

## A Study Of The Compliance Of Patient With Asthma To The Line Of Management

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**Abstract:** Asthma is a chronic disorder with significant impact on individuals, their families and society. Although there is no cure for asthma, appropriate management most often leads to absolute control of the disorder. In this study, assess the knowledge of patients regarding asthma and its line of management and identify the adherence of patients to the line management. And then identify the relationship between selected variables such as age, gender, education, occupation, duration of illness and compliance and noncompliance. At last identify the relationship between the knowledge of patients regarding asthma and their compliance to the prescribed management. In this study various findings suggest that patients are aware about only a few aspects of the disease and in addition to it compliance of the patient to the management of asthma was found to be very low (31.5 percent). It necessary to find the various reasons related to the non compliance to the management of asthma. Financial constraint was found to be the major factor of the non compliance to the management of asthma, besides this there were several factors such as forgetting to take the medicine, feeling better, hence no need to continue medicine and fear of side effects, difficulty in the use of inhaler, also contributing to it. In order to enhance the compliance of the patient to the management of asthma, there is a great need to intensify educational programmes regarding self care management which will help these patients to overcome the constraints that were felt by them in order to maintain compliance.

**Keyword:** Asthma, Line of Management, Compliance.

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### I. Introduction

Asthma is not new. Asthma like symptoms were first recorded 3500 years ago in an Egyptian manuscript called Ebers Papyrus. The word means "Laboured Breathing" in Greek. The word Asthma was first used to describe an illness 500 years later by the famous Greek physician Hippocrates. The first book especially about asthma was written in AD 1190 by a Spanish doctor Moses Maimonides. Maimonides wrote that asthma was characterized by sudden bouts of breathlessness, his treatment included copious amount of chicken soup and sexual abstinence. Physicians during the seventeenth and eighteenth centuries realized that asthma was due to constriction of the bronchi. One doctor called asthma "Epilepsy of the lungs" reflecting the sudden and unpredictable nature of asthma "attacks". It was not until the 1960's that physicians discovered that asthma is an inflammatory disease. The immune system of asthmatics is overall sensitive to 'triggers'. This discovery started a revolution in the treatment of asthmatics instead of just treating the constriction of the airways but also treating the underlying inflammation as well. Now in the 21<sup>st</sup> century a vast arsenal of drugs and treatments are available for treating asthmatics allowing them to lead normal fulfilled lives. The tentacles of asthma have engulfed a large population worldwide. According to Prof. Beasley (2004), it is estimated that about 300 million people in the world are currently affected by asthma. He reiterated the importance of probing into the causation of disease as well as the efficacy of the primary and secondary intervention strategies which represent the key priority areas in the field of asthma research. The Global initiative for Asthma (2004) has predicted a marked increase in the number of asthmatics worldwide over the next two decades. It is estimated that there may be an additional 100 million people with asthma by the year 2025. It is estimated that this killer disease accounts for about one in every 250 deaths worldwide, of which many are preventable. India has also not been spared from this deadly disease. According to Dr. Pramod Niphadkar (2005) it is predicted that India will be world capital of Asthma by 2020. This threat is related to the fast growth and development occurring in the nation. It has been found that eight percent of the populations of Mumbai have been affected with asthma. It is astonishing to know that already every fifth Mumbai resident suffer from allergic rhinitis and run a high risk of developing asthma at a later date. The rampant environmental pollution and rapid urbanization are leading contributors to the disease.

## **NEED OF THE STUDY:**

Asthma is a chronic disorder with significant impact on individuals, their families and society. Although there is no cure for asthma, appropriate management most often leads to absolute control of the disorder. Norman Edelman C (2005) cited that despite substantial progress in the understanding of asthma its under treatment is surprisingly common. Only 54 percent of patients with asthma receive optimal care according to the survey published in the New England Journal of Medicine. Tettersell M.J. (1993) studied asthma patient's knowledge in relation to compliance with drug therapy. Non compliance was found to be high. 39 patients out of 100 did not take their asthma treatment regularly as prescribed. The studies indentify reasons of patient's non compliance. The included, a feeling that drugs is not necessary, forgetting to take them, and a reluctance to use their inhalers in public. Some patients sated a preference for tablets over inhalers.

## **II. Material And Methods**

A descriptive approach was used to conduct the study in the Chest Medicine Out Patient Department in a Municipal Hospital and a private asthma clinic. The sample consisted of two hundred patients with asthma who were selected according to the predetermined criteria. The tool used for data collection was an interview schedule which consisted of three sections:

**SECTION 1:** Consisted of two parts

(a) Demographic data of the patients.

(b) Medical data of the patients.

**SECTION II:** Included Questionnaire to elicit patient's knowledge regarding asthma and its management.

**SECTION III:** Consisted of interview schedule to assess the compliance and non compliance of patients to their line of management. Content validity of the tool was censured by verifying it by experts from the field of nursing and medicine. Reliability of the tool was done by Cranach's alpha formula, by using split half method to ensure internal consistency after which it was found to be reliable. The pilot study was done on a total of twenty samples in the private asthma clinic and the Chest Medicine O.P.D. of a municipal hospital.

### **Section - I**

#### **Demographic Data**

Majority of sample (fifty seven percentages) belonged to the most productive age group i.e. 13 to forty years age and there were 56.5 percent males among them, about sixty five samples were married.

Majority of the samples were literate only 19 percent samples were illiterate. Approximately forty percent samples were doing service such as office work, industrial work and professional work. Majority of the samples (82.5 percent) had income below Rs.10,000/- per month. About thirty four percent samples lived in flat. It shows that only 34.5 percent samples had attended the training programme.

#### **b) Medical data of the samples**

It was found that majority of samples had been suffering from asthma for a period of zero to twenty years. There were 46 percent samples whose family members had asthma. Maximum samples were having cough, wheezing, tightening in the chest and difficulty in breathing. Very few reported hospitalization during the past one year.

### **Section II**

#### **Knowledge of patients regarding asthma and its line of management**

There were 74.25 samples who were aware that they are suffering from asthma. The samples who had knowledge about various factors which contributed to an asthmatic attack were 10.69 percent. The samples who knew about avoidance of triggering factors were 13.8 percent Samples who knew the signs and symptoms of asthma were 8.8 percent. Samples who knew the modalities of management were 13.6 percent. Samples who knew the monitoring of the disease were 14.5 percent. Samples who were aware about the community support available were one point one six percent

### **Section III**

#### **Data with remark to patients' compliance to the line of management.**

Out of the total samples only 31.5 percent were complying to all the aspects of management of asthma i.e. taking regular medicine, avoiding allergens, triggering and aggravating factors, diet modification and doing exercises. The remaining 68.5 percent samples were non compliant to their line of management. Out of them some were complying to one or a few aspects of management of asthma. There were 84.5 percent of samples taking their medicine regularly, sixty point five percent samples were regular in doing exercise whereas 75

percent samples were avoiding the diet which triggered asthma, 68.5 percent were avoiding triggering and aggravating factors.

### **Reason of non compliance to the line of management.**

The reported reasons for non compliance cited by seventy percent were financial constraints, 63.5 percent said that they discontinued the medication due to feeling better. Twenty point eight percent stated to have forgotten to take medicine while 23.5 percent reported to have purposely stopped taking the drugs due to fear of side effects. Several other reasons given by the samples were for not being able to comply to their prescribed line of management were lack of time for exercise, inadequate space in their house to exercise, inability to avoid dust and frustration for having to take the medicine for a prolonged period.

### **Assuptions:-**

The patients with asthma require long term treatment and hence noncompliance may occur. Adherence to the prescribed treatment reduces the symptoms and frequency of asthma attack. The compliance of patients to the line of management may be varied. Patient will be able to verbalize the reasons for not complying with the prescribed line of management.

### **Scope Of The Study:**

This study will provide the information regarding reasons causing noncompliance of the patient to the line of management. This study will highlight the need for further education to the individual regarding care of asthma. The findings can give guidelines in planning a rehabilitative programme for patient with asthma. According to Dr. Martyn Patridge (1998) International study on asthma and allergies in childhood carried out in 100 countries confirmed that the incidence of asthma varies from country to country. Ki Moon Bang et al (2001) carried out a study on prevalence of asthma in the U.S. population. Prevalence analysis was performed on 20,991 adults, 18 years of age and older. They used SUDAAN software to estimate the prevalence of self reported, physician diagnosed asthma. They found that the overall prevalence of physician diagnosed asthma was 6.5 percent, 4.7 per cent for males and 8.5 percent for females. The report given by Professor Beasley et al (2003), stated data on the burden of asthma in twenty different regions worldwide from literature primarily published through the International Study of Asthma and Allergies in Childhood (ISAAC) and the European Community Respiratory Health Survey (ECRHS). The large standardized International and National Studies of the prevalence of asthma in both children and adults have utilized written questionnaires based on the symptoms of wheezing, which had shown to be the most important symptoms for the identification of individuals with asthma. Due to the intermittent nature of asthma symptoms, wheezing occurring at any time within the previous twelve months has been used to define current asthma symptoms. Responses to questions about self reported wheezing in the previous 12 months period have been shown to have good specificity and sensitivity for both bronchial hyper responsiveness and a diagnosis of asthma in both children and adults. To determine the number of persons with asthma in each country, the mean prevalence of asthma calculated for each country, which was derived from the W.H.O. population statistics for 2001 is: Prevalence of Asthma in India: India has an estimated 15-20 million asthmatics according to W.H.O. media center (2000). In order to estimate adult asthma prevalence in the World's most rapidly similarly a study on prevalence of asthma in world's most rapidly growing mega city, Rashmi V. Chawgale et al (1995) applied epidemiology surveillance tool, to conduct European Community Respiratory Health Survey in Mumbai. From a metropolitan population of over 10 million they took a one in ten random sample from electoral rolls in a especially diverse residential district and examined asthma symptoms in adults aged between twenty to 44 years. They interviewed 2,313 adults who had symptoms, asthma diagnosis and medication in the previous 12 months. They found asthma prevalence was 3.5 percent by physician diagnosis and 17 percent using a very broad definition including those with asymptomatic bronchial hyper reactivity. Asthma prevalence was strongly associated with the house dustmite, skin test, family history of asthma and total IgE antibodies. Similarly a study on prevalence of asthma in adults was conducted in North India by Jindal S.K. et al (1998). klindi adoption of International Union against tuberculosis and lung diseases 1984. A questionnaire was used to calculate the prevalence of asthma. The study was conducted among 958 men and 1158 women. The population prevalence from the observed prevalence specificity and sensitivity of questionnaire. They found the prevalence to be 3.94 percent in urban men and 3.99 percent in rural men and 1.27 percent in both urban and rural women. According to Dr. Kullayappa (2001) distribution of prevalence as per age in Andhra Pradesh is 6.1 percent of asthma patient were in the age group of 0-18 years, 4.1 percent in 18-44 years, 4.2 percent in 45-64 years and 5.2 percent above 65 years, twice as many men as women were prone to asthma. Dustmites hidden in pillow covers, mattress and carpets and use of 'ajinomoto' additives in Chinese food preparation were among the key factors that promoted bronchospasm in asthmatics says Dr. Vijaya Bhaskar (2001). To explore the epidemics of asthma in India Paramesh H. conducted a hospital based study (2002) on 20,000 children under the age of 18 years during the years 1979, 1984, 1989, 1994 and 1999 in the city of Bangalore. Study showed a prevalence of 9 percent, 10.5 percent, 18.5 percent,

24.5 percent and 29.5 percent respectively. Persistent asthma also showed an increase from 20 percent to 27.5 percent and persistent severe asthma was 6.5 percent between 1994-1999. In this study the investigator felt the need for obtaining information regarding the knowledge and compliance of patients with asthma with respect to their line of management. She also felt the need to explore reasons for non-compliance of the same and find out the knowledge of the patient about asthma management. Thus the investigator chose to explore the various facets of asthma management in clients with asthma and describe them in detail.

### **RELIABILITY**

The reliability of an instrument is the degree of consistency with which it measures the attributes it is supposed to be measuring (Polit & Hungler 1991). The reliability of the tool was determined by administering it to the twenty patients who were selected on the basis of the criteria laid down. Reliability of the tool was measured by using split half method to ensure internal consistency. The tool was found to be reliable as the coefficient of correlation was 0.922 by Cronbach's Alpha formula.

### **Procedure methodology**

#### **Section - I**

This section deals with the analysis of demographic and medical data of the samples studied...

#### **SECTION I (a) - Analysis of demographic data.**

**Table - I**

Sr. No.	Characteristics	Frequency	Percentage
1.	<u>AGE (years)</u>		
	13-20	19	9.5
	21-30	41	20.5
	31-40	54	27
	41-50	37	18.5
	51-60	22	11
2.	<u>GENDER</u>		
	Male	113	56.5
3.	<u>MARITAL STATUS</u>		
	Unmarried	45	22.5
	Married	130	65
	Separated	7	3.5
	Widow	11	3.5
	Widower	7	3.5
4.	<u>EDUCATION</u>		
	Illiterate	19	9.5
	Primary	23	11.5
	Secondary	72	36
	Graduate	64	32
	Post-graduate	18	9
5.	<u>OCCUPATION</u>		
	Service	80	40
	Business	30	15
	Retired	13	6.5
	Housewife	34	17
	Labourer	15	7.5
6.	<u>FAMILY INCOME – MONTHLY (In Rupees)</u>		
	Below 2000		
	2001-5000	44	22
	5001-10,000	75	37.5
7.	<u>TYPE OF HOUSE</u>		
	Slum	37	18.5
	Pacca	40	20
	Chawl	55	27.5
8.	<u>TRAINING PROGRAMME ON ASTHMA ATTENDED</u>		
	Attended	69	34.5
	Not attended	131	65.5

Section – II

**Table - II**  
**DISTRIBUTION OF SAMPLES WITH REGARD TO THEIR MEDICAL DATA**

Sr. No.	Medical Data	Frequency fr	Percentage %
1	PRESENT ILLNESS		
	Duration of Illness (In years)		
	0-10	63	46.5
	11-20	73	36.5
	21-30	28	14
	14 > 30 years	6	3
2	Other Illness Present		
	Hypertension	23	11.5
	Diabetes Mellitus	11	5.5
	Tuberculosis	11	3.5
	Any other	7	71.5
3	Duration of Treatment for asthma		
	0-10	143	71.5
	11-20	46	23
	21-30	11	5.5
4	PAST ILLNESS OTHER THAN 26 13 ASTHMA	26	13
5	Family Members Suffering From Asthma		
	Mother		
	Father	18	9
	Grandfather	17	8.5
	Grandmother	16	8
	Sibling	14	7
	Spouse	11	5.5
	Any other	2	1
	No relative suffering from asthma	6	3
		116	58
5	Present Signs and Symptoms		
	Cough	140	70
	Tightening in the chest	155	77.5
	Difficulty in breathing	149	74.5
	Wheezing	155	77.5
	Any other	19	9.5
6	Hospitalization in the Last One Year		
	Once	22	11
	Twice	5	2.5
	Nil	173	86.5

**Table - III**  
**DISTRIBUTION OF SAMPLES IN RELATION TO KNOWLEDGE ABOUT ASTHMA**

Sr. No.	Areas of Knowledge	Frequency	Percentage
1.	The name of the disease suffering from:		
	a) Hypertension		
	*b) Asthma	38	19
	c) Bronchitis	147	73.5
	d) C.O.P.D.	45	22.5
		10	5
2.	Asthma is :		
	a) Disease with difficulty in breathing and affects the heart.	25	12.5
	*b) Disease with difficulty in breathing and affects the lungs.		
	c) Disease that affects the liver.	150	75
	d) Do not know.	14	7
		11	5.5

**Table - IV**  
**DISTRIBUTION OF SAMPLES WITH RESPECT TO THEIR KNOWLEDGE ABOUT ALLERGENS TRIGGERING ASTHMA AND FACTORS AGGRAVATING THE ASTHMATIC ATTACK**  
**N = 200**

Sr. No.	Areas of Knowledge	Frequency	Percentage
1.	<u>Indoor Allergens</u>		
	a) Dust	109	54.5
	b) Pets	64	32.
	c) Insects	45	22.5
	*d) All the above	72	36
2.	<u>Outdoor Allergens</u>		
	a) Pollen	108	54
	b) Occupational Sensitizers.	69	34.5
	c) Fungi, Moulds, Yeast	55	27.5
	*d) All the above	59	29.5
3.	<u>Aggravating Factors</u>		
	a) Smoking	91	45.5
	b) Strenuous activity	72	36
	c) Extreme happiness / sadness	53	26.5
	*d) All the above	71	40.5
4.	<u>ENVIRONMENTAL FACTORS AGGRAVATING ASTHMA</u>		
	a) Air pollution	90	45
	b) Weather / cloudy sky	78	39
	c) Summer / Winter / Rainy season	53	26.5
	d) All the above	81	40.5
5.	<u>Food Stuffs Which Could Aggravate Asthma</u>		
	a) Processed foods	58	29
	b) Fruits	70	35
	c) Deep fried foods	89	44.5
	*d) All the above	44	22

Most of the samples had some knowledge about the various allergic factors triggering asthma and factors aggravating asthmatic attack. However, only a few had correct knowledge.

**Table - V**  
**KNOWLEDGE OF SUBJECTS ABOUT AVOIDANCE OF TRIGGERING FACTORS OF ASTHMA**  
**N = 200**

Sr. No.	Knowledge of Triggering Factors	Frequency	Percentage
1.	<u>Avoidance Of Dust :</u>		
	a) Covering the nose and mouth.	94	47
	b) Avoid exposure to dust.	66	33
	c) Damp dusting.	53	26.5
	*d) All the above.	81	40.5
2.	<u>Avoidance Of the Factors Which Cause Asthma Attack</u>		
	a) Not keeping pets.	90	45
	b) Avoiding smoking.	78	39
	c) Maintaining emotional stability	56	28
	*d) All the above. 76 38	76	38

The above table shows that many samples had some knowledge about avoidance of triggering factors of asthma.

**Table - VI**  
**KNOWLEDGE OF SUBJECTS WITH REGARD TO THE SIGNS AND SYMPTOMS OF ASTHMA**  
**N = 200**

Sr. No.	Areas of Knowledge	Frequency fr	Percentage %
1.	<u>Symptoms Of Asthma Attack:</u>		
	a) Common cold and cough	82	41
	b) Tightness in the chest.	46	23
	c) Breathlessness and wheezing sound. * d) All the above. 86 43	63	31.5
		86	43
2.	<u>Signs of Worsening Asthma</u>		
	a) Cough and breathlessness at night. b) Difficulty to speak a complete sentence.	78	39

	c) Failure of usual medicines to provide *d) All the above.	79	39.5
		11	5.5
		20	10

From the above data it is evident that maximum 43 percent samples knew about symptoms of asthma attack and only ten percent knew about signs of worsening asthma.

**Table - VII**  
**KNOWLEDGE ABOUT MODALITIES OF MANAGEMENT OF ASTHMA**  
**N = 200**

Sr. No.	Knowledge	Frequency fr	Percentage %
1.	<u>Modalities of Management</u>		
	a) Medicines	67	33.5
	b) Avoidance of factors which causes asthma	55	27.5
	c) Doing exercise and yoga.	58	29
	*d) All the above.	100	50
2.	<u>Medicine To Be Taken Regularly</u>		
	a) Tablets	93	46.5
	*b) Pump (inhaled steroid)	73	36.5
	b) Asthalin pump	89	44.5
	c) Do not know	40	20
3.	<u>Exercise To Be Done</u>		
	a) Breathing exercise	105	52.5
	b) Swimming	47	23.5
	c) Walking	85	42.5
	*d) All the above	55	27.5
4.	<u>Breathing Exercises To Be Done</u>		
	a) Diaphragmatic	65	32.5
	b). Pursedlip	50	33.
	c) Pranayam	31	33.5
	*d) All the above	38	45.5
5.	<u>Tyne Of Food To Be Taken</u>		
	a) A well balanced diet	65	33.5
	b) Plenty of fluids	66	33
	c) Avoid foods which are allergic	67	33.5
	*d) All the above	91	45.5

**Table - VIII**  
**DISTRIBUTION OF SAMPLES IN RELATION TO KNOWLEDGE ABOUT MONITORING THE DISEASE IN SELF**  
**N = 200**

Sr. No.	Areas of Knowledge	Frequency fr	Percentage %
1	<u>1. Monitoring The Disease By Self :</u>		
	*a) Measuring the peak expiratory flow rate with the help of peak flow meter.	104	52
	*b) Going to physician for a checkup.	109	54.5
	*c) Keeping watch on symptoms.	29	14.5
	d) Do not know	23	11.5
	Samples responded to a, b, c.	40	20
2	<u>Reasons For Monitoring The Disease</u>		
	a) To know the response to medicine.	86	43
	b) To know the condition of lungs.	60	30
	c) To detect worsening of asthma.	66	33
	*d) All the above.	62	31
3	<u>Meeting The Physician</u>		
	*a) Regularly	101	50.5
	b) Just in emergency	68	34
	c) Whenever the symptoms start.	89	44.5
	d) When the symptoms are getting worse.	13	6.5

It was evident that only forty samples (twenty percent) were aware about monitoring the disease. More than 31 percent i.e.62 samples knew about all the reasons for monitoring the disease. There were 101 samples (fifty point five percent) who are aware about meeting the physician regularly.

**Table - IX**  
**DISTRIBUTION OF SAMPLES IN RELATION TO KNOWLEDGE OF COMMUNITY SUPPORT AVAILABLE**  
**N = 200**

Sr. No.	Areas of Knowledge	Frequency fr	Percentage %
1	<u>Community Support</u>		
	*a) Rotary Club	62	31
	*b) Asthma and Bronchitis Association of India.	73	36.5
	*c) Medicine supply at minimum rate. 39	19.5	
	d) Do not know.	39	19.5
	e) Samples responded to a,b,c	73	36.5
		7	3.5

The above table shows that only seven samples (three point five) percent knew about community support available for asthma treatment.

**Table - X**  
**VERALL KNOWLEDGE OF PATIENTS IN VARIOUS ASPECTS OF ASTHMA AND ITS LINE OF MANAGEMENT**  
**N = 200**

Sr. No.	Aspects of Knowledge	Mean Score	Mean Percentile Score
1	Knowledge about disease	1.48	74.25
2	Knowledge about allergens triggering asthma and aggravating asthmatic attack	1.63	10.69
3	Knowledge about avoidance of triggering factors.	0.78	13.88
4	Knowledge about signs and symptoms of asthma.	0.53	8.83
5	Knowledge about modalities of management of asthma.	1.78	13.69
6	Knowledge about monitoring the disease in self.	1.01	14.5
7	Knowledge about community support available.	0.03	1.16

From the above table it is evident that sample have maximum knowledge (74.25 percent) in the area of asthma as a disease condition and least knowledge (one point one six percent) in the area of community support available.

However the knowledge in the other areas such as avoidance of triggering factors, signs and symptoms of asthma, modalities of management of asthma and monitoring the disease by self, is not very encouraging which is important for them to take care of the disease condition by themselves.

**Table - XI**  
**RESPONSES OF SAMPLES TO OPEN ENDED QUESTIONS ABOUT KNOWLEDGE OF MANAGEMENT OF ASTHMA**  
**N = 200**

Sr. No.	Response of Samples	Frequency	Percentage
1.	<u>INDOOR ALLERGENS</u>		
	• Smell	23	11.5
	• Smoke from kitchen	37	18.5
	• Dust mite	23	11.5
	• Plastic sheet	3	1.5
	• Air conditioning	2	1
2.	<u>OUTDOOR ALLERGENS</u>		
	• Viral Infection.	13	6.5
	• Smoke (vehicle and industry originate)	36	18
	• Stormy breeze	4	2
	• Petrol smell	21	10.5
3.	<u>AGGRAVATING FACTORS .</u>		
	• Indigestion	2	1
	• Acidity	9	4.5
	• Emotional upset	17	8.5
	• Full moon and new moon days.	2	1
	• Stressed routine life.	25	12.5
	• Aspirin	2	1
• Smoking	15	7.5	
4.	<u>ENVIRONMENTAL AGGRAVATING FACTORS</u>		
	• Dust	49	24.5
	• Smoke	36	18



5.	<u>FOOD STUFF WHICH MAY AGGRAVATE ASTHMA</u> Cold drinks • Banana, custard apple • Sea food • Sweets • Curd • Milk • Black gram	53 30 6 2 39 7 2	26.5 15 3 1 19.5 3.5 1
6.	<u>MEANS TO AVOID EXPOSURE TO DUST.</u> • Maintaining cleanliness • Covering bed with plastic sheet	27 15	13.5 7.5
7.	<u>MEANS TO AVOID EXPOSURE TO ALLERGEN</u> • Personal hygiene • Carpet should not be used • Warm water bath	19 22 13	9.5 11 6.5
8.	<u>INITIAL SYMPTOMS OF ASTHMA ATTACK</u> • Sneezing • Sore throat	15 20	7.5 10
9.	<u>SIGNS OF WORSENING ASTHMA</u> • Difficulty in walking. • Difficulty in climbing staircases.	11 22	5.5 11
10.	<u>TREATMENT MODALITIES</u> • Homeopathy • Ayurvedic • Hyderabadi fish	15 7 9	7.5 3.5 4.5
11.	<u>ACTIVITIES</u> • Meditation • Playing • Dancing	13 19 11	6.5 9.5 5.5
12.	<u>BREATHING EXERCISES</u> • Blowing a balloon • Playing a flute • Blowing in a straw	41 30 12	20.5 15 6
13.	<u>SPECIFIC TYPE OF FOOD TO BE TAKEN</u> • Vegetarian • Light diet • Warm food • Green leafy vegetables	7 18 21 6	3.5 9 10.5 3

Above data showed that samples were aware about allergens, aggravating factors, signs and symptoms, treatment modalities and preventive measures, other than the listed options provided to them. As per the data awareness of avoiding triggering foodstuff was more (69.5 percent). This may be because of their self experience.

The above responses of patients could be depiction of their personal experiences which are valuable information for patients themselves and health care workers.

**Table - XII**  
**FREQUENCY OF SAMPLES WHO RESPONDED TO OPEN ENDED QUESTIONS AND VARIOUS ASPECTS OF KNOWLEDGE ABOUT ASTHMA**

N = 200

Sr. No.	Aspects of Knowledge	Frequency	Percentage
1	Indoor allergen	88	44
2	Outdoor allergen	74	37
3	Aggravating factors	72	36
4	Environmental aggravating factors	85	42.5
5	Foodstuff which may aggravate asthma	139	69.5
6	Ways to avoid exposure to dust.	42	21
7	Ways to avoid exposure to allergen	54	27
8	Initial symptoms of asthma attack	35	17.5
9	Signs of worsening asthma	33	16.5
10	Treatment modality	31	15.5
11	Exercise	43	21.5
12	Breathing exercises	83	41.5
13	Type of food to be taken	52	26

Open ended questions on all aspects of knowledge were responded to by varied number of samples. The item which was responded by more patients (139) is 'food stuff which may aggravate asthma'.

### Section- III

This section deals with the analysis of data with regard to patient's compliance to the line of management of asthma and reasons for non compliance.

**Table - XIII**  
**DISTRIBUTION OF SAMPLES WITH RESPECT TO THEIR COMPLIANCE AND**  
**NONCOMPLIANCE TO ALL ASPECTS OF MANAGEMENT**  
**N = 200**

COMPLIANCE		NONCOMPLIANCE	
Frequency	Percentage	Frequency	Percentage
63	31.5	137	68.5

Above data showed that out of the total samples, only 31.5 percent were complying to the line of management. These samples showed compliance in all areas of management i.e. taking medicines regularly, avoiding triggering factors, modifications of diet, exercising regularly.

The remaining 68.5 percent samples were found to be noncompliant to the line of management. Out of them some were found to be complying to one or few aspects of line of management. To avoid asthmatic attack it is vital to be complying to all aspects of management of asthma.

It was revealed that there was more noncompliance in comparison to compliance, which is a matter of great concern.

**Table – XIV**  
**DISTRIBUTION OF SAMPLES IN RELATION TO THE REASON FOR NONCOMPLIANCE**  
**N = 137 (68.5%)**

Sr. No.	Reasons for non compliance	Freq.	Percentage
I.	<u>Reason with respect to self.</u> a) Feeling better hence no need to continue medicine. b) Forget to take medicine. c) Did not know the medicine have to be continued.	87 33 6	63.50 24.08 4.37
II.	<u>Reasons with regard to drugs.</u> No improvement with use of drug. Fear of side effect. Difficult to use pump.	5 32 24	3.64 23.35 17.51
III.	<u>Reasons with regard to availability of health facilities.</u> a) Hospital / clinic is far away from home. b) Have to wait a long time at clinic / hospital. c) Lack of availability.	13 16 24	9.48 11.67 17.51
IV.	<u>Reasons with regard to economical factors.</u> a) Medicines are expensive. b) Travelling is expensive. c) Cannot afford regular food.	96 43 21	70.07 31.38 15.32
V.	<u>Reasons with regard to social factors.</u> a) Social stigma b) No support from family. c) Fear of separation anxiety.	6 20 6	4.37 14.59 4.37
VI.	<u>Any Other Reasons</u> a) No time to do exercise b) Don't have place to do exercise. c) Laziness. d) Cannot avoid dust. e) Unhygienic condition f) Don't have food allergy so no need of diet control. g) Drugs are not available in village. h) Don't have energy to do exercise. i) Frustrated of taking medicines for long time. j) Get troubled after doing exercises. k) Overcrowded house. l) Don't avoid food as don't understand the diet allergens. m) Do not know what exercises to be done.	20 6 7 15 21 2 3 311 1 12 5 3	14.59 4.37 5.10 10.94 15.32 1.45 2.18 8.02 .72 8.75 3.6 2.18

Above data shows that there are varied reasons for non compliance. Reasons related to cost of the treatment is the highest reported one, followed by discontinuation of medicines.

#### Section -IV

This section deals with analysis of the relationship between variables such as age, gender, education, occupation, duration of illness to compliance and noncompliance to the treatment of asthma, and the relationship of knowledge of patients with their compliance or non compliance to the line of management.

#### Section- V (a)

Analysis of the relationship between variables such as age, gender, education, occupation, duration of illness to compliance and noncompliance to the various line of management of asthma.

**Table - XV**  
**RELATIONSHIP OF VARIABLES TO COMPLIANCE AND NON COMPLIANCE TO THE LINE OF MANAGEMENT OF ASTHMA.**

N = 63    N = 137

SR. NO.	VARIABLES	COMPLIANCE			NON-COMPLIANCE	
		N	Freq.	Percentage	Freq.	Percentage
1.	AGE IN YEARS					
	13-20	19	5	26.31	14	73.68
	21-30	41	13	31.70	28	68.30
	31-40	54	19	35.18	35	64.81
	41-50	37	11	29.72	26	70.27
	51-60	22	6	27.27	16	72.72
	60-65	27	9	33.33	18	66.66
2.	GENDER					
	Male	113	37	32.75	76	67.25
	Female	87	26	29.88	61	70.12
3.	EDUCATION					
	Illiterate	19	3	15.78	16	84.22
	Primary	23	4	17.40	19	82.60
	Secondary	72	19	26.38	53	73.62
	Graduate	64	28	43.75	36	56.25
	Post-graduate	18	6	33.33	12	66.66
	Any other	4	0	0	4	100
4	OCCUPATION					
	Service	80	30	37.5	50	62.5
	Business	30	13	43.34	17	56.66
	Retired	13	2	15.38	11	84.62
	Housewife	34	9	26.47	25	73.53
	Labourer	15	2	13.34	13	86.66
	Any other	28	7	25.00	21	75.00
5.	DURATION OF ILLNESS (In years)					
	0-10	93	45	48.38	48	51.61
	11-20	73	15	20.55	58	79.45
	21-30	28	2	7.15	26	92.85
	Above30	6	1	16.66	5	83.34

The study of variables to compliance and non compliance to line of management do not indicate a meaningful relationship. Watts, et al (1993) conducted a study at his clinic in Limon, South Australia, had found that gender and age had no bearing on compliance of patients to the line of management. The minor variations seem in the above table are compliance in the samples who were suffering from the disease for a period of zero to ten years was 48.38 percent whereas, samples those who were suffering from the period of 11-twenty years showed only seven point fourteen percent compliance.

#### Section V (b)

This section deals with the relationship between the knowledge of patient to their compliance and noncompliance to the line of management.

**Table - XVI**  
**DISTRIBUTION OF SAMPLES OF THE RELATIONSHIP BETWEEN THE KNOWLEDGE OF**  
**PATIENT AND THEIR COMPLIANCE AND NONCOMPLIANCE TO THE LINE OF**  
**MANAGEMENT**  
**N = 63 N = 137**

SR. NO.	KNOWLEDGE SCORE	COMPLIANCE		NON-COMPLIANCE	
		Freq.	Percentage	Freq.	Percentage
1.	20	0	0	3	2.19
2.	21 — 30	6	9.52	27	19.70
3.	30 — 40	37	58.73	81	59.13
4.	Above 40	20	31.75	26	18.98

The above table (Table 17) showed patients who had higher knowledge had better compliance to the line of management. Those who had lesser knowledge had lesser compliance.

### **III. Conclusions:**

In this study various findings suggest that patients are aware about only a few aspects of the disease and in addition to it compliance of the patient to the management of asthma was found to be very low (31.5 percent). So the investigator found it necessary to find the various reasons related to the non compliance to the management of asthma. Financial constraint was found to be the major factor of the non compliance to the management of asthma, besides this there were several factors such as forgetting to take the medicine, feeling better, hence no need to continue medicine and fear of side effects, difficulty in the use of inhaler, also contributing to it. In order to enhance the compliance of the patient to the management of asthma, there is a great need to intensify educational programmes regarding self care management which will help these patients to overcome the constraints that were felt by them in order to maintain compliance.

#### **Personal Experience:**

The present study has been an enriching learning experience for the investigator. The first hand experience of going through all the phases of the research is an enriching experience. The interaction with the patients helped the investigator in deepening the understanding of the problems of patients with asthma as a whole.

#### **Nursing Implications:**

The study findings had implications in nursing administration, nursing service, nursing education and nursing research.

#### **Nursing Administration:**

The findings of the study can be used by nurse administrators as a basis of educating nurses regarding the management of patients with asthma.

In service education can be given so as to make them aware of the importance of compliance of the patient to prescribed treatment and problems encountered by the patients in maintaining the same.

Policies can be implemented where the nurse also plays an important role in the outpatient department and the ward such as giving health education, planning diet, avoiding triggering factors and displaying of educative posters in the out patient department and wards.

#### **Nursing Service:**

Nursing services include preventive, promotive, curative and rehabilitative services. Nurses play an important role in all the above aspects in caring for a patient with asthma. This study reinforces the need for education to individual patients for the self care of management.

#### **Nursing Education:**

Nursing education is a means through which nurses are prepared for practice in various settings. The results of this study can be used as an illustration to support the importance of health education to patients with asthma. Students should be made aware of the importance of compliance of the patient with asthma to the prescribed treatment.

### **Nursing Research:**

The research methodology, tools and findings of the study have added to the body of knowledge of nursing.

The suggestions and recommendations can be utilized by other researchers for further study in the same field.

### **References:**

- [1]. Athavale, A.U. et al "Compliance vs. Guidelines in Treatment of Asthma: Need for practical approach." *Journal of Lung India*. 1999. pp 117-9.
- [2]. Athavale, A.U. et al, "Approach to Aerosol Therapy in Management of Asthma. *Journal of Lung India*." 1995, pp 12-13.
- [3]. Berg, J. et al. "Evaluation of an Educational Programme for Adolescents With Asthma." *Journal of School Nursing*. 2004, pp 29-35.
- [4]. Braude, A.C., Rebeck, A.S., "Evaluation of the Severity of the Acute Asthmatic Attack." *Chest*. vol.82, No.7, July 1982, pp 28-29.
- [5]. Edward, P.F. "Asthma Management at the Source." *Case Manager*, 2004 49(7) pp 783-92.
- [6]. Edwards, P.F. "Asthma Management of the Source" *Case Manager*, 2004, 49(7), 783-92.
- [7]. Fonten Richard et al "Subjective Assessment vs. Computer Analysis of Wheezing in Asthma." *Chest*, Vol.91, No.3, March 1987, pp 376-381.
- [8]. Kalie, M. "Non Compliance Amongst Adolescents." *Oxford Journals*. 2000. vol.17, No.2 pp 134-138.
- [9]. Kallostron, J.J. "Evidence Based Asthma Management." *Respiratory Care*, 2004, pp 783-92.
- [10]. Ki Moon, B. "Prevalence of Asthma by Introducing in the U.S." *American Journal of Industrial Medicine*. 2005. pp500-508.
- [11]. Koch, T. et al "Chronic Illness Self Management : Locating the Self." *Journal of Advanced Nursing*, 2004, pp 484 - 92.
- [12]. Mathew, M. "Asthma Update Part II Medical Management." *Asthma Family Physician* 2004.
- [13]. McMohan, A.D. et al "Continuity of Prescribing with Inhaled Corticosteroids and Control of Asthma." *Wiley Interscience Journal*, 2000.
- [14]. Nandakumari, S. "India Accounts for a Third World Asthmatics." *Express Health Care Management*, 2001.
- [15]. Patel, P.H. et al "Interpersonal Asthma Outcomes Using Co-ordinated Care Approach, in a Large Medical Group." *Disease Management*, 2004. pp.102-11.

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