



## Impact of Patient Counselling and Drug Utilization Pattern on Asthma Patients at Tertiary Care Hospital

V.Sathish Kumar\*, N.D.Phani Kumar<sup>1</sup>, Undrakonda Ajay<sup>1</sup>, P. Divya Jyothi<sup>2</sup>, SK.Abdul Rahaman<sup>3</sup>

\*<sup>1</sup>Pharm.D, 2- Assist. Professor, 3-Professor, Department of Pharmacy Practice, Nirmala College of Pharmacy, Mangalagiri, Guntur, Andhra Pradesh, India.

### ABSTRACT

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Corresponding author address

V.Sathish Kumar,  
Department Of Pharmacy  
Practice, Nirmala College Of  
Pharmacy, Guntur, A.P.  
India

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**Aim & Objectives:** Impact Of Patient Counselling And Drug Utilization Pattern On Asthma Patients At Tertiary Care Hospital To ascertain the knowledge of the patients regarding their disease and the therapy, To provide pharmaceutical care pertaining to disease and use of inhalational devices to the study group, which is to be compared with the control group. **Methodology:** A Prospective, observational study was conducted in the Department of General Medicine in Manipal super specialty Hospital, Vijayawada, India. for a period of 6 months. Patients were also distinguished between an intervention and control group. **Results:** the decreased order of patient preference of using anti-asthmatic drugs. The males in Intervention group and females in control group are high compared to females in intervention and males in control group. Bronchodilators and anti-inflammatory agents are highly prescribed for the patients. **Discussion:** seasonal changes, air pollution, brooms and dusters of these self-assessment triggers are the main causes of asthma. and interventional group shows fast recovery compared with control group. **Conclusion:** The drug utilization pattern shows a good functioning of lungs and relives from the various problems. clinical pharmacists can provide better health care to the patients. Better interventions improve quality of life of patients.

**Keywords:** Drug utilization pattern, Prevalence, Control Group, Intervention Group, Asthma

## Introduction:

Asthma is a significant public health issue world wide<sup>1</sup>. Asthma has been known since antiquity, yet it is a disease that still defies precise definition. The word asthma is of Greek origin and means “panting”. More than 200 years ago, Hippocrates used the word asthma to describe an episode of shortness of breath, however, the first detailed clinical description of the asthmatic patient was made by Aretaeus in the second century<sup>2,3,4</sup>.

Asthma is caused by a very complex interaction between inflammatory cells and mediators. After exposure to asthma precipitating factor, inflammatory mediators are released from bronchial mast cells, macrophages, T. Lymphocytes and epithelial cells. These mediators direct the migration and activation of other inflammatory cells, most notable eosinophils to the airways. The guidelines developed up by the 2007 expert panel of the NHLBI for the diagnosis and management of asthma focus on two aspects: severity and contro<sup>15</sup>. Asthma severity is assessed during the initial clinical evaluation of the patient in order to initiate appropriate therapy. The EPR- 3 guideline classification divides asthma severity into four groups: intermittent, persistent - mild, persistent - moderate and persistent - severe according to symptoms, nighttime occurrence, and lung function. Control is then used as a guide to direct maintenance or adjustment of therapy<sup>9,10</sup>. Asthma is associated with considerable patient morbidity, a diminution of productivity and an increase in health care utilization<sup>13</sup>. The number of cases of asthma in all age groups is increasing. Although awareness of many aspects of diagnosis and management of asthma has become well established, its mortality in older adults continues to rise. Diagnostic and therapeutic problems contribute to many patients being inadequately treated<sup>14</sup>. The prevalence of asthma in adults in the United States is approximately 7%, and 9% of patients will require hospitalization each year. However, pharmacists are able to identify these patients through refill information on reliever medication prescriptions and potentially initiate community management opportunities for these patients<sup>15</sup>. Minimizing impairment and risk is the goal of therapy for all levels of asthma severity. The attainment of asthma control correlates with improved quality of life and reduced healthcare use<sup>16</sup>.

**Objectives:**

1. To document all the asthma cases admitted in the study department.
2. To ascertain the knowledge of the patients regarding their disease and the therapy.
3. To provide pharmaceutical care pertaining to disease and use of inhalational devices to the study group which is to be compared with the control group.

**Methodology:**

A baseline study was conducted for one month to assess the patient's perception of asthma medications and the inhalation therapy using a questionnaire prepared. The actual study of Patients was also divided into an intervention and control group. The intervention group received pharmaceutical care (education and counseling) until the end of the study, while the control group patients were not offered any intervention during the study period.

Study Site: The study was conducted in the Department of General Medicine

Department of Manipal super specialty Hospital, Vijayawada, India.

Study Period: 6 months, from July 2017- December 2017

Study Design: Prospective, observational study.

**Selection Criteria:**

**Inclusion Criteria:** The patients diagnosed with asthma at least 6 months before getting enrolled in this study, Those patients having no infectious diseases. Patients above 12 years.

**Exclusion Criteria:** Those who are unable or unwilling to participate in the asthma the education program, Pregnant and lactating women.

## Results and discussion:

**Table No. 1 Sex Distribution (N=22)**

Sex	Number of Patients	Percentage (%)
Male	16	73
Female	6	27

**Table No. 2 Asthma History ( N=22)**

Stage	Number of Patients	Percentage (%)
Childhood	6	24
Adulthood	16	76

The figure shows that 24 % of the patients were found to be asthmatic in their early ages and the remaining 76% of them during their adulthood.

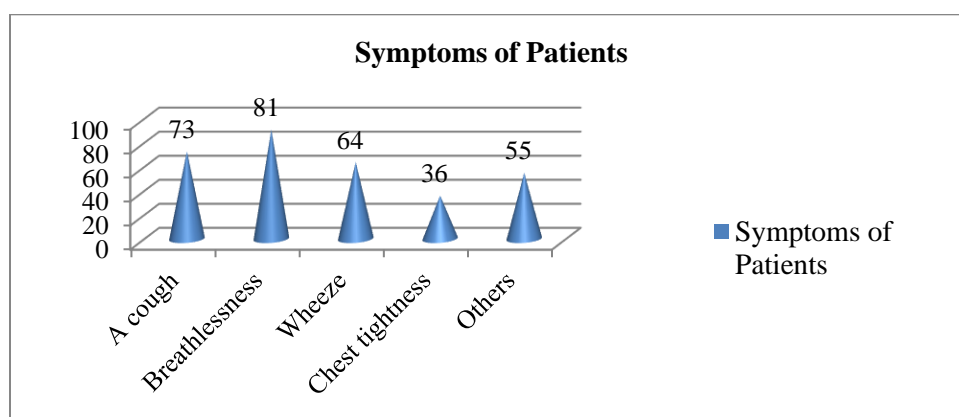
**Table No. 3 Asthma Duration (N=22)**

Years	Number of Patients	Percentage (%)
< One year	2	9
1- 5	1	4
5-10	5	23
>10	14	64

The table shows that out of 22 patients. 9% cases were having disease duration of < 1 year, 4% cases were having disease duration of 1-5 years, 23% cases were having disease duration of 5-10 years and 64% of the cases were having a duration of >10 years. In overall patients, 64% of them have asthma (or) recurrence of asthma episodes for more than ten years and for the remaining 36% it was found to be less than ten years.

**Table No. 4 Self Assessment of Problems (N=22)**

Problems	Number of Patients	Percentage (%)
A cough	16	73
Breathlessness	20	91
Wheeze	14	64
Chest tightness	8	36
Others	12	55

**Figure No. 1 Self Assessment of Problems**

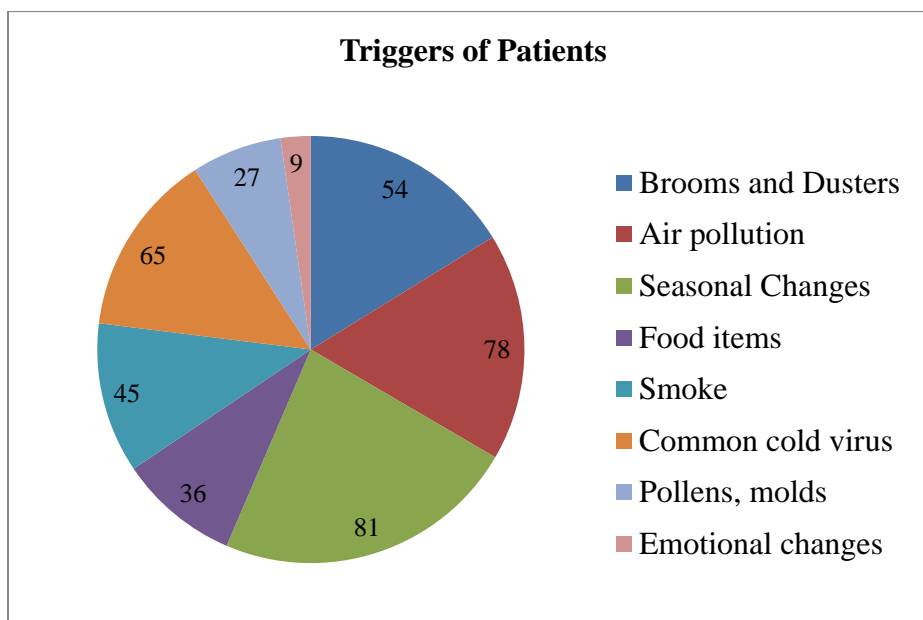
The study shows that During an asthma attack, it was found that most of them experience four main problems: Cough (73%), Wheeze (64%), Breathlessness (81%), and chest tightness (36%). But a minority of the patients reported symptoms like body ache and sneezing as the symptoms of asthma.

**Table No: 5 Patient Preferences (N=22)**

Formulation Preferred	Number of Patients	Percentage (%)
Tablets	2	9
MDI	16	72
DPI	6	27
Nebulizers	8	36

The figure shows the decreased order of patient preference of using anti-asthmatic drugs stated (72%) around 16 patients for MDI, followed by 8 (36%), Nebulizers 6 (27%), DPI 2 (9%) tablets.

**Figure No. 2 Self Assessment of Triggers**



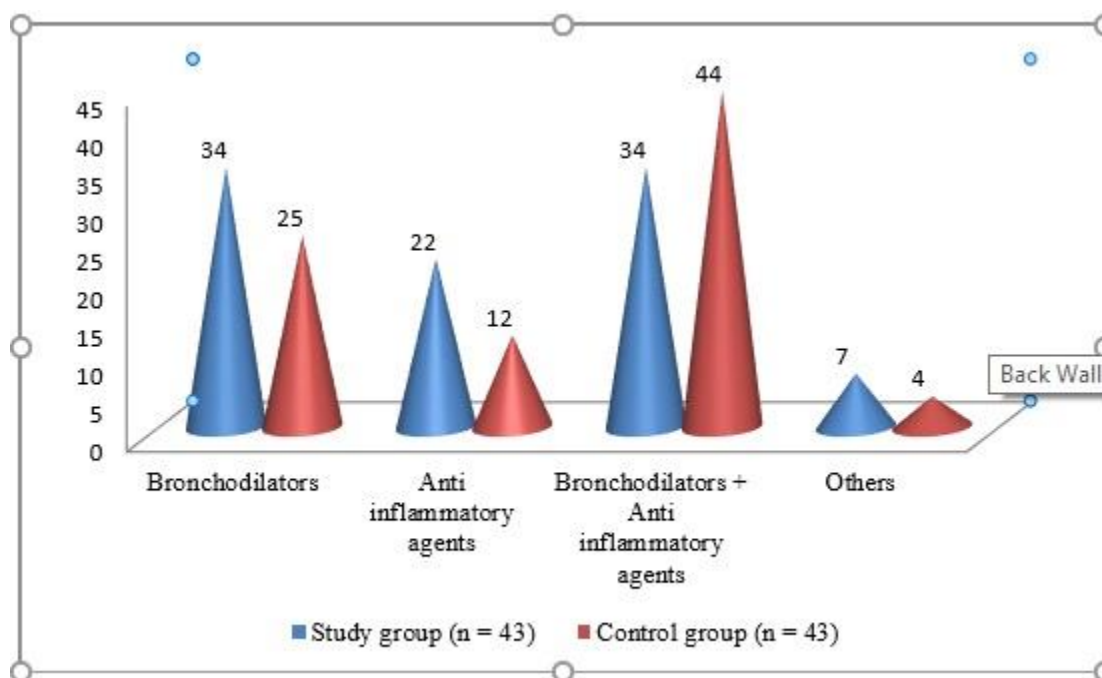
The study shows that (81%) Seasonal changes, (78%) air pollution, (54%) brooms and dusters are the main triggers of asthma followed by (65%) common cold virus, (45%) smoke and (36%) food item. The sample size which we have selected consists of both interventional and control group to assess drug utilization pattern

**Table No: 6 Sex Distribution**

Sex	Intervention group (n = 43)		Control group (n = 43)	
	No.	%	No.	%
Male	26	61	16	36
Female	17	39	27	63

**Table No: 7 Antiasthmatics Prescribed**

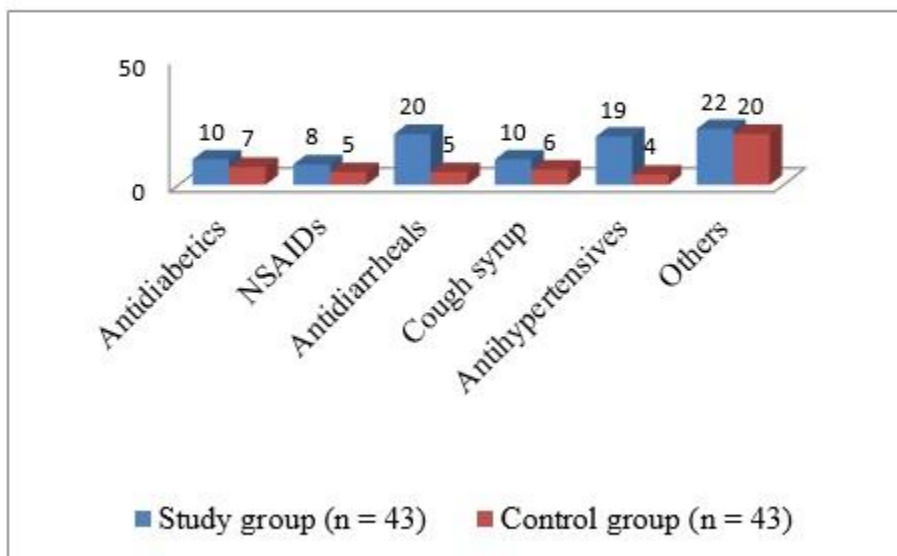
Drugs	Study group (n = 43)	Control group (n = 43)
Bronchodilators	34	25
Anti inflammatory agents	22	12
Bronchodilators + Anti inflammatory agents	34	44
Others	7	4

**Figure No: 3 Antiasthmatics Prescribed**

Bronchodilators and Anti-inflammatory agents are highly prescribed for the control group and intervention group and others are least prescribed for both control and intervention group.

**Table No: 8 Concurrent Drugs Prescribed**

Drug	Study group (n = 43)	Control group (n = 43)
Antidiabetics	10	7
NSAIDs	8	5
Antidiarrheals	20	5
Cough syrup	10	6
Antihypertensives	19	4
Others	22	20

**Figure No: 4 Concurrent Drugs Prescribed****Discussion:**

Initially, the baseline study was carried out for the period of one month for the Assessment of Patient's Perception to Asthma Medications and Inhalation therapy was first carried out during the study period from July 2017- December 2017. In the baseline study, it includes 22



participants consisting of 16 (73%) male and 6 (27%) female patients were enrolled for the study and they were assessed using a questionnaire. interventional group shows fast recovery when compared with control group because of we provide patient counseling & education about disease and medications. Most of them were middle class and involved in agriculture & business based occupations. Some of the patients have a history of smoking, taking at least one packet of cigarettes daily. The educational status of the asthmatic patients revealed that majority of them were illiterates or they have left school before completing matriculation.

### **Conclusion:**

The drug utilization pattern shows a good functioning of lungs and relieves from the various problems. An intervention which we are proposing includes giving counseling to the patients so these attempts are helpful in speedy recovery of the patients comprising interventional group when compared to that of the patients in the control group. Clinical Pharmacists can help the patients to control asthma before facing serious consequences. Clinical pharmacists can provide better health care to the patients. Better interventions improve quality of life of patients.

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**Conflict of Interest:** Nil

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