ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

Original Research Article

To assess the knowledge, attitudes and practices of MDI in parents of asthmatic patients.

Dr. Madhur Pantola[1] (Senior Resident), Dr. Mahendra Kumar Pandey[2] (Assistant Professor), & Dr. Aditi Sharma[3] (3rd Year PG Residents) & Dr. Kuldeep Gupta[4] (2nd Year PG Resident)

Dept. of Pediatrics, Lal Bahadur Shastri Hospital, Delhi[1]
Dept. of Pediatrics, Rama Medical College and Research Center, Mandhana, Kanpur[2,3&4]
Corresponding Author: Dr. Mahendra Kumar Pandey

Abstract:
Background & Method: The aim of the study is to assess the knowledge, attitudes and practices of MDI in parents of asthmatic patients. The KAP data was collected by face to face interview in the hospital, using a structured questionnaire on Knowledge, Attitudes, and Practices. A 50 item questionnaire was devised for the cross sectional survey based on comprehensive review of the subject. Prevalence of collected data was analyzed.
Result: In KAP questionnaire, asthma affects lungs and is a life threatening condition was replied correctly by 63% and 40.5% cases. Only half of the parents (56%) knew that asthma is an allergic condition while wheeze as a symptom was identified correctly by 70.5% parents. Correct use of MDI was known to only 54.5% parents while only 25% were able to correctly practice all the steps. Missing of does was reported by 35.5% parents while misconception of asthma being a growth inhibitor was present in 22.5% parents.
Conclusion: This KAP study was conducted to determine the knowledge of the MBBS students with regard to asthma and proper metered dose inhaler technique and various socio-demographic factors affecting them. Out of the 200 cases, 34% were in age range of 5 to 7 years while 45.5% and 20.5% were in the age group of 8-10 years and 11-12 years respectively. A total of 61% children were males while 39% were females. Correct usage of MDI by following all steps correctly was shown by only 25% parents.

Keywords: knowledge, attitudes and practices, MDI & asthmatic.

Study Designed: A Cross-Sectional Study.

1. Introduction

Bronchial asthma is a syndrome characterized by episodes of variable obstruction, largely reversible either spontaneously or with treatment [1]. It is provoked either by external stimuli or internal stimuli. The external stimuli include dust, pollen, cold breeze, certain foodstuffs, smoke, certain drugs like β blockers, etc. Most of the times, when Asthma is provoked by external stimulus, it is considered as type 1 Hypersensitivity. The internal stimuli like exercise, emotions like fear, rage, etc. are also known to provoke asthma. On this basis asthma is classified as atopic (provoked by external stimuli) or non-atopic (provoked by emotion, exercise, etc.).
Bronchial asthma is one of the most common chronic diseases among children and adolescents [2,3]. In recent decades, the prevalence of asthma and morbidity are increasing. It

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

is a common cause of school absenteeism and limitation of activity in children. There is a wide variation of asthma even in India, with prevalence ranging from 3.3% in Lucknow to 11.6% in New Delhi. [4].

The impact of asthma in children depends on complex interaction between disease severity, reaction of children towards disease, treatment efficiency, social roles, and social environment [5].

Bronchial asthma, if remains uncontrolled during childhood leads to continuous symptoms leading to limitations in physical activities and it can lead to development of chronic obstructive pulmonary disease during the later years of life [6]. Hence proper control of the disease is of paramount importance during this period to prevent the morbidity due to asthma.

Lack of knowledge of parents of asthmatic children regarding asthma and its treatment leads to exacerbation and hospitalization, repeated exacerbations adversely affects children lung health over time [7]. Poor Knowledge attitudes and practices among parents of asthmatic children's increases prevalence, mortality and morbidity which is important public health concern [8,9].

2. Material & Method

Any parent (Father/ Mother) with a child of aged 5 years and above diagnosed with Bronchial asthma and attending the outpatient of our hospital or brought in with acute exacerbation. The KAP data was collected by face to face interview in the hospital, using a structured questionnaire on Knowledge, Attitudes, and Practices. A 50 item questionnaire was devised for the cross sectional survey based on comprehensive review of the subject. Prevalence of collected data was analyzed. Incompletely filled questionnaire were excluded out of data analysis.

Inclusion Criteria

1. Known cases of asthma.
2. Those with age between >5 years and < 12 years.
3. Asthmatics Without defects e.g. - Congenital heart disease, Cleft palate/lip, Down Syndrome, IDM babies (infant of diabetic mother).
4. Those who are willing to take part in the study and to sign informed written consent.

Exclusion Criteria:

1. Those below the age of < 5 years and > 12 years.
2. Asthmatics with defects e.g. - Congenital heart disease, Cleft palate/lip, Down Syndrome, IDM babies (infant of diabetic mother).
3. Those who are unwilling to participate in the study.

3. Results

Table 1: Distribution of study cases as per Gender of the child

Gender of child	N	%
Female	78	39.0%
Male	122	61.0%
Total	200	100.0%

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

Out of the total 200 cases of bronchial asthma in present study, 61% were males while 39% were females.

Table 2: Distribution of study cases as per type of family

Type of Family	N	%
Joint	38	19.0%
Nuclear	162	81.0%
Total	200	100.0%

Children belonged to joint family in 19% cases while in 81% cases, they were from nuclear families

Table 3: Distribution of study cases as per are of residence

Residence	N	%
Urban	121	60.5%
Rural	79	39.5%
Total	200	100.0%

Out of the total 200 cases, 39.5% were from rural background while 60.5% reside in urban areas.

Table 4: Distribution of study cases as per response to MDI-KAP questionnaire

KAP Questionnaire	N	%
1) Asthma affects Lungs	126	63.0%
2) Asthma is a life threatening disease	81	40.5%
3) Asthma is:		
a) Hereditary disease	71	35.5%
b) Contagious disease	17	8.5%
c) Allergic disease	112	56.0%
4) Asthma symptoms:		
a) Wheeze	141	70.5%
b) Cough	107	53.5%

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

c) Tightness in chest	27	13.5%
d) Shortness of breath	92	46.0%
5) Do you know about MDI	171	85.5%
6) How to correctly use MDI (steps of MDI)	109	54.5%
7) Does MDI hinders growth	45	22.5%
8) Can MDI Controls asthma attacks	133	66.5%
9) Correct practice of all steps of MDI use	50	25.0%
10) Missing of doses in last 1 month	71	35.5%

In KAP questionnaire, asthma affects lungs and is a life threatening condition was replied correctly by 63% and 40.5% cases. Only half of the parents (56%) knew that asthma is an allergic condition while wheeze as a symptom was identified correctly by 70.5% parents. Correct use of MDI was known to only 54.5% parents while only 25% were able to correctly practice all the steps. Missing of does was reported by 35.5% parents while misconception of asthma being a growth inhibitor was present in 22.5% parents.

4. Discussion

Bhagavatheeswaran KS et al. [9] in a similar study observed that 62% children were males and 38% females, with an average age of 12.53 years (SD 2.95) and an average duration for living with asthmatic conditions of 6 years (SD 3). Sixty-nine percent (69%) of the participants were living in nuclear families and 85% of the participants lived in rural location. Singh H et al. [7] in their study also observed male predominance with 64% males to 36% females. About 63% were residing in rural area while 27% were illiterates. Aquino-Pérez DM et al. [10] in their study reported mean age as 7.4 years while mean duration of illness was 4.6 years. Study had 61% male to 39% female population. Zhao J et al. [8] in their study on 2485 children, reported e 1660 (66.8%) male children and 825 (33.2%) female children. Their average age was 7.20 ± 3.09 years, and the average disease course was 2.81 ± 2.05 years.

In present study, a significant association was observed between knowledge of all the correct steps and practicing them during MDI use. Out of 109 cases who knew theoretically all the correct steps of MDI use, 45.9% were able to practice them correctly. Rural residence, illiteracy and lower socio-economic class of parents were the major inhibitors for correct usage of MDI in children ($p<0.05$).

Similar studies by Bhagavatheeswaran KS et al. [10] and Zhao J et al. [8] also observed significant correlation between MDI knowledge and practice. The independent variables associated with poor practice parameters were parent education, monthly family income and severity. Aydemir Y et al. [11] in their study aimed to assess the factors affecting the failure to use inhaler devices. The parameters affecting correct usage were educational status, gender, living in rural areas and duration of disease. Education is an important component for

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

MDI use in almost all studies. This can be attributed to the fact that literate patients or those who were at least primary school graduates can read the medication prospectus or brochure.

5. Conclusion

This KAP study was conducted to determine the knowledge of the MBBS students with regard to asthma and proper metered dose inhaler technique and various socio- demographic factors affecting them. Out of the 200 cases, 34% were in age range of 5 to 7 years while 45.5% and 20.5% were in the age group of 8-10 years and 11-12 years respectively. A total of 61% children were males while 39% were females. Correct usage of MDI by following all steps correctly was shown by only 25% parents.

6. References

1. Barnes P. Diseases of respiratory system: Asthma. In: Fauci A, Braunwald E, Kasper D, Stephen L, Longo D, Jameson J, Loscalzo J. editors. Harrison's principles of internal medicine.17th ed. The McGraw-Hill companies, Inc. 2008;1596-1607.
2. Sheffer AL, et al. Global strategy for asthma management and prevention NHLBI/WHO workshop report, 1993. National Institutes of Health. 1995;95:3659.2.
3. Forero R, Bauman A, Young L, Larkin P. Asthma prevalence and management in Australian adolescents: results from three community surveys. J Adolesc Health. 1992;13(8):707-12.
4. Qureshi UA, Bilques S, ul Haq I, Khan MS, Qurieshi MA, Qureshi UA. Epidemiology of bronchial asthma in school children (10–16 years) in Srinagar. Lung India: official organ of Indian Chest Society. 2016 Mar;33(2):167.
5. Suarez-Varela MM, Garcia de Andoin N, Batlles-Garrido J, et al. Geographic variance in the prevalence of asthma symptoms in Spanish children and adolescents.International study of Asthma and Allergies in Childhood (ISSAC) Phase 3, Spain]. Arch Bronchoneumol. 2005;41(12):659-66.
6. Anjan kumar DS, Adepu R, Parthasarathi G, Mahesh PA. Impact of community pharmacist provided patient education in asthma patients on treatment outcomes-A study. Indian J Pharm Educ Res. 2009;43(2):125-33.
7. Harjinder Singh, Surinder Pal Singh, Jebin Abraham, Avneet Kaur. A Study on Knowledge, Attitude and Practice of Asthmatic Patients towards Inhaler Use. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). 2019;18(4):1-6.
8. Zhao J, Shen K, Xiang L, Zhang G, Xie M, Bai J, Chen Q. The knowledge, attitudes and practices of parents of children with asthma in 29 cities of China: a multi-center study. BMC pediatrics. 2013 Dec;13(1):20.
9. Bhagavatheeswaran KS, Kasav JB, Singh AK, Mohan SK, Joshi A. Asthma- related knowledge, attitudes, practices (KAP) of parents of children with bronchial asthma: A hospital-based study. Annals of Tropical Medicine and Public Health. 2016 Jan 1;9(1):23.
10. Aquino-Pérez DM, Peña-Cadena D, Trujillo-García JU, Jiménez-Sandoval JO, Machorro-Muñoz OS. Assessment of knowledge in the use of metered dose inhalers in parents of asthmatic school children. Revista Alergia México. 2013;60(2):51-7.
11. Burrows B, Barbee RA, Cline MG, Knudson RJ, Lebowitz MD. Characteristics of asthma among elderly adults in a sample of the general population. Chest. 1991 Oct. 100(4):935-42.