.09	4.55
6. Oral form of drug is better than inhaler	25.45	18.18	37.27	14.55	4.55
7. Asthma medication has severe side effect.	11.82	7.27	55.45	19.09	6.36
8. Children may become addicted to their asthma drugs.	11.82	15.45	40.91	26.36	5.45
9. Drugs can affect the growth of your child.	13.64	19.09	40.00	21.82	5.45
10. Asthma drug should stop in symptom free period	35.45	45.45	2.73	13.64	2.73
11. Asthma can be cured.	36.36	47.27	9.09	5.45	1.82
12. Without drug your child is able to maintain healthy life	34.55	51.82	7.27	3.64	2.73

Table 3.6

Parental attitude score

Attitude (Score range)	No. of parents (%)
Negative (12-29)	54 (49.09)
Neutral (30-44)	46 (41.82)
Positive (45-60)	10 (9.09)

Table 3.7

Parental practice to control childhood asthma in percentage (%) (N=110)

Practice	Percentage
1. Do not Smoke in front child	77.3
2. Do not use carpet in home	97.3
3. Do not burn mosquito coil	65.5
4. Allow exercise or outdoor games	94.5
5. Use-	
a) Oral form of drug (Syrup/ tablet)	94.5
b) Inhaler	10.9
c) Spacer	0.9
d) Nebulizer machine	87.2
6. Stopped controller drug during symptom free interval	84.5
7. Use inhaler during acute attack-	
a) 5 puff	0.04
b) 3 puff	—
c) 1 puff	—
8. If symptom not subsides urgently admitted in hospital	31.8
9. Maintained a dairy for each asthma episodes	2.7
10. Make follow up visit in last 12 month	58.2

Table 3.8

Parental practice score

Practice (Score range)	Number of parents (%)
Poor (0-3.3)	56 (50.90)
Fair (3.4-5.9)	45 (40.90)
Good (6.0-10)	09 (8.2)

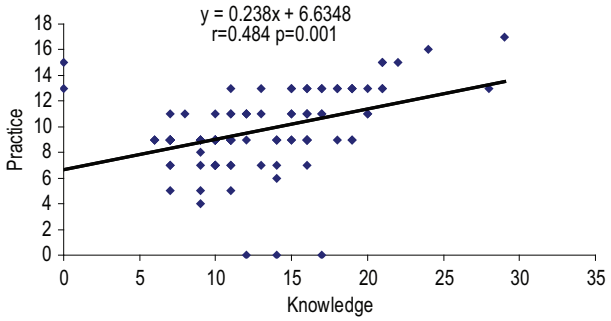

Fig.-3.1 *Correlation between knowledge and practice*

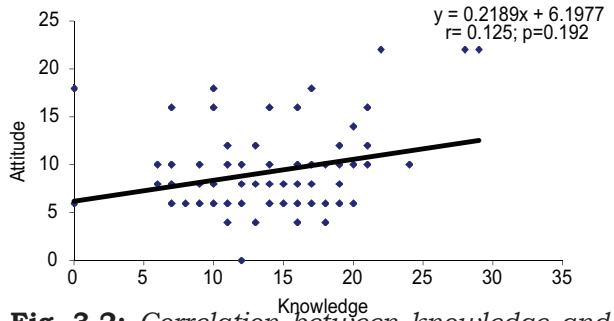

Fig.-3.2: *Correlation between knowledge and attitude*

Discussion

In this study, 90 (81.8%) children had a family history of asthma or allergic disease, and only 20 (18.2%) children had no family history of asthma or allergic disease. In a retrospective study done in Australia by Kabir ARML, Asperen PV, and Hanson R, a family history of atopy was present in 66 (63%) cases, with 55 (53%) in first-degree relatives.[5] This study found that the mean age of the first onset of wheeze in children was 17.7 months. Many authors have stated that most children who have asthma develop their first symptoms before 5 years of age.[6,7,8] The current study showed that 48 (43.6%) patients were exclusively breastfed up to 6 months of age. In some studies, breastfeeding was found to be protective against asthma.[9,10,11]

Most of the patients in this study, 76 (69.1%), were from urban areas. Other studies have shown that asthma is more prevalent in urban areas than in less polluted areas.[12] The study found that half (49.09%) of the parents had poor knowledge that their child had asthma. The findings are similar to a recent study done in Islamabad, where it was reported that nearly 64% of the parents were ignorant about the etiology of asthma disease and 30% of the parents were reluctant to accept the diagnosis of asthma. It was observed that the level of awareness regarding asthma was very low among caregivers for asthmatic children.[13]

This study shows that almost all parents (96.36%) knew the use of the oral form of the drug (syrup/tablet), 90% knew the use of the nebulizer machine, and only 27.27% knew the use of the inhaler. Gupta PP and Gupta KB observed that inhalers were considered to be inferior to oral drugs by the majority of parents (76.3%).[14]

In this study, only 25.5% of parents knew when to take their child to the hospital, 70% of parents did not know the need for yearly follow-up visits, and 31.8% of parents sought medical help during emergencies. Lai CKW et al found that 43.6% of respondents did not know when to visit the hospital and made unscheduled emergency visits to other healthcare facilities for the treatment of asthma. Overall, 15.3% of respondents reported that they had required admission to the hospital for asthma treatment.[15]

After scoring in this study, 49.09% of parents had poor knowledge about the signs and symptoms of asthma, use of medications, and follow-up. Additionally, 43.63% of parents had fair knowledge, and the remaining 7.28% had good knowledge. The results of the present study showed that most parents had poor knowledge about asthma. Similar findings were also reported by Zhao et al., where more than half (51.34%) of the parents scored ≤18 on the KAP questionnaire, indicating low KAP among most parents.[3]

Conclusion

The results of this study demonstrated that most parents have poor knowledge about the disease, its triggering factors, use of medications, and disease prevention. They have various misconceptions and beliefs about the disease, reflecting their negative attitude. The overall practice of avoiding precipitating factors, using medications, and following up is also poor. Knowledge, attitude, and practice are significantly associated with education, socioeconomic conditions, and living area. A statistically significant positive correlation has been found between knowledge and practice, but knowledge and attitude have not shown a significant positive correlation.

Limitations

Although the study was conducted in the largest hospital in Bangladesh, the findings may not reflect the entire community as it was conducted only in a single center with a small sample size. Therefore, a larger study is required. The level of asthma control was not considered in this study. This is important to correlate parental knowledge and practices with asthma control.

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