

The knowledge attitude and practice (KAP) of mothers of asthmatic children toward asthma in asthma clinics

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Abstract:

Background: An important public health challenge is the prevention of asthma episodes. Correct habits, appropriate attitudes, and enough knowledge are essential for preventing exacerbations.

Aims & objectives: The purpose of this study was to evaluate mothers of asthmatic children's knowledge, attitudes, and practises about the use of inhalers, commitment to preventatives, and measurement of its impact on the severity of the disease in their children.

Methods & Materials: 110 mothers of children with asthma were randomly selected. Any mother who visited the paediatric asthma outpatient clinic in hospitals, or the emergency room in Santosh university between October 1 and October 31, 2017, and whose child had been diagnosed with bronchial asthma for more than three months was eligible to be included.

Results: 5% of the respondents thought asthma was contagious. 14% of the mothers believed that a vaccine could cure asthma. 20% deemed the usage of inhalers to be unsatisfactory. 52% of the mothers mishandled their inhalers.

Discussion: The majority of mothers 67% and 56% did not take preventers if symptoms were modest. Mothers' attitudes and behaviours were found to be strongly correlated with the severity of asthma ($P < 0.05$).

Conclusion: In conclusion, ongoing efforts are needed to dispel misconceptions and incorrect assumptions about the condition and how it should be managed among patients as well as to raise patient knowledge of all aspects of asthma and how it should be managed.

1. INTRODUCTION

Using the right medication, asthmatic clinical symptoms can be managed. There should only be infrequent symptoms and no significant asthma attacks [1,2]. The development of a doctor-patient relationship is essential to identifying risk factors, minimising exposure to them, and then evaluating, treating, and managing asthma to avoid episodes. As a result, it's important to have understanding of asthma, its risk factors, triggers, and management

philosophy as well as inhaler usage. Despite the availability of straightforward and efficient treatments, a significant number of children in Sudan, including 12% of children in Khartoum, are reported to have asthma symptoms [3,4]. The goal of this study was to evaluate the moms' knowledge and to determine their parenting behaviours and attitudes. To attempt to comprehend why asthma treatment is so inefficient, evaluate the understanding of the mothers.

2. METHODS AND MATERIALS

Study design and design. Between October 1 and October 31, 2017, in Santosh university participated in this descriptive cross-sectional hospital study in the asthma clinics. The fact that these locations are key public health, tertiary healthcare facilities offering specialised clinical inpatient and outpatient services to a sizeable portion of the state population led to their selection. A sample of 110 mothers of children with asthma were collected. Mothers who attended the paediatric outpatient department and had a child with bronchial asthma diagnosed at least three months prior were included; those who declined to participate were omitted.

Table 1: Socio-demographic characteristics of the respondents

Socio-demographic		Percent
Mothers age	20–30 years	22%
	30–40 years	53%
	40–50 years	12%
	>50 years	14%
Mothers Educational level	Illiterate	13%
	Primary school	21%
	Secondary School	49%
	University	17%
Mothers Occupation	House wife	68%
	Employee	21%
	Worker	11%
Duration of asthma	3 month–1 year	34%
	1–5 years	47%
	>5 years	19%
Severity of asthma	Intermittent	50%
	Mild persistent	28%
	Moderate persistent	17%
	Severe persistent	5%

Data collection and analysis

A modified version of an existing validated tool- a questionnaire was used in a structured interview [5]. The mother's and child's sociodemographic information was gathered, and knowledge of the disease's aetiology, precipitating events, signs, and symptoms was tested.

We identified the mother's attitude toward inhaler use, her routine for managing her child's asthma, her adherence to the control plan, and an evaluation of the severity of the child's asthma. Four questions about the disease's recent history were used to gauge severity. According to GINA and the recommendations of the National Heart, Lung, and Blood Institute (NHLBI), the questions asked about the occurrence of the symptoms, their impact on activities, nighttime awakenings due to asthma, and the usage of short-acting bronchodilators or ER visits [6,7]. The type of asthma the child had was determined to be intermittent, mild persistent, moderate persistent, or severe persistent. Participants received a score for each accurate response supplied according to a scoring system that was created. Version 23 of the statistical package for the social sciences (SPSS) was used to enter and evaluate the acquired data. The association between the independent categorical variables and the study's key findings was examined using the Chi-square test. The threshold for significance was set at a p-value of equal to or lower than 0.05.

Ethics approval and consent to participate. Prior to the start of the study, the institutional review board of the Santosh University college of Medicine approved the research's conduct. The State Ministry of Health in the state granted ethical approval. Prior to participation, each respondent supplied their free and informed consent. Additionally, all techniques were carried out in conformity with the pertinent rules and regulations.

Table 2: Association between severity of asthma and KAP

		Severity of asthma				P value
		Intermittent	Mild persistent	Moderate persistent	Severe persistent	
Knowledge	Poor knowledge	8	4	3	1	0.559
	Moderate knowledge	24	11	10	2	
	Good knowledge	10	5	5	1	
Attitude	Negative attitude	17	2	12	3	0.018
	Positive attitude	25	18	16	1	
Practice	Good practice	15	14	5	1	0.004
	Poor practice	27	6	13	3	
Proper using of the inhaler	yes	18	12	7	1	0.008
	no	24	8	11	3	
Using inhaler in mild symptoms	yes	12	7	6	0	0.007
	no	26	9	10	4	
	sometimes	4	4	2	1	
Protection from triggering factors	yes	38	18	11	2	0.002
	no	4	2	7	1	

3. RESULTS

Sociodemographic details on the individuals. In this study, 110 women who had 74 male and 36 female asthmatic children participated. mothers between the ages of 30 and 40 (53%) Of them, (13%) were illiterate, (49%) had graduated from high school, and (63%) were housewives. (8%) of the children were younger than 1 year old, followed by (68%) those aged 1 to 5 years, (24%) those aged 5 to 10 years, and (23%) those older than 10 years. Regarding the length of asthma diagnosis, (38%) had asthma diagnosed 3 months to 1 year prior, (47%) had asthma identified 1 to 5 years prior, and (19%) had asthma diagnosed more than 5 years prior. Irregular asthma affected 50% of children, mild persistent asthma affected 28%, moderate persistent asthma affected 17%, and severe persistent asthma affected 5% of the children (Table 1). 92% of mothers believed that asthma was inherited, while 38% were unsure of the cause. 17% of respondents believed that vaccinations could prevent asthma. Thirty-two percent of the mothers thought that asthma was only an acute illness. They were aware that it affects both children and adults, 95% of them. Although 88% of the moms were aware that dust could cause asthma, 92% were unaware that exercise could cause asthma, 72% were unaware that smoke could cause asthma, and 74.9% were unaware that medicines might cause asthma to flare up. 68% of the moms were unaware that tachycardia is an asthma symptom, and 51% did not mention nocturnal awakening when asked about asthma symptoms. Most people were aware of wheezing (77%), shortness of breath (86%), and cough (88%). 72% were aware that severe asthma can be fatal. The mothers' educational level was shown to be substantially correlated with their degree of knowledge ($p = 0.013$). According to the report, 88% of mothers worry that their asthmatic kids may go outside and have an asthma attack. Although 86% of respondents believed that taking drugs was required to avoid asthma attacks, 35% did not think that steroid inhalers and other preventative therapies could control asthma, and 20% did not agree with the usage of inhalers. Mothers' attitude and education level were significantly correlated ($p = 0.07$).

The investigator gave the mothers an inhaler and asked them to demonstrate how to use it before scoring their performance. 51% of people lacked knowledge about proper inhaler use. when asked if they utilised the rapid relief inhaler for moderate symptoms, mothers gave the following responses: 68% said no, 7% said occasionally, and 20% said yes. Of the 42 people who did use steroid inhalers, only 20 (or 51%) did so in accordance with the recommended dosage, and 53% said they did not use long-term steroid inhalers (preventers).

The study found a connection between mothers' attitudes and the severity of their children's asthma ($p = 0.018$) as well as a connection between mothers' behaviour and the severity of the condition ($p=0.002$). Additionally, there were statistically significant relationships between asthma severity and proper inhaler use ($P=0.007$), rapid relief inhaler use in moderate symptoms ($P = 0.006$), and the use of trigger protection ($P = 0.001$). (Table 2).

4. DISCUSSION

This study assessed KAP towards asthma in asthma clinics in hospitals. The mothers were the focus of the study because they are the ones who care for the kids and are virtually often their sick kids' co-patients. Overall, the study's findings revealed a lack of asthma awareness and a significant discrepancy between suggested and actual behaviours. It was discovered that the moms' education level and their degree of knowledge were related. Perhaps because mothers with more education have a better understanding of the illness. The attitude, practise, illness course, appropriate use of inhalers, use of inhalers in conjunction with moderate symptoms, and use of anti-inflammatory inhalers were all important aspects that had a

significant impact on how severe the disease was in children. The present work addresses a crucial subject and helps to advance our comprehension of the issue. This is the first study that we are aware of that evaluated the KAP level for asthma among moms of asthmatic children. The cross-sectional design of this study's findings, which was conducted in three different locations, may make it difficult to generalise the findings to other settings across the nation. Additionally, the study's inclusion of a small sample size may have compromised representativeness.

Comparing strengths and limitations to other studies In a study by Jing Zhao et al., it was discovered that parental KAP scores and educational attainment were preventative factors against asthma attacks [8]. The clinical status of asthma control and asthma severity in children were examined in that Chinese study, which was a multicenter study conducted in 29 cities with 2960 patients.

Numerous factors are necessary for effective asthma management, including sufficient education and a positive outlook. One of the most crucial aspects of treating childhood asthma is parent education. Since several components of KAP9 have a substantial impact on health-related behaviours, education should not only aim to inform but also to change behaviour and practise.

In several regions, KAP education programmes for parents of children with asthma have been implemented with success [10,11]. The Tyra Bryant-Stephens programme successfully improved asthma awareness, child asthma control, and asthma quality of life [10]. Archelle Georgiou et al. population-based's. asthma management programme for paediatric asthma patients and their caregivers [11] resulted in statistically significant reductions in unfavourable utilisation, symptoms, and days with restricted activity for kids. This programme includes several reminder aids, films, staggered educational mailings, and telephonic case management. A Randall Brown evaluation recommended eleven components for any comprehensive asthma education programme, with additional actions for doctors to support patients' improved self-regulation [12]. Additionally, asthma education initiatives offered in schools may increase knowledge of the condition and lessen its effects. A thorough analysis revealed that these programmes support knowledge advancement and have been linked to decreases in asthma symptoms, hospitalizations, emergency room visits, school absences, and overall improvement in people's quality of life [13].

In our study, half of the moms didn't know how to use the inhalers appropriately, which is a significant issue for managing asthma in poor nations as 71.8% of Indian patients were misusing their inhalers [14]. In another Sudanese study on well-educated adult asthma patients, 12% of the patients did not accept the use of inhalers; they either had no specific justification or feared a deeply ingrained dependence on inhalers [15]. We discovered that 21% of the mothers did not accept the use of inhalers.

The participants in our study showed a low degree of KAP toward asthma, and many features of KAP have a substantial impact on the severity of asthma. The low level of KAP in our setting can be attributable to a number of things. The sole source of information for patients or their parents is their doctor because there is no information regarding non-communicable diseases like asthma in the curriculum of our basic or secondary schools. Unfortunately, the majority of our patients who experience an asthma attack visit the emergency department (ER) to receive nebulized salbutamol as emergency treatment, go home feeling well, and skip seeing a specialist because they believe it is not necessary. As a result, they leave without receiving therapy, a correct diagnosis of their issue, or a prescription for medicine.

In terms of practise, the majority of women have not received instruction or training on how to effectively utilise inhalers and spacers. The majority of them did not receive instructions on how to take their prescriptions or manage their disease. The knowledge, attitude, and practise of asthma can all be considerably improved with appropriate counselling [16]. A Sudanese study that was conducted in four significant district hospitals evaluated the accuracy and integrity of the information provided on the asthma treatment cards. Important flaws in that study were found, and they may have an impact on how asthma patients are managed [17]. The KAP toward asthma among moms of asthmatic kids was evaluated in this study.

5. CONCLUSION

To study the potential risk variables that affect KAP level for asthma and asthma severity in our scenario, a more thorough investigation is necessary. An efficient asthma management strategy might be put in place if we have a thorough understanding of these affecting elements. It is strongly advised that KAP education programmes be established for parents of children with asthma in our context.

Data Availability

The datasets used during the current study are available from the corresponding author on reasonable request.

Acknowledgements

6. REFERENCES

1. Global Initiative for Asthma. Global strategy for Asthma management and prevention. Printed at, <https://ginasthma.org/wpcontent/uploads/2019/01/2006-GINA.pdf> (2006).
2. Vincent, S. D. et al. "Exasperations" of asthma: a qualitative study of patient language about worsening asthma. *Medical journal of Australia* 184, 451–454 (2006).
3. International Union against Tuberculosis and Lung Disease. The global asthma report 2011. Printed at <http://www.globalasthmareport.org/2011/> (2011).
4. Ait-Khaled, N. et al. Prevalence of symptoms of asthma, rhinitis and eczema in 13-to 14-year-old children in Africa: the International Study of Asthma and Allergies in Childhood Phase III. *Allergy* 62, 247–258 (2007).
5. Salvador, E. Z. Jr. Validation of a Questionnaire on Asthma Knowledge, Attitudes and Practices Among Parents of Children with Asthma for the Asthma Pediatric Education Program of the Philippine Heart Center. *Phil Heart Center J.* 16, 39–49 (2012).
6. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2016. Printed at https://ginasthma.org/wpcontent/uploads/2016/04/GINA-2016-main-report_tracked.pdf (2016).
7. US Department of Health and Human Services. National Heart, Lung and Blood Institute: Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3 2007). NIH Item No. 08–4051 (2007).
8. Zhao, J. et al. Status of asthma control in children and the effect of parents' knowledge, attitude, and practice (KAP) in China: a multicenter study. *Annals of Allergy, Asthma & Immunology* 109, 190–194 (2012).

9. Klett-Tammen, C. J. et al. Determinants of tetanus, pneumococcal and influenza vaccination in the elderly: a representative cross-sectional study on knowledge, attitude and practice (KAP). *BMC public health* 16, 121 (2015).
10. Bryant-Stephens, T. & Li, Y. Community asthma education program for parents of urban asthmatic children. *Journal of the National Medical Association* 96, 954 (2004).
11. Georgiou, A. et al. The impact of a large-scale population-based asthma management program on pediatric asthma patients and their caregivers. *Annals of allergy, asthma & immunology* 90, 308–315 (2003).
12. Brown, R. Patient education in asthma: partnership in care. *Int. Forum Allergy Rhinol.* 5, S68–S70 (2015).
13. Coelho, C. et al. The impacts of educational asthma interventions in schools: a systematic review of the literature. *Canadian respiratory journal* 2016 (2016).
14. Sodhi, R. et al. A study to know the knowledge, attitude, and practices of patients of bronchial asthma. *International Journal of Medicine and Public Health* 3, 159 (2013).
15. Merghani, T. H. et al. Knowledge, attitude and behaviour of asthmatic patients regarding asthma in urban areas in Khartoum State, Sudan. *Khartoum Medical Journal* 4, 524–531 (2012).
16. Jayasutha, J. & Saipavan, R. K. V. Assessment of impact of patient counseling on knowledge, attitude and practices in asthma patients. *Global J Pharmacol* 8, 486–489 (2014).
17. Kodouda, S. F. et al. How well are asthma treatment cards filled out in public health centres in Gazeera State, Sudan? *Public health action* 4, 116–121 (2014).