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ASSESS THE MEDICATION ADHERENCE AND FACTORS AFFECTING TO MEDICATION ADHERENCE AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SRI RAMACHANDRA HOSPITAL, PORUR, CHENNAI

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ABSTRACT: Purpose: Bronchial Asthma is a chronic disease that affects the airways. Lung function declines faster than average in people with asthma. Overall, one study reported that 72% of men and 86% of women with asthma had symptoms 15 years after an initial diagnosis. Only 19% of these people, however, were still seeing a doctor, and only 32% used any maintenance medication. Hence a study was conducted to determine the level of medication adherence and factors associated with non adherence among patients with bronchial asthma. The objectives of the study were to assess the level of medication adherence among patients with bronchial asthma and identify the reason for non adherence to prescribed therapy and associate the level of medication adherence with the selected demographic variables. **Methods:** A Qualitative study design was adopted and the study was conducted in Chest OPD, Sri Ramachandra Hospital, Chennai, Tamilnadu. A total of 60 patients were selected for the study by using convenient sampling technique. **Results:** The result suggest that 37 (61%) has low level of adherence, 9 (17%) has moderate level of adherence and 14 (22%) of them are highly adherent to the treatment. There is an significant association between the medication adherence and family history and duration of asthma. **Conclusion:** Hence the Nurses play a vital role in imparting the knowledge of pharmacodynamics and pharmacokinetics aspect of each drug being prescribed to them. This can be facilitated by motivating the nurses to provide outpatient based education to progress towards their well-being.

INTRODUCTION: Non adherence to the prescribed regimens, either pharmacological or behavioural strategies is common among chronic disease management. According to WHO 2009, it is documented that 30 – 70 % of them reported to be the poor adherence to asthma medications. This may be due to the duration of usage of drugs, multiple drugs, and the period of symptom remission¹.

The study can be done to assess the compliance with asthma medications by doing assay in the blood, urine or saliva². The study can be done to assess the compliance with asthma medications by use of clinical judgements, self report/ asthma diaries, and electronic medication monitors.

Dunbar et al suggested that a clinician's time and attention to the patient may be the most powerful available reinforce. Haynes et al concluded in his study that successful interventions to promote adherence were complex and multi-faceted and included combinations of counselling, education, self-monitoring, reinforcement, reminders and supervision². Weinstein AG *et al.* (2005) identified that striving for improved adherence and asthma

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control is of vital concern in today's asthma management⁹.

Axelsson M *et al.* (2009) reported that less than 50% of asthma patients are adherent to their asthma medications¹. Levy *et al.* (2012) reported that an intervention involves asthma education from hospital based specialist like asthma nurse improved adherence and clinical outcomes in asthmatic patients⁶.

World health organization (2012), recognized lack of adherence as a major problem in management of chronic disease and concluded that improving adherence would have more beneficial impact on health outcome than improving specific treatment⁴.

Hence investigator planned to determine the level of medication adherence and the factors associated with non-adherence among patients with bronchial asthma.

Objectives:

1. Assess the level of medication adherence among patients with bronchial asthma.
2. Identify the reason for non -adherence to prescribed therapy.
3. Associate the level of medication adherence with the selected demographic variables.

Methodology:

The research design chosen for the study is qualitative design. The study was conducted at Chest and TB OPD of Sri Ramachandra Hospital, Chennai. Population of the study included are patients with mild, moderate, severe persistent

asthma. The samples selected for the study were patients attending Chest OPD. Inclusion criteria included patients who belongs to the age of 20 to 60 years, and with atleast one to five years of diagnosis of asthma, who could understand Tamil or English and willing to participate. Exclusion criteria were those who were not willing to participate, or suffering from any chronic illness or disability. The sample size was 60 and the sampling technique used was convenience sampling technique.

Description of Tool:

Section A: Demographic variables of the patients with bronchial asthma consist of age, education, locality, occupation, income, marital status, type of family, number of children, family history of asthma etc.

Section B: Clinical variables such as Height, weight, BMI, Vital signs

Section C: Morisky Medication Adherence Questionnaire -8 items⁷; open ended questions.

Data collection procedure:

The study was conducted for a period of 4 weeks. Permission to conduct the study was obtained from the Institutional Ethics Committee. Patients with bronchial asthma who met the inclusion criteria and those with the history of bronchial asthma for at least one to five years were selected for this study. Using the tool, the data were collected from the patient to find out their medication adherence level and factors associated with non-adherence among patients with bronchial as

TABLE 1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE DEMOGRAPHIC VARIABLES AMONG PATIENTS WITH BRONCHIAL ASTHMA.

Demographic Variables	N=60	
	No.	%
Age (in yrs)		
a.20-39	23	38
b.40-59	22	37
c.59-60	15	25
d.>60	-	-
Gender		
a.Male	36	60
b.Female	24	40

Educational status		
a. No formal education	12	20
b. Primary school	33	55
c. High school	15	25
d. Higher secondary	-	-
e. Degree	-	-
Marital status		
a. Married	10	17
b. Unmarried	23	38
c. Divorced	-	-
d. Widow	27	45
Occupation		
a. Coolie	10	25
b. unskilled	27	18
c. Skilled	12	30
d. Professional	11	27
Income (in Rs.) per month		
a.≤ 5000	5	8
b.5001- 10,000	15	25
c.10,001-15,0000	16	27
d. 15,001-20,000	12	20
e.> 20,001	12	20
Residence		
a.Rural	12	20
b. Semi-urban	28	47
c. Urban	20	33
Type of family		
a. Joint	23	38
b. Nuclear	22	37
c. Extended	15	25
Smoking habit		
a. Non smoker	35	58
b. Cigaratte smoker	25	42
Duration of asthma(yrs)		
a. <6 months	23	38
b. ≤ 1	12	20
c. 1-5	25	42
Family history of asthma		
a. First degree relative	32	54
b. No First degree relative	28	46
Presence of co-morbid medical illness		
a. Diabetes mellitus	16	27
b. Hypertension	18	30
c. Cardiac disease	10	17
d. Bone disease	-	-
e. Gastro-intestinal disease	16	26

Table 1 depicts the frequency and percentage distribution of the demographic variables of patients with bronchial asthma. Among which 23 (38 %) of them belongs to the age group of 20-30 years and 36 (60 %) of them are male patients, and majority of 33 (55 %) had primary education, 27 (18 %) are unskilled labors with the income of Rs.10, 001 to 15,000 are 16 (27 %), 28 (47 %) are living in the semi-urban area, 35 (58 %) are non smokers, 32 (54 %) had family history of first

degree relative with bronchial asthma, 18(30%) has comorbid illness of hypertension.

TABLE 2: OVERALL MEAN AND STANDARD DEVIATION OF LEVEL OF MEDICATION ADHERENCE AMONG PATIENTS WITH ASTHMA (N=60)

Mean	Standard deviation
12.9	2.38

Table 2 depicts the overall mean and SD of the level of medication adherence among patients with bronchial asthma is 12.9 ± 2.38

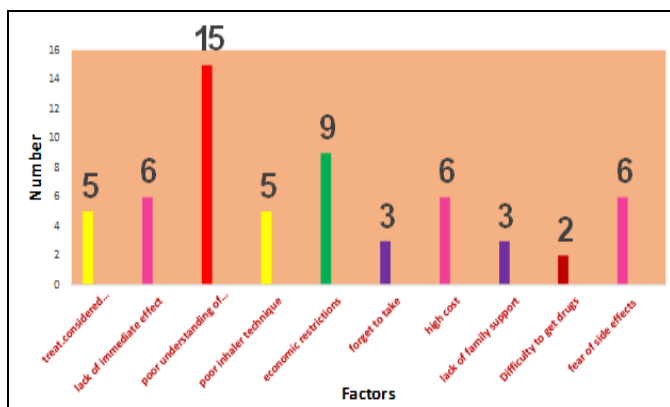


FIG.1: FREQUENCY OF FACTORS AFFECTING MEDICATION ADHERENCE (N=60)

Fig. 1 depicts the factors associated with non-adherence among asthmatic patients are 15 subjects said that poor understanding of the drugs and its effects, 9 said that its due to the economic constraints, 6 of them felt that its due to lack of the immediate effects of the drug to act on the body, high cost of the drugs, fear of the side effects. 3 felt that it's a result of the lack of family support and forgetfulness to take the drugs. 2 subjects felt that it's difficult to get the prescribed medication.

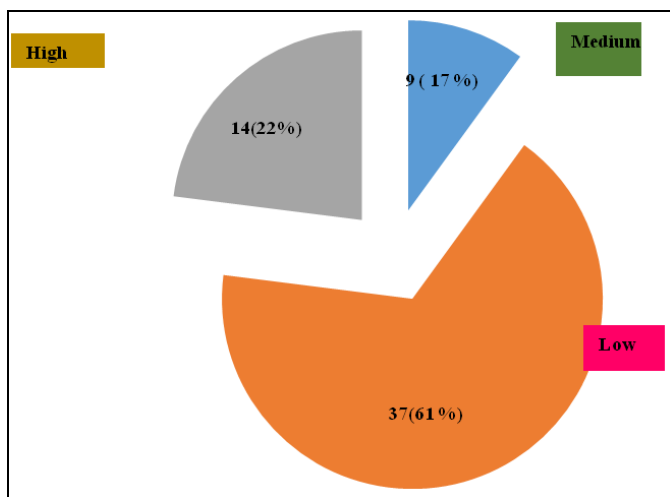


FIG. 2: FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE LEVEL OF MEDICATION ADHERENCE AMONG PATIENTS WITH ASTHMA (N=60)

Fig.2 depicts that 14 (22%) of them had high level of medication adherence, 9(17%) of them had medium level of adherence and 37(61%) of them are in low level of medication adherence.

There was a significant association between the level of medication adherence among patients with bronchial asthma with that of the family history of asthma and the duration of asthma at $p < 0.001$.

DISCUSSION: Bruzzese et al., (2014) identified that asthma management behaviors integrated into and shared among family members was associated with better adherence². Greater confidence was marginally associated with increased adherence. Thus, helping families to share and better integrate asthma care into daily schedules may be an important intervention strategy to improve medication adherence. Hence the present study also states that patient has low level of adherence and patient family members to be motivated to provide social support to them in order to improve the adherence and quality of life.

CONCLUSION: Medication adherence with preventive medication is common and is associated with significant morbidity and healthcare costs. Non-adherence should be considered in all patients with poorly controlled asthma⁶. Unfortunately, patient report and the impressions and knowledge of these risk factors may not help to determine whether non-adherence is the reason for a poor asthma control. When prescribing medication, it may be important to consider the complexity of the regimen in addition to the efficacy of the intervention. Treatment plans should be developed collaboratively, and it is important to explore the patient's concerns and prejudices. Nurses can implement the strategy to motivate patients to maintain adherence, and a tool to evaluate adherence in subjects with poor disease control⁴.

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REFERENCES:

1. Axelsson M, Brink E, Lundgren J, Lötval J. The influence of personality traits on reported adherence to medication in individuals with chronic disease: an epidemiological study in West Sweden. PLoS One. 2011; 6(3):e18241.

2. Dunbar-Jacob J, Rohay JM. Compliance with inhaled medications: the relationship between diary and electronic monitor. *Ann Behav Med* 1998; 20:36–38.
3. Cramer Feedback on medication dosing enhances patient compliance” *Chest* Vol.104, no.2, PP.333-334.
4. Global Strategy for Asthma Management and Prevention, Global Initiative for Asthma (GINA) 2012. Full text available online at: www.ginasthma.org (Accessed on March 12, 2013).
5. Horne. Compliance, adherence, and concordance: implications for asthma treatment, *Chest*, vol. 130, no 1, 2006.
6. Levy M et al (2014) Why Asthma Still Kills: the National Review of Asthma Deaths (NRAD). Confidential Enquiry Report. London: Royal College of Physicians. [Bit.ly/RCP Asthma Review](http://bit.ly/RCP_Asthma_Review)
7. National Asthma Council Australia, *Asthma Management Handbook 2006*, Melbourne, Australia, 2006.
8. Rand CS, Wise RA. Measuring adherence to asthma medication regimens. *Am J Respir Crit Care Med* 1994; 149:S69.
9. Weinstein AG, Faust DS, McKee L, Padman R. Outcome of short-term hospitalization for children. *J Allergy Clin Immunol.* 1992; 90:6675. 46.

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