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## Study for the Assessment of Knowledge of Patients with Asthma.

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### ABSTRACT

Asthma is a major health problems and an extensive burden for the patient and the health care system. Patient education has been recommended, but the influence on knowledge and health outcomes is not fully examined. Poor awareness and knowledge among the patients can influence the progression of asthma. To conduct a study on asthmatic patients for the assessment of knowledge about asthma. It was a non experimental (observational) prospective and cross sectional study done in outpatient department of pulmonology, Amrita Institute of Medical science. Standardized patient data collection form was included. Disease and Medication knowledge assessment form was used to assess the knowledge about their disease and medication. Out of 90 patient's the female to male ratio was 3:2. Most of the patients had school level studies (63.33%). Most of them had satisfactory disease knowledge (50%) and poor medication knowledge(72.22%).From this study we identified that the disease knowledge and medication knowledge among the bronchial asthma patients are relatively low. The influence of clinical pharmacist can produce a significant improvement in quality of life, knowledge of the asthma patients.

**Keywords:** asthma, disease knowledge, medication knowledge.

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## INTRODUCTION

Asthma means 'laboured breathing' in Greek and was first described 3000 years ago. It is one of the common chronic disease in children in the developed countries, and is also seen in adults. The national UK guidelines (BTS/SIGN, 2009) define Asthma as a 'chronic inflammatory disorder of the airways which occurs in susceptible individuals; inflammatory symptoms are usually associated with widespread but variable airflow obstruction and an increase in airway response to a variety of stimuli. Obstruction is often reversibly either spontaneously or with treatment' [1].

Disease management of asthma includes knowledge of the disease, its treatment, and the effective use of different therapies; health care providers play a crucial role in empowering patients with the necessary skills and knowledge to manage asthma. Lack of knowledge regarding asthma, the treatment regimen will fail because the patient is unaware of appropriate management steps or how to avoid triggers. Similarly, if a patient possesses adequate knowledge but lacks the confidence to manage episodes, or if the patient has an uncooperative attitude, treatment problems may arise [2]. Patient education is becoming an essential area of service provision, with our increasing population of people with chronic disease and conditions requiring long term management in the community [3,4].

The effectiveness of drug therapy is largely influenced by noncompliance, which is believed to be affected by attitude towards drugs.

The word attitude represents a summary of psychological object captured in dimensions such as good-bad, harmful-beneficial, pleasant, likeable and unlikeable [5]. Asthma patients should be made aware that a positive attitude towards treatment is a pre-requisite for good disease management. From a medical point of view the lack of understanding about asthma may be crucial if the patient is not able to judge the severity of his/her disease or symptoms or does not know the right treatment. In developing countries, with poor access to health care, lack of appropriate diagnosis and limited access to medicines, poor adherence [6]. Patients' knowledge and attitude towards the disease on treatment can influence the medication adherence and eventually the therapeutic outcome [2].

In general pharmacotherapy used but "Drugs don't work in patients that don't take them" [7]. Helping patients to achieve their best possible level of asthmatic control will require the utilisation of appropriate therapy, monitoring and comprehensive instruction in asthmatic management.

## MATERIALS AND METHODS

### Design of study

Non experimental, prospective and cross sectional study.

### Settings

The study was done in the department of pulmonology, Amrita institute of medical sciences (a tertiary referral and teaching hospital in Kochi, Kerala located in the urban area that captures patients from all settings rural through urban). The hospital established in 1998, is approved by the MCI for conducting Graduate and PG course in medicine. The pulmonology department is full-fledged pulmonary centre in the entire state of Kerala and provides advanced care for asthma as well as for complex chronic disease.

### Study population

Patients visiting the outpatient department of pulmonary and who satisfy the inclusion criteria.

### Sample size

n =90

**Inclusion criteria**

- Patients under all age groups
- Patients under the department of pulmonary.
- Patients diagnosed to have asthma.
- Patients willing to participate in the study.
- People who are able to speak English and Malayalam. Patients visiting outpatient department of pulmonary.
- Follow up patients.

**Exclusion criteria**

- Patients visiting IP pulmonary department.
- Consider to be unwilling to co-operative.
- Patients who visit first time in the hospital.
- Patients who are pregnant, psychiatric etc.

**Method of selection**

Patients was selected on the basis of inclusion and exclusion criteria.

**Data collection**

- Interviewing method (telephone / personal interviewing )
- Examination of patient medical record using AHIS.

**Tools of collection**

- Standardized data collection form.
- Disease knowledge assessment form.
- Medicine knowledge assessment form.

**Duration of the study**

Data was collected for a period of 6 months (July 1<sup>st</sup> 2014 to 21<sup>st</sup>December)

**MATERIALS AND METHODS**

Non-experimental, prospective and cross sectional study was done in the outpatient department of pulmonology, Amrita institute of medical sciences (AIMS). Patients who satisfy the inclusion and exclusion criteria had been included in the study. Medication knowledge assessment form was used to assess their knowledge about their medication. A standardized data collection form was prepared .It mainly includes age, sex, area of residence, family history, etc . Disease knowledge form, medication knowledge assessment form were also incorporated to the data collection form.

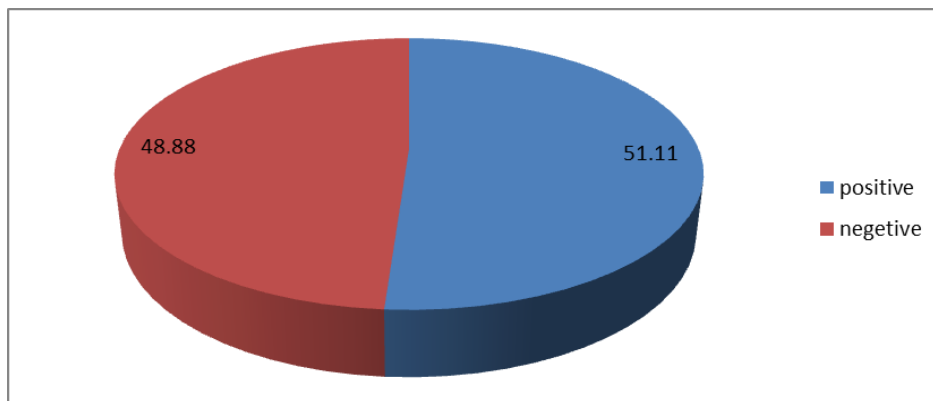
The patient knowledge assessment form comprises of 17 Yes/No type questions and each question carry 1 mark for correct answer and 0 mark for wrong answer. Very good knowledge patients have a score of 12-17. Good knowledge patients have a score of 10-12. Satisfactory knowledge patient have a score of 6-9. Poor knowledge patients have a score of <6.

The medicine knowledge assessment form was designed to assess the knowledge on various aspects of drug therapy like identification of medication, strength, dosing regimen, and durations. Each questions carry score from 0-3. 0 for not answering the questions correctly, 1 for answering when prompted, 2 for answering the questions partially, 3 for not answering the questions correctly. Patients with 80 % knowledge have a score of  $\geq 17$ , 70% knowledge have a score of 15- 16, 60% knowledge have a score of 13-14 and poor knowledge patients have a score of  $\leq 12$  [8].

**RESULTS AND DISCUSSION**

In the present study, out of 90, majority of patients (26.66 %) belonged to the age group 51-60 years, followed by the age group 41-50 years (14.44 %) only (5.55%) of the patients were in the age group 21-30 years and (4.44%) above 80 years. In this study there were 36 males and 54 females, thus the female to male ratio was 3:2.

Since most of the patients were old aged and was not aware of the disease and its complications, the knowledge and attitude towards asthma was very poor.



**Figure 1: Family history of asthma in the sample population (n=90).**

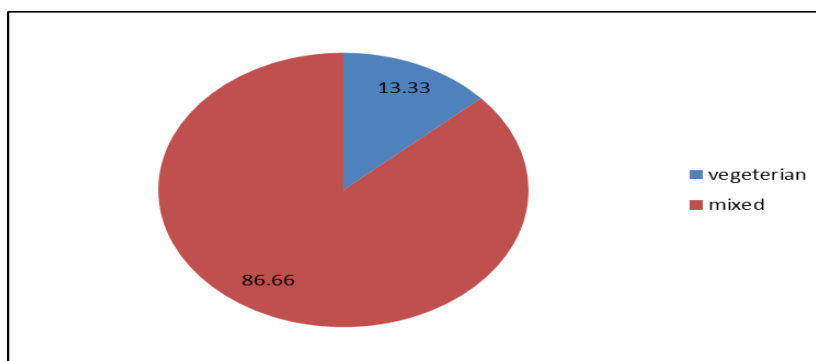
Family history was found as one of the risk factor for asthma. In the present study most of the patients showed a positive family history.

**Table 1: Area of residence of asthmatic patients (n=90).**

Area of residence	Number of patients	Percentage of patients
Rural	34	37.77
Urban	56	62.22
Total	90	100

In the study people in the urban area (62.22%) were more affected when compared to rural area. Pollution will be more in urban areas which can also be a factor to cause asthma.

This can worsen the condition of asthma in patients. Lack of knowledge about this can lead to major complications.



**Figure 2: Diet pattern of patients in the sample population (n=90).**

In our study majority of the patients had mixed diet (86.66%). Many studies have revealed that mediterranean diet protect against asthma and reduces risk in children, adults and aged peoples.

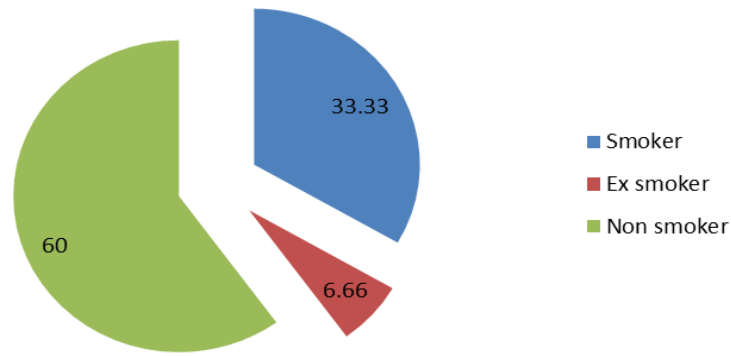


Figure 3: Smoking status of the patients (n=90).

Smoking is one of the major risk factor for asthma. But in our study majority of them were females. (60%) of them were non-smokers.

Table 2: Duration of asthma in the sample population (n=90).

Duration of asthma	Number of patients	Percentage of patients
≤ 1	15	16.66
2-5	38	42.22
6-10	20	22.22
≥11	17	18.88
Total	90	100

Duration of asthma can be minimised by adherence of patients towards their treatment and also by having knowledge about their diseases and their medications.

Table 3: Symptoms associated with asthma (n=90).

Symptoms	Number of patients	Percentage of patients
Wheezing	41	45.55
Cough	16	17.77
Chest tightness	1	1.11
Shortness of breath	4	4.44
Wheezing + cough + shortness of breath	20	22.22
Cough + chest tightness + wheezing	6	6.66
Wheezing + shortness of breath	2	2.22
Total	90	100

Wheezing was the most commonly seen symptom in majority of the patients followed by cough. Lack of knowledge about the symptoms, risk factors, triggering factors in patients can lead to further complications.

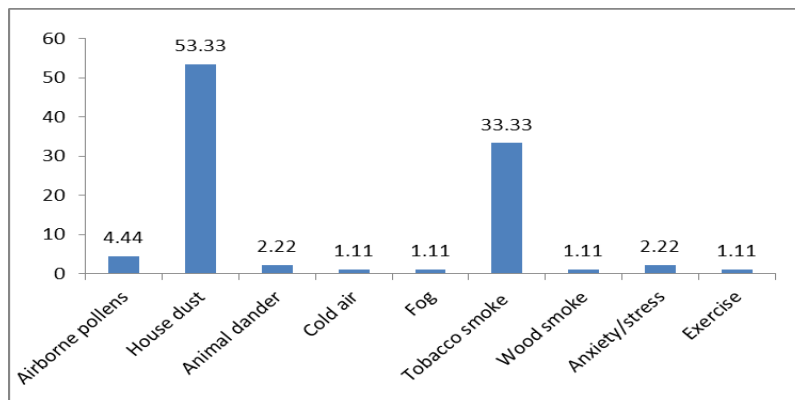


Figure 4: Triggering factors of asthma in the sample population (n=90).

**Table 4: Educational status of patients in the sample population (n=90).**

Educational status	Number of patients	Percentage of patients
School level	57	63.33
Graduate	24	26.66
Post graduate	9	10.00
Total	90	100

Since the educational status is seemed to be very low this may effect the knowledge of the patients suffering from asthma.

**Table 5: Disease knowledge assessment in the sample population (n=90).**

Score distribution	Number of patients	Percentage of patients
12 - 17 (very good)	7	7.77
10 - 12 (good)	22	24.44
6 - 9 (satisfaction)	45	50.00
< 6 ( poor)	16	17.77
Total	90	100

Patients with asthma should be aware of their disease and medication. In our study majority of the patients had school level education only. Education can also influence the patients in enhancing the disease and medication knowledge. Knowledge about the disease can also make the patient more adherent and can lead to a better quality of life.

**Table 6: Medication knowledge assessment of patients in the sample population (n=90).**

Score distribution	Number of patients	Percentage of patients
≥17 (80%)	6	6.66
15 -16 (70%)	7	7.77
13 - 14 (60%)	12	13.33
≤ 12 (poor)	65	72.22
Total	90	100

Majority of the patients had poor medication knowledge. This can lead to improper use of medications and thereby increase in non-compliance towards medication can also lead to chronic asthmatic condition in patients.

### CONCLUSION

The following conclusion can be drawn after observing the results of the present study. Out of 90 most of the patients have satisfactory knowledge about asthma (50%). Majority of the patients have poor medication knowledge (72.22%).The study established average disease knowledge and poor medication knowledge . Asthma education strategies need to be conducted to engage patients with low asthma attitude to achieve improved patient outcomes, including quality of life. This necessitates the need of a clinical pharmacist. Clinical pharmacy service is a new profession which is introduced to the traditional health care system. The primary goal of clinical pharmacist is to educate the patients, improve their knowledge and there by improve compliance and quality of life of the patients.

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