ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Study on Parental Perceptions and Practices toward Childhood Asthma

Dr. Harjinder Singh[1],Dr. Kailash Meena[2], Dr. Surinder Pal Singh[3], Dr. Jasbir Singh*[4], Dr. Ajaypal Singh[5]

[1]Associate Prof, Department of Pediatrics, Government Medical College, Patiala
[2]Senior Resident, Department of Pulmonary Medicine, Government Medical College, Patiala [3]Profeesor, Department of Pulmonary Medicine, Government Medical College, Patiala, [4]Associate Prof, Department of pharmacology, Government Medical College, Patiala
[5]Junior Resident, Department of Pulmonary Medicine, Government Medical College, Patiala

Corresponding Author:
Dr Jasbir Singh, Email.id-jsjasbir9@gmail.com

Abstract
Background–AsthmaticChildren are dependent on their parents or caregiver, for acute care, as well as preventive care appointments.This study aims to assess parent's perceptions and practices about childhood asthma.
Methods - Parents of 100 Asthmatic children were assessed by 5 points Likert questionnaire, attending the outpatient department in the Department of pulmonary medicine, Tertiary care hospital,Patiala, Punjab.
Results -Out of 100 parents, 54 went to primary school, 32 went to high school, and 14 were havinga graduation level of education.KAP score was better in fathers as compared to mothers with a statistically significant and were highest among parents within the age group of 30 to 40 years.The correlation between the level of education with the KAP score was statistically significant with a p-value of <0.001.
Conclusion–There was a lack of knowledge about triggering factors of asthma, proper use of inhalation therapy, and concern about addiction and adverse effects especially the ones with a lower level of education. There is an urgent need to explain to the parents their concern about their Child's disease as well as management so as avoid undesired asthma exacerbation.
Keyword: Asthma, caregiver, KAP

Introduction

Asthma is one of the most common chronicrespiratory diseases with around 300 million patients are affected by asthma worldwide, and it is likely that by 2025 a further 100 million may be affected[1,2].Among children and under the age of 15 years it is the third leading cause of hospitalization and one of the leading causes of absenteeism from school[3].Regarding their health, children are dependent on their parents or caregiver, who determines to bring the child for acute care, as well as preventive care appointments. The severity of asthma among children can be controlled by properly managing the disease by the family[4]. Several factors such as parents' knowledge and attitude toward asthma, level of education, income, access to health care, and medications can affect the management of disease by the family. As health beliefs, both positive or negative, are known to influence personal health care decisions[5–7], it is important to understand how parents' beliefs about asthma medications influence their adherence to their child's prescribed therapy. The study aimed to determine the knowledge, attitude, and practice of parents/guardians of patients with childhood asthma about the disease and inhalation therapy use.

Methods and materials

A cross-sectional, descriptive study conducted at the Dept. of Pulmonary Medicine at a tertiary care hospital, Patiala, Punjab. A total of 100 subjects, either of the parents or guardians of children diagnosed with asthma were taken in this study. Children taken in the study were upto 15 years of age. Parents were included in the study after taking written consent, explaining about purpose of the study. Their relation with the patient and socio-demographic characteristics were noted including the level of education and geographical background.The questionnaire used for the study was the translated version of the asthma knowledge for parents of children with asthma, containing 17 questions developed by Rodriguez-Martinez[8]. 4 questions from another asthma knowledge questionnaire were added[9].The questionnaire was administered to parents/family members of asthmatic children attending the OPD.A Likert-type scale of 5 points was used to respond to each of the 21 questions. The items were graded '1', '2', '3', '4', and '5' for 'strongly disagree,' 'disagree,' 'neither agree nor disagree,' 'agree,' and 'strongly agree,' respectively. Negative items were reverse coded by subtracting the values of the response from 5. Missing answers to the asthma knowledge questionnaire scored a '3'. The total score was calculated by the sum of score item responses, ranging from 21 to 105, with higher scores indicating greater asthma knowledge.This implies that the correct response is always 'strongly agree' for all questions.

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Results

Out of the 100 children, 58 weremales, 42 were females, and the mean age was 7 years. 68 were from urban backgrounds and 32 were from the rural locality. Of the total family members interviewed, 62 were mothers, 30 were fathers, and eight were other guardians. The mean age of the guardian was 30 years. Out of 100 parents, 54 went to primary school, 32 went to high school, and 14 were havinga graduation level of education. Table no. 1 describes the correlation of the KAP scores studied with the various parameters. KAP score was highest among parents within the age group of 30 to 40 years. It was found that the KAP score was better in fathers as compared to mothers and other guardians with a statistically significant. However, the correlation was not statistically significant. It was also found that the parents of urban backgrounds had more KAP scores as compared to the ones with rural backgrounds. The parents with education up to graduation had the highest KAP score(82.07) as compared to the ones with high school (66.59) and primary school level education (54.33). The correlation between the level of education with the KAP score was statistically significant with a p-value of <0.001.Table 2 describes the analysis of the KAP questions. Response of each question was taken in Likert score from one to five.Each Response was given by participants described in percentage.

Table 1: Mean Asthma knowledge score

Variable	**Mean KAP score (s.d)**	**P value**
Relation with Patient		
Mother	60.27 (10.57)	0.011
Father	66.83 (9.40)	
Others	59.00 (9.46)	
Age of Guardian		
20-30	61.40 (11.40)	0.370
30-40	64.50 (8.30)	
40-50	54.00 (0.0)	
50-60	60.67 (10.58)	
Location		
Urban	63.28 (11.23)	0.113
Rural	59.72 (8.24)	
Education level of Guardian		
Primary	54.33 (4.17)	<0.001
High	66.59 (2.17)	
Graduation	82.07 (4.62)	

Table 2: Asthma knowledge questionnaire

Questions	**Disagree Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly Agree**
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

1 Inhaler use can lead to dependence or addiction.	1 (1)	48 (48	12 (12)	37 (37)	2 (2)
2 Inhalers can have an effect on the heart or damage it.	23 (23)	25 (25)	12 (12)	40 (40)	
3 It's not good for children to use the inhaler for too long	1 (1)	45 (45)	19 (19)	32 (32)	3 (3)
4 After a child's asthma attack, once the coughing is over, use of the inhaler and medications should stop	9 (9)	40 (40)	29 (29)	22 (22)	0 (0)
5 Children with asthma should use asthma medications only when they have symptoms (coughing, congestion, or wheezing).	0 (0)	37 (37)	24 (24)	32 (32)	7 (7)
6 It's better to use inhalers directly, without a holding chamber, so the medication can go more directly to the lungs	7 (7)	41 (41)	8 (8)	44 (44)	0 (0)
7 The main cause of asthma is airway inflammation	0 (0)	13 (13)	6 (6)	74 (74)	7 (7)
8 Parents should ask a doctor to tell the school that an asthmatic child shouldn't exercise or participate in physical education classes.	0 (0)	44 (44)	35 (35)	21 (21)	0 (0)
9 Children who have asthma shouldn't participate in sports that make them run too much	7 (7)	62 (62)	11 (11)	13 (13)	7 (7)
10 When a child has an asthma attack it's best to go to the emergency room even if symptoms are mild	0 (0)	44 (44)	13 (13)	30 (30)	13 (13)
11 Asthma attacks can be prevented if medications are taken even when there are no symptoms—between attacks	0 (0)	51 (51)	9 (9)	40 (40)	0 (0)
12 Flu infections are the main causes or triggers of asthma attacks	0 (0)	71 (71)	7 (7)	22 (22)	0 (0)
13 It's best not to smoke or let anyone else smoke near a child who has asthma.	0 (0)	6 (6)	27 (27)	67 (67)	0 (0)
14 If the parents of a child with asthma smoke outside the house, it won't affect the child.	0 (0)	10 (10)	23 (23)	42 (42)	25 (25)
15 If an asthmatic child gets the flu, you should apply the inhalers even if there's no coughing or wheezing	0 (0)	9 (9)	28 (28)	62 (62)	1 (1)
16 Asthmatic children might have attacks that are severe enough to require hospitalization in an intensive care unit or they might even die from an attack	0 (0)	34 (34)	5 (5)	60 (60)	1 (1)

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

17 Some medications for asthma don't work unless they're administered every day.	0 (0)	27 (27)	66 (66)	7 (7)	0 (0)
18 With preventer medications, it does not matter if some doses are missed or if you go on and off them	0 (0)	12 (12)	15 (15)	33 (33)	40 (40)
19 You should use 'preventer medication' when you have an asthma attack	0 (0)	5 (5)	28 (28)	27 (27)	40 (40)
20 Parents should give 'reliever medication' to a child as soon as they recognize the first sign of asthma	0 (0)	10 (10)	74 (74)	16 (16)	0 (0)
21 Blue puffer (salbutamol), Brown puffer (Fluticasone), and Green puffer (salmeterol) are called 'preventer medications,' so they should be used every day although you are well.	0 (0)	7 (7)	74 (74)	18 (18)	1 (1)

Discussion

Health education is fundamental for the proper management of asthma. Childhood asthma exacerbations can be prevented with broader knowledge about the disease, identify the symptoms and triggering factors, and the actions necessary between exacerbations [10].Through this study, we tried to find out gaps in the knowledge of parents of asthmatic children.Asthma is more common in a male child, as after puberty hormonal changes occur in females, results in more prevalent in them after puberty[11]. We also found out thatmajority of the patients were males (58/100) with a mean age of 7 years. This finding is similar to a study conducted by Al-Binali et al. in which most of the asthmatic children were of age ranging from 3 to 11 years with a mean age of 6.3. [12]In the majority of the patients, as expected, the mothers tend to be the first person in charge of caring for the child [13].Majority of participants in our study were also mothers with a mean age of 27 years. In the present study, the Mean Asthma knowledge score was 64 (60%). Similar findings were reported in another study conducted in Riyadh, Saudi Arabia, where caregivers' asthma knowledge score ranged from 40 to 75.with the mean value of 53[14]Whereas two other similar studies had found a higher mean score and reason behind this could be the parents give medications regularly, using the same questionnaire developed by Rodriguez-Martinez[8,15]. It has been seen that there is a lack of knowledge about the asthma disease and its triggering factors among the parents.[16,17]More than half of participants had disagreed when they were asked whether asthma attacks can be prevented if medications are taken even when there are no symptoms between attacks. Myths and misconceptions among the parents related to inhaler use can directly or indirectly affect the children's asthma control.More than two-thirds of the participants in our study had poor knowledge about medication use,which was comparable to other similar studies.[15]About forty-four percent of the participants had agreed to the misconceptions that "It's better to use inhalers directly, without a holding chamber so that the medication can go more directly to the lungs “Studies have found that parents have good knowledge about asthma symptoms but they were unable to identify the triggering factors like flu infection, smoke, any particular food allergy, or psychological stress.[12,18] However in our study we found that sixty-seven percent of participants knew that smoking could cause asthma exacerbation.In the present study, thirty-nine percent of the parents believed that long-term inhaler use can lead to dependency and were not in favour of continuing it for long. A similar finding was observed in a multicentre study among caregivers in China where 67.3% of parents were anxious about corticosteroid's adverse effects and 40.56% of parents were concerned about drug dependency. [19]Also, one of the studies conducted in the USA found that 38.2% of caregivers were concerned about the daily use of asthma medication, and 48.9% were bothered about the side effects of asthma medication. [20]KAP score difference in urban and rural parents was 63 and 59 respectively. Showing not much difference in knowledge among urban and rural parents. A similar finding was noticed by lai et al. in their study on a north Indian study[21].Education is strongly linked to health and is a well-known determinant of the community’s health behaviour and preventive services usage[22]. In our study, we found thatlevel of education was found to have a statically significant correlation with knowledge score in our study; the same finding was seen in other studies. [15,19,23]

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Conclusion

Our results indicate that there was a lack of knowledge about triggering factors of asthma, proper use of inhalation therapy, and a significant number of parents were concerned about addiction and adverse effects especially the ones with a lower level of education. Henceforth, ina developing nation like India, there is an urgent need to explainedto the parents their concern about their Child's disease as well as management so as avoid undesired asthma exacerbation.

References

1. Network GA. The Global Asthma Report, Auckland, New Zealand. (2018). - Google Search [Internet]. [cited 2021 Apr 30];
2. Masoli M, Fabian D, Holt S, Beasley R. The global burden of asthma: Executive summary of the GINA Dissemination Committee Report. Allergy Eur. J. Allergy Clin. Immunol.2004;59(5):469–78.
3. Pearson WS, Goates SA, Harrykissoon SD, Miller SA. State-based medicaid costs for pediatric asthma emergency department visits. Prev Chronic Dis 2014;11.
4. Qureshi S, Al-Anazi A, Al Moamary M, Ismaeli T, Alanazi A, Olayan L, et al. Asthma in the pediatric population: Level of perception among the parents and guardians. Int J Med Public Heal 2015;5(1):14.
5. Rosenstock IM. The Health Belief Model and Preventive Health Behavior. Health Educ Monogr 1974;2(4):354–86.
6. Becker MH, Becker MH. Sociobehavioral deteminants of compliance with health and medical care recommendations. Med Care 1975;13(1):10–24.
7. Chambers C V., Markson L, Diamond JJ, Lasch L, Berger M. Health beliefs and compliance with inhaled corticosteroids by asthmatic patients in primary care practices. Respir Med 1999;93(2):88–94.
8. Rodríguez Martínez C, Sossa MP. Validation of an Asthma Knowledge Questionnaire for Use With Parents or Guardians of Children With Asthma. Arch Bronconeumol ((English Ed 2005;41(8):419–24.
9. Kritikos V, Krass I, Hui SC, Bosnic-Anticevich SZ. The validity and reliability of two asthma knowledge questionnaires. J Asthma 2005;42(9):795–801.
10. Becker A, Lemière C, Bérubé D, Boulet LP, Ducharme FM, FitzGerald M, et al. Summary of recommendations from the Canadian Asthma Consensus Guidelines, 2003. In: CMAJ. 2005. page S12-4.
11. GINA. 2020 GINA Main Report | Global Initiative for Asthma [Internet]. 2020 [cited 2021 Jun 2];47–9. Available from: https://ginasthma.org/gina-reports/%0Ahttps://ginasthma.org/wp-content/uploads/2020/06/GINA-2020-report_20_06_04-1-wms.pdf
12. Al-Binali AM, Mahfouz AA, Al-Fif S, Naser SM, Al-Gelban KS. Asthma knowledge and behaviours among mothers of asthmatic children in Aseer, south-west Saudi Arabia. East Mediterr Heal J 2010;16(11):1153–8.
13. Raley S, Bianchi SM, Wang W. When do fathers care? Mothers' economic contribution and fathers' involvement in child care. Am J Sociol 2012;117(5):1422–59.
14. AA B. Caregiver knowledge and its relationship to asthma control among children in Saudi Arabia. J Asthma 2014;51(8).
15. Franken MMA, Veenstra-van Schie MTM, Ahmad YI, Koopman HM, Versteegh FGA. The presentation of a short adapted questionnaire to measure asthma knowledge of parents. BMC Pediatr 2018;18(1):1–6.
16. Binsaeed AA. Caregiver knowledge and its relationship to asthma control among children in Saudi Arabia. J Asthma 2014;51(8):870–5.
17. AlOtaibi E, AlAteeq M. Knowledge and practice of parents and guardians about childhood asthma at King Abdulaziz Medical City for National Guard, Riyadh, Saudi Arabia. Risk Manag Healthc Policy 2018;11:67–75.
18. García-Luzardo MR, Aguilar-Fernández AJ, Rodríguez-Calcines N, Pavlovic-Nesic S. Knowledge

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

about asthma of parents of asthmatic children who come to Emergency Department. Acta Pediátrica Española 2012;70(5):196–203.

19. Zhao J, Shen K, Xiang L, Zhang G, Xie M, Bai J, et al. The knowledge, attitudes and practices of parents of children with asthma in 29 cities of China: A multi-center study. BMC Pediatr 2013;13(1):20.
20. Orrell-Valente JK, Jarlsberg LG, Rait MA, Thyne SM, Rubash T, Cabana MD. Parents' specific concerns about daily asthma medications for children. J Asthma 2007;44(5):385–90.
21. Lal A, Kumar L, Malhotra S. Knowledge of asthma among parents of asthmatic children. Indian Pediatr 1995;32(6):649–55.
22. Raghupathi V, Raghupathi W. The influence of education on health: An empirical assessment of OECD countries for the period 1995-2015. Arch Public Heal 2020;78(1).
23. Abu-Shaheen A, AlFayyad I, Nofal A, Al-Tannir M, AlMadaney M, Heena H. Perceptions and Practices in Parents of Saudi Children with Asthma: A Cross-Sectional Survey. Cureus 2018;