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Knowledge, Attitude, Practices of Parents of Children with Asthma

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ABSTRACT

Lack of knowledge and familiarity by children and their parents4 has caused many uncertainties, misuse, over dosages, simply diminished interest that often lead to uncontrolled asthma and eventually unnecessary hospitalization. Without doubt, education and proper demonstration are important components in long term asthma management. It offers knowledge in understanding the disease and self-management skills in handling exacerbation of asthma at home. By providing importance of asthma education programmes in reducing morbidity and mortality. Data was collected from parents of asthmatic children aged between 4 years to 12 years, attending inpatient, outpatient services of Paediatrics department in Government General Hospital. In the current study, 60% of parents were believing that the etiology of asthma was Hereditary and only 1.43% parents were believing that the etiology of asthma was contagious. In our study, a significant proportion of parents were concerned about aerosol therapy. This has a negative impact on treatment adherence. In the current study, 87.14% children parents were had the knowledge aerosol treatment.

INTRODUCTION

Indian study on epidemiology of asthma respiratory symptoms estimated the national burden of asthma at 17.23 million with an overall prevalence of 2.05%[1]. The recent global burden of disease GBD 1990-2019 estimated the total burden of asthma in India as 13.2 thousand deaths in India were due to asthma[2]. Asthma encounter for 27.9% of disability adjusted life year DALY'S in Indians on the whole India has three time's higher mortality and >2 times higher daily DALY'S compared to the global proportion of asthma burden. Asthma is one of the most common chronic diseases with >300 million case found world wise. Increase in asthma prevalence, morbidity, mortality has intensified public health concerns. Several environmental factors associated with asthma globally and those include environmental tobacco smoke, fire wood cooking, heavy truck traffic exposures obesity, fast food consumption, dampness in home, paracetamol / antibiotics use. Asthma is one of the leading causes of absenteeism from school. This issue results in inadequate or low assessment made by teachers[3] of their social, psychological and educational need.

Lack of knowledge and familiarity by children and their parents 4 has caused many uncertainties, misuse, over dosages, simply diminished interest that often lead to uncontrolled asthma and eventually unnecessary hospitalization. Without doubt, education and proper demonstration are important components in long term asthma management. It offers knowledge in understanding the disease and self- management skills in handling exacerbation of asthma at home. By providing importance of asthma education programmes in reducing morbidity and mortality[4]. 30 to 40% of asthma children requiring admission in our institute due to acute moderate to severe exacerbation of asthma of those 40% admission cases, nearly half of them are due to faulty practices/improper usage/following improper technique Which may be due to poor Knowledge Attitude, Practices of those asthma children parents. So by this study i would like to assess knowledge, Attitude, Practices of asthma children, which helps in educating and proving the Knowledge for understanding the disease among them, thereby providing the outcome of asthma in children.

MATERIALS AND METHODS

Study design: Hospital based prospective cross sectional study.

Study period: A period of two years from the date of approval of my thesis work by Institutional Scientific and Ethical Committee.

Study setting: Paediatrics Outpatient and Inpatient wards, Department of Paediatrics.

Study subjects: Data was collected from parents of asthmatic children aged between 4 years to 12 years, attending inpatient, outpatient services of Paediatrics department in Government General Hospital.

Sample size and type: Simple random sampling: The prevalence of chronic liver disease was taken as 18.2% the sample size was calculated using obtained prevalence as 81.8%, at 95% confidence interval with absolute precision of 10%.

$n = 4pq/L^2$
n = Minimum sample size
p = Prevalence in percentage q = 100-p
L = Allowable error in percentage of prevalence
Using the above formula and data,
p = 18.2
q = 100-p = 100-18.3 = 81.7
L = 10%

The minimum sample size is 60 case by the following sampling method but the convenience purpose 70 sample was obtained.

Inclusion criteria:

- Parents of children aged 4 years to 12 years, attending to hospital for outpatient and in-patient services whose children have been diagnosed to have bronchial asthma
- Who have given written and informed consent to participate in the study

Exclusion criteria:

- Mothers who are not willing for study
- Patient caregiver whose reliability is poor
- Recurrent wheeze with underlying structural abnormality
- Evidence of chronic systemic diseases

Study methods: Using a questionnaire, conducted a cross-sectional survey of the KAP of parents of children with asthma. We constructed the study questionnaire based on the methodology of KAP studies conducted in other countries and adapted it to the Indian situation and culture. The Medical Ethics Committee of GGH, KMC gave approval for the study and each respondent provided written informed consent. The study was

conducted in the outpatient department and inpatient wards of Paediatrics department of GGH, Kurnool medical college, Kurnool. By simple random sampling, I selected 70 children with asthma aged 4-12 years, who presented at a hospital between 1 January 2021 and 31 October, 2022 and had been diagnosed with asthma for at least 3 months. The diagnoses must have conformed to the guidelines for the diagnosis and management of childhood asthma of the Indian Academy of Pediatrics. The KAP questionnaire was designed by asthma experts by referring to the Asthma Insights and Reality in Europe [b, c] survey and the Asthma Control Test [d]. After pilot testing, the questionnaire was validated. The 58-item questionnaire comprised five parts: 1 general information about the parents of children with asthma: 2 child conditions and asthma control in the past 12 months, 3 parent knowledge: 4 parent attitudes and beliefs and 5 parent practices. The questionnaires were scored on 30 items regarding parent asthma-related KAP, with one point for every correct response. All questionnaires were completed by investigator through face-to-face interviews with parents of children with asthma.

Where ever required investigations were performed to diagnose the disease

- Haemogram
- Chest Radiograph
- Serum electrolytes
- ABG if required cases

RESULTS

In the current study, 21 children parents were not accepted their children disease as asthma. Among these 21 children parents, 38.1% parents were believing that their child was suffering with Allergy, 47.62% children parents were believing that their child was suffering with recurrent respiratory tract infection and only 14.28% parents were believing that child was suffering with wheeze. In the current study, 60% of parents were believing that the etiology of asthma was Hereditary and only 1.43% parents were believing that the etiology of asthma was contagious (Table 1-11).

In the current study, association between parental literacy and their knowledge about etiology was significant. This was proven by statistically and p-value was 0.017. In the current study, 31.43% cases of acute episode of asthma were managed by MDI+Spacer and Nebulisation and only 15.71% cases were managed in the hospital. In the current study, parents had the knowledge about various asthma trigger factor. 90% of children parents had the knowledge about tobacco is acting as trigger for asthma and only 54.29% of children parents had the knowledge about swimming

Table 1: Among those who have not accepted the Child's disease as Asthma, what the parents believed their child has

Parents believing child has	Frequency	Percentage
Recurrent respiratory tract infection	10	47.62
Allergy	8	38.1
Wheeze	3	14.28
Total	21	100

Table 2: Parental knowledge regarding the etiology of the disease

Etiology	Frequency	Percentage
Hereditary	42	60
Contagious	1	1.43
Don't know	27	38.57
Total	70	100

Table 3: Association between parental literacy and their knowledge regarding etiology of the disease

	Knowledge of etiology		
Parental Literacy	Yes	No	p-value
Primary school	7	14	X2=10.14
Upper Primary school	13	5	
High School	14	6	P = 0.017
College/University	9	2	

Table 4: Management of Acute episode of Asthma

Management of Acute episode	Frequency	Percentage
Oral Medicine	15	21.43
Nebulisation	22	31.43
MDI+Spacer	22	31.43
Go to hospital immediately	11	15.71
Total	70	100

Table 5: Knowledge of parents regarding various triggers

Triggers	Frequency	Percentage
Tobacco	63	90
Dust mite	46	65.71
Animal dander	49	70
Cockroach	41	58.57
Indoor mould	49	70
Pollen	55	78.57
Strong odour	31	44.29
Other smell	31	44.29
Exercise	41	58.57
Sports	41	58.57
Cold air	62	88.57
Medicines	13	18.57
Swimming	38	54.29
Any other	0	0

Table 6: Knowledge regarding aerosol: whether parents are aware of aerosol treatment

Knowledge regarding aerosol	Frequency	Percentage
Yes	61	87.14
No	9	12.86
Total	70	100

Table 7: Parents who were worrying that aerosol therapy was harmful

Parents worrying that AerosolS therapy was harmful	Frequency	Percentage
Yes	10	14.28
No	45	64.28
Don't know	15	21.44
Total	70	100

Table 8: Parents who are worrying that aerosol treatment to be continued lifelong

Parents worrying that Aerosol therapy to be continued life long	Frequency	Percentage
Yes	21	30
No	20	28.57
Don't know	29	41.43
Total	70	100

Table 9: Parents who are worrying that aerosol treatment retards immunity

Parents worrying that Aerosol therapy retards immunity	Frequency	Percentage
Yes	21	30
No	34	48.57
Don't know	15	21.43
Total	70	100

Table 10: Parents who are worrying that aerosol treatment causes addiction

Parents worrying that Aerosol therapy causes addiction	Frequency	Percentage
Yes	29	41.43
No	22	31.43
Don't know	19	27.14
Total	70	100

Table 11: Parents who have tried alternate system of medicine

Parents tried alternate system of medicine	Frequency	Percentage
Yes	13	18.57
No	57	81.43
Total	70	100

is trigger factor for asthma. In the current study, 87.14% children parents were had the knowledge aerosol treatment. In the current study, 14.28% children's parents were worrying that aerosol therapy was harmful. In the current study, 30% of children's parents were worrying that aerosol therapy to be continued for life long. In the current study, 30% of children's parents were worrying that aerosol therapy retards immunity. In the present study, 41.43% of children's parents were worrying that aerosol therapy causes addiction. In the present study, 18.57% of children parents were tried treatment of alternate system of medicine.

DISCUSSIONS

Asthma is a chronic disease that is still stigmatised in society. Many parents do not recognise asthma by its name and instead refer to it as a chest allergy or recurring infection. Wheezing or a respiratory infection Zaraket *et al*.[5] found that only 21% of parents identified asthma by name, with the majority referring to it as a chest allergy and 15% referring to it as dyspnea. In the study conducted by Shivbalan *et al*.[6] only slightly >3 of the parents 39%, reported that their children have asthma. Among these 21 children parents, 38.1% parents were believing that their child was suffering with Allergy, 47.62% children parents were believing that their child was suffering with recurrent respiratory tract infection and only 14.28% parents were believing that child was suffering with wheeze. Wheeze 46%, recurrent respiratory infection 8%, eosinophilia 3%, primary complex 2%, allergy 1% and respiratory distress 1% were the other responses 36. In the present study, 70% of children parents were accepted that children were suffering with asthma.

This could be due to improved public awareness campaigns, proper health education and disease-specific counselling now provided at every visit to health-care facilities. The majority of parents who accepted their child's asthma diagnosis were from urban areas, which was statistically significant p- 0.03. However, because the study population was mostly made up of urban residents, the data may be skewed. There was also a statistically significant relationship between parental literacy and disease acceptance p-0.004. More literate parents accepted the disease more than less literate parents, but there was no association with parent's socioeconomic status p-0.11. Asthma is a hereditary condition. Parents should be aware of the disease's aetiology. Many parents in this world believe that asthma is contagious. Many people are unaware of the aetiology. Many parents who believe asthma is contagious may refuse to allow their children to play with other children and may isolate the affected child from siblings.

In a study conducted by Zaraket *et al*.[5] the majority of parents 54% believed that asthma has a hereditary predisposition, but only 7% of parents believed that the disease is contagious. He attempted to link knowledge of the disease's aetiology to whether the parents were from rural or urban areas. Those who lived in rural areas were more likely to believe the disease was contagious p-0.001. In the current study, 60% of parents were believing that the etiology of asthma was Hereditary and only 1.43% parents were believing that the etiology of asthma was contagious. Twenty seven 38.57% were among those who were unaware of the disease's aetiology. This demonstrates the importance of educating parents about the disease and providing them with a clear picture of the disease. Because the disease is chronic in nature, a better understanding is critical. The proportion of parents who were aware of the disease's aetiology was nearly the same as in previous studies. Aerosol therapy is at the heart of asthma treatment. It could be nebulisations, the use of MDI or DPI. Parents should be aware of when to begin which medications, as well as the importance of using preventer medications to reduce the frequency of episodes.

In the study conducted by Shivbalan *et al*., all 100 children in his study population required beta-agonist aerosol therapy with a nebulizer at least once for control of acute symptoms[6]. According to Lal *et al*. study, nearly two-thirds of parents have used bronchodilators at home. In our study, 91% of parents were aware of aerosol therapy. This figure is reassuring because the parents were aware of the various asthma treatment options. Fifty-seven percent used Nebulisation, eleven percent used MDI with spacer and mask, thirty-two percent used MDI with spacer alone, and three percent used MDI alone. More than half of

the children were being nebulised. As a result, it is critical to educate people about the effectiveness of MDI and DPI, and their use should be encouraged more because these devices are as effective as and safer than Nebulisation. It is also important to inquire about the parent's concerns about the use of inhalers[7].

Along with avoiding triggers, treating acute episodes, following up on a regular basis and monitoring the response, it is critical to adhere to long-term treatment, particularly the use of preventers. Many KAP studies have raised parental concerns about the long-term use of aerosol therapy. This has a negative impact on treatment adherence. In the study conducted by Naveen et al., more than half of the parents were concerned about the inhaler's addictiveness. The majority of the parents were concerned about the inhaled steroid's side effects. In the Rola Zaraket *et al*. study, approximately 174 48% parents were concerned that inhaler therapy could lead to addiction and 216 56% were concerned about the side effects of inhalers. In Zhao *et al*.[8] study, 67.32% 1673/2485 of parents were concerned about negative effects on their children's growth.40.56% 1008/2485 were concerned about drug addiction and 23.98% 596/2485 were concerned about potential harm to their child's intelligence.

In our study, a significant proportion of parents were concerned about aerosol therapy. This has a negative impact on treatment adherence. In the current study, 87.14% children parents were had the knowledge aerosol treatment. When compared to other studies, there is no significant difference in the percentage of parents who are concerned about the aerosol treatment. In the current study, 14.28% children's parents were worrying that aerosol therapy was harmful. As a result, parents should be reassured about the safety profile of aerosol therapy from the time of diagnosis. Treatment doctors should always listen to and educate parents about their concerns.

CONCLUSION

The current study found that parental awareness of the presence of asthma in their children had increased. Sixty-four percent of the parents were aware that their child suffers from asthma. The majority of those who were unaware thought the disease was a recurring respiratory infection, allergy, or wheeze. There was a statistically significant relationship between disease awareness and parental literacy. The majority of the parents were aware of the disease's aetiology. Our research also discovered a significant decrease in the majority of parents believed that asthma was contagious and were aware of the common triggers.

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