

# Patient education: impact of pharmacists in providing patient education in asthma patients

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## ABSTRACT

Impact of pharmacist offered patient counseling was studied on asthmatic patients. Patient education plays a vital role in enhancing quality of life of asthma patients. In this study an overall of 173 asthma patients were chosen and counseling provided by using patient education leaflet, videos and pictorial aid. Impact of patient counseling was studied using KAP questionnaire. After counseling, the patients knowledge was assessed based on KAP Questionnaire and results showed that the majority patients knowledge enhanced concerning to the disease, risk factors, management precautions. Pharmacist offered patient education significantly improved patient's KAP.

**Keywords:** Astham, Pharmacist, counseling, Impact.

## 1. INTRODUCTION

Asthma is one of the most common diseases. It is an immune inflammatory disease that requires long term treatment (Vijayakumar, 2009). In reality, even today, drugs can only control asthma, not alleviate permanently (Kabila, 2011). World Health Organisation (WHO) estimates that 300 million people affected by asthma, 32, 55,000 people expired due to asthma in 2005 and above 80% of Asthma deaths are reported from low and lower-middle income countries. In India, an estimated 57, 000 deaths were attributed to asthma in 2004 and it was seen as one of the leading cause of morbidity and mortality in rural India. India has an estimated 15-20 million asthmatics. It is estimated that the number of people with asthma will grow by more than 100 million by 2025 (Eder, 2006).

The goals of asthma therapy are to maintain near normal lung function, no activity limitations and no episodes of worsening asthma. However many patients could not attain these goals though they are under treatment and resulting in poor QoL. This is mainly because there is a gap between what actually physician recommended and what is in real practice by the patients. This gap is due to poor knowledge and attitude about asthma. Educating the patients about their disease and medications will improve their knowledge, attitude towards disease, and practice towards management and improve patients QoL. The main aim of the study was to assess the effect of pharmacist provided patient education on patients with asthma in a tertiary care hospital.

## 2. MATERIAL AND METHODS

The study was conducted at the outpatient pulmonary medicine department Tertiary Care Hospital, Erode, Tamilnadu, India.

The study has got Institutional ethics committee approval Written consent was obtained from all the study patients

**Period of study:** 8- months.

**Study population:** 173 cases.

**Study design:** An interventional study

**Patient enrollment:** patients are registered in the study based on inclusion and exclusion criteria

**Inclusion criteria:** Patients of either sex of 18 or above 65 yrs with history of bronchial asthma and presently diagnosed with bronchial asthma with or without co-morbidities and prescribed with anti-asthmatic medications.

**Exclusion criteria:** Asthma patients having other pulmonary complications, Tuberculosis, HIV, hepatic and renal disease patients are excluded from the study. Patient data collection Proforma, Questionnaire forma and "KAP Questionnaire" was prepared for this study.

The questionnaire envisaged for use in this study had 4- module .The first part of the questionnaire was aimed at collecting information about disease knowledge in patient. The second module was aimed at collecting information on past and present medication therapy.

The third module was aimed at assessing the patient education and life style modification measures undertaken. The fourth module, KAP questionnaire have 17 questions which measures knowledge attitude and practice of the patients about asthma before and after counseling provided by clinical pharmacist (Halm, 2006; Rathan, 2013).

## 3. RESULTS AND DISCUSSION

Asthma is a vital public health problem worldwide. There is support to suggest that rejection of having a chronic condition (Davis, 2009), less knowledge of the disease course, medication use (Braido, 2000), and reduced self-management are recurrent reasons for increased morbidity in asthma (Horne, 2007). These issues are particularly relevant in respect of primary care, through which most asthma cases are managed (Ait-Khaled, 2001). Moreover, the issue of not managing asthma in the community according to well established standard treatment guidelines (STG) with inhalation therapy and self-management programme in developing countries is more worrisome (Kotwani, 2009).

The previous studies carry out in India exposed non availability of essential asthma medicines in the public sector of many states (Gautam,2008). The main reasons for poor asthma control are unaffordable inhalation medicines in the private sector for common population, suboptimal understanding of primary care physicians (Kotwani, 2009), and poor asthma management at primary care level. Asthma teaching is considered a vital part of asthma management (Urek, 2005). It is essential to help patients get the motivation, skills and confidence to manage their asthma (Franco, 2009). The cost of treatment of uncontrolled asthma and severe asthma is enormous (Cruz, 2009). Interventions are required for best management of asthma, especially in low-income countries and underprivileged families. Hence, there was an urgent need for conducting an intervention study to afford proof for the impact of patient education on the outcome in asthmatic patients.

A total of 173 asthma diagnosed patients were recruited under the inclusion criteria. Out of 173 patients 103 (59.53%) were male and 70(40.46%) were females. The global prevalence of asthma ranges from 1-18% of the population in different countries. Our study found that the prevalence of bronchial asthma was more in males 103 (59.53%) than in females 70 (40.46 %) (Table1) which is supported by study conducted by Mohammed et al (2007). Majority of 101 (58.38%) patients were found in the age group of 56-65 years, 95 (55%) workers and 49 (28%) cultivators were found. Most of them were illiterate. Out of 173 patients majority 112 (64.73%) of them were found to be illiterate when compared with literate 61(35.26%), most of them 103(59.53%) were living in rural area.

Based on their income, most of them were very poor 86 (49.71%) of earning < 2000rs/- per month, 36(20.80%) were poor of earning 2001-5000rs/-per month, 23(13.29%) were moderate of earning 5001-7000rs/-per month, 20(11.56%) were upper middle class earning 7001-10,000rs/-per month, 8(4.62%) were high class earning >10,100rs/-per month. As per our study it was found that the predominant risk factors for Asthma in Erode region are dust (36.42%), dust+climate (26.01%) and climate variation (8.09%), which showed similarity with the study conducted by kabila et al (2011), that resulted as dust was predominant factor and supported our study.

As there is no cure for asthma, the key tool is to educating the people about asthma. Patient teaching was found to be key variable in assessing the information of disease in patients. It has been observed that most of the individuals do not have exact and full information about asthma and its control. Patient counseling improve quality of life. The information of the patients about the asthma was reviewed at baseline and after counseling with structured KAP questionnaire containing seventeen questions connected to disease, contributing factors, medications and life style modifications. At the end of the study it was found that there was an enhancement in understanding about asthma in patients with p value <0.0001(< 0.05 is statically significant)

It is generally acknowledged that patients' education is a vital part of the management of asthma. Therefore, the present study was aimed to explore the usefulness of different educational programs in finding better asthma control. Patient counseling is a vital aspect in increasing patients understanding about disease, management, precautions and improving over-all quality of life. Even our study revealed that most of patients had be short of knowledge about disease, precautions and management before counseling. After counseling, the patients knowledge was assessed based on KAP Questionnaire and results showed that the majority patients knowledge enhanced concerning to the disease, risk factors, management precautions and some patients didn't show any response to counseling due to their socio-economic status, age, loss of memory, severity of disease.

This study had various intrinsic boundaries, e.g. it was undertaken at one referral tertiary hospital. Thus, it may not be represent the common practice. Moreover, patients who visited the study hospital had already visited other doctors. Hence, they were most likely more motivated to control their disease. Also, the sample size of the study was little. As the baseline level, asthma control and asthma knowledge was less, therefore, a small sample size could show significant result of interference on asthma knowledge and control. But the results are encouraging; therefore a bigger study involving more number of patients should be conducted to demonstrate the effect of standard treatment guidelines and patient teaching on asthma control.

**Table.1.Demographic details of the Asthma Patients**

<b>Distribution of the Asthma patients according to Gender (n=173)</b>		
<b>Groups</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage</b>
Male	103	59.53%
Female	70	40.46%
<b>Distribution of the Asthma patients according to Age (n= 173)</b>		
<b>Age (in years)</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage</b>
18-25	7	4%
26-35	10	5.78%
36-45	13	7.51%
46-55	42	24.27%
56-65	101	58.38%

<b>Distribution of the Asthma patients according to Occupation</b>		
<b>Diabetes history interval (years)</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage</b>
House wife	11	6%
Workers	95	55%
Business	7	4%
Agriculture	49	28%
Employee	11	6%
<b>Distribution of the Asthma patients according to educational status</b>		
<b>Category</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Literature	61	35.26%
Illiterates	112	64.73%
<b>Distribution of the Asthma patients according to Location</b>		
<b>Educational level</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Rural	103	59.53%
Urban	70	40.46%
<b>Distribution of the Asthma patients according to Socio-economic factor</b>		
<b>Co morbid</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Very poor	86	49.71%
Poor	36	20.80%
Moderate	23	13.29%
Upper middle class	20	11.56%
High class	8	4.62%

**Table.2.Habbits, Family History and Allergic history Asthma Patients**

<b>Distribution of the Asthma patients according to Family History</b>		
<b>Marital status</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Yes	57	32.94%
No	116	67.05%
<b>Distribution of the Asthma patients according to Habbits</b>		
<b>Drugs</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Smoking	41	23.69%
Drinking alcohol	12	6.93%
Cooking with sticks	17	9.82%
Chewing tobacco	9	5.20%
Betalnut chewer	11	6.35%
Smoking + drinking alcohol	60	34.68%
None	23	13.29%
<b>Distribution of the Asthma patients to Allergic history</b>		
<b>Drugs</b>	<b>No. of Patients (n= 173)</b>	<b>Percentage (%)</b>
Dust	63	36.42
Pollution	9	5.20
Climate	11	6.36
Animal dauder	8	4.62
Dust+pollution	11	6.36
Dust+climate	45	26.01
Dust+polo+climate	14	8.09
Ulcers(GERD medicine)	8	4.62

**Table.3.Assessment of Patient Counseling by KAP Questionnaire**

Knowledge Assessment	Pre Counseling		Post Counseling		% Change
	Yes (%)	No (%)	Yes (%)	No (%)	
Do you know what asthma is?	55 (31.79)	118(68.21)	123(71.09)	50(28.9)	39.3
Do you know trigger factors of asthma	52(30.06)	121(69.94)	118(68.20)	55(31.79)	38.14
Do you know which kind of food causes asthma	48(27.74)	125(72.25)	128(73.98)	45(26.01)	46.24
Are you keeping house clean and dust free?	121(69.94)	52(30.05)	128(73.98)	45(26.01)	4.04
Are you washing clothes and pillows regularly?	59(34.10)	114(65.89)	116(67.05)	57(32.94)	32.95
Do you have any other comorbid diseases?	105(60.69)	68(39.30)	92(53.12)	81(46.82)	-7.57
Are you visiting physician for regular checkups?	52(30.05)	121(69.94)	105(60.7)	68(39.30)	30.65
Are you using medicines regularly?	59(34.1)	114(65.89)	131(75.72)	42(24.27)	41.62
Do you know the importance of medication adherence to control asthma?	55(31.8)	118(68.21)	123(71.09)	50(28.9)	39.29
Do you know complication of missing dose?	57(32.95)	116(67.05)	119(68.81)	54(31.21)	35.86
Do you know how to use inhalers?	52(30.05)	121(69.94)	109(63.01)	64(36.99)	32.96
Do you have any difficulty in using inhalers?	95(54.91)	78(45.1)	55(31.8)	118(68.21)	-23.11
Are you following precautions given by physician (wearing mask, diet restriction)?	52(30.05)	121(69.94)	125(72.25)	48(27.75)	42.2
Are you doing regular exercises to reduce asthma attacks (yoga, meditation)?	9(5.20)	164(94.8)	52(30.05)	121(69.94)	24.85
Are you drinking warm water daily before sleep?	57(32.95)	116(67.05)	118(63.01)	55(31.8)	30.06
Do you know benefits of life style modifications?	52(30.05)	121(69.94)	109(63.01)	64(36.99)	32.96
Was the patient counseling provided by clinical pharmacist helpful to improve your quality of life?			123(71.09)	50(28.9)	

#### 4. CONCLUSION

Education and psychological counseling increase the quality of life in this study. The study showed the positive impact of pharmacist provided counseling. It also support the magnitude of accepted implementation of pharmacist provided patient counseling in disease management program which will help to maintain normal daily activity of asthmatic patients by improving their quality of life.

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