

Factors Leading to Non Compliance to Standard Treatment in Asthma Patients

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ABSTRACT

Aim: To determine the factors leading to non-compliance to standard asthma treatment in patients presenting to Jinnah Hospital Lahore.

Methods: Using non probability consecutive sampling, diagnosed cases of asthma with noncompliance to standard treatment were enrolled. Five questions regarding reasons for noncompliance was asked i.e., forgetfulness, apparently well, fear of addiction, non-affordability (cost of drugs) and social stigma.

Results: Two hundred and seventy patients with mean age 41±15.2 years with 59.6% male population were included. 123 individuals (45.6 %) attached social stigma to prescribed medicine and 83 individuals (30.7%) reported high cost cause of prescribed medicine as a factor for noncompliance 49 patients (18%) reported forgetfulness and being apparently well as frequent cause of noncompliance, 52 individuals (19.3%) reported fear of addiction as frequent cause. Statistically non-significant results were obtained for age and gender groups except for age above 40 years and social stigma.

Conclusion: Forgetfulness, fear of addiction, being apparently well, social stigma and high cost are the factors for poor compliance. Our physicians should take it into consideration when prescribing the medicines to asthmatics.

Key words: Asthma, non-compliance, adherence to asthma treatment

INTRODUCTION

Asthma is a reactive and reversible airway disease with attacks occurring episodically with varied intensity.¹ According to World Health Organization (WHO) estimates, 300 million people suffer from asthma and 250,000 people died of asthma in 2005. Over 80% of asthma deaths occur in low and lower-middle income countries². It is a leading cause of preventable emergency room visits and hospitalizations. Considerable efforts have been directed at promoting appropriate self-management behaviours in order to improve asthma outcomes³. However, it has been observed that an estimated 50% of patients do not take their medications as prescribed and are said to be non-adherent or non-compliant with therapy⁴.

Poor compliance with the prescribed therapy leads to increased mortality and morbidity. It has been estimated that regular continuing medications for asthma could reduce asthma hospitalizations by as much as 80%, and that the risk of death from asthma decreases by 21% for each additional ICS canister used in the previous year^{5,6,7,8}. In literature,

only a few studies have been done to recognize the factors that can affect the patient's compliance to asthma treatment. Omole and Ilesanmi⁶ tried to identify these factors in their setup and observed the following factors could affect the compliance: 58.5% forgot to take "preventer" medication, 21.9% were too busy, 12.2% were concerned about side effects and 7.3% did not believe it was effective.

In another study by Obasan et al⁷ observed the following factors: apparent wellness (33.31%), forgetfulness (26.67%), cost of drugs (6.67%), dysphagia (6.67%), presence of non-disturbing symptoms (6.67%), side effects (6.67%), ignorance/fear of addiction (6.67%), perceived lack of benefit from treatment (6.67%), and lethargy towards chronic medication (6.67%).

Gupta et al⁸ studied the effect of social beliefs and perceptions on inhaler use and found out that 84.2% people consider inhalers as a social stigma irrespective of gender, education and social background. They included views from patients and general population as well. Patient's compliance to the asthma treatment is a modifiable factor that can affect the treatment outcome among these patients.

The works of Omole and Ilesanmi⁶ have shown that these factors are not uniformly present in every setup and their frequency can be different. Moreover, these factors have never been addressed in our

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population. Knowing these factors will help us in making strategies to improve compliance, which will in turn help our patients by reducing morbidity and mortality among our patients.

SUBJECTS AND METHODS

To achieve the above said objective, a cross sectional survey was carried out in Pulmonology Outpatient Department of Jinnah Hospital Lahore. Using Non probability purposive sampling, estimated sample size was 270 with 3% of margin of error, 95% confidence level taking frequency of 'fear of addiction' i.e. 6.67%. Asthmatic patients of both genders who fail to follow the advised treatment for at least 1 month of age more than 16 years were included. Asthmatic patients were defined as the patients who had symptoms of cough and breathlessness on exposure to dust, pollens or cold for at least one year diagnosed by spirometry showing post bronchodilator response of 15% improvement in forced expiratory volume (FEV1). Patients with history of smoking for more than 10pack years were excluded. After informed consent, 270 patients fulfilling inclusion criteria were enrolled and interviewed. The demographic information including age, sex and address was noted. The patients were asked for the five factors that can affect the patient's compliance (1) Forgetfulness and it was defined as involuntary missing of dose. (2) Apparently well and it was defined as patient's perception of no need for medicine. (3) Fear of addiction and it was defined as belief of patient of dependence. (4) Non affordability was defined as patient's perception of cost of treatment more than 20% of his monthly income. (5) Social stigma and it was defined as taboo of inhaler use. First three former factors were measured on an ordinal scale of yes & frequently, yes & rarely and no. The factor which is causing non-compliance more than half a time per month was labelled as frequently and rarely if less than half times a month. The collected information was analyzed SPSS version 17.00. Pearson chi square test was used and p value ≤ 0.05 was taken as significant.

RESULTS

Two hundred and seventy patients with mean age 41 ± 15.2 years were included in the study 38% respondents were below 40 years while 62% have age above 40 years. 59.6% were male while rest (40.4%) were female. 49 respondents (18.1%) reported forgetfulness as frequent cause of non-compliance while 69(25.6%) respondents attributed as rare cause of missing the prescribed dose 56% respondents has not reported forgetfulness as a

cause of non-compliance. Similarly 49 respondents (18.1%) reported being apparently well as frequent cause of non-compliance while 72 individuals (26.7%) attributed it as rare cause of missing the prescribed dose 55.2% (149 individuals) respondents has not reported being apparently well as a cause of non-compliance. 52 individuals (19.3%) reported fear of addiction as frequent cause of non-compliance while 90(33%) respondents attributed as rare cause of missing the prescribed dose. 128 individuals (47.4%) respondents has not reported fear of addiction as a cause of non-compliance. 123 individuals (45.6 %) attached social stigma as a cause of not taking the prescribed medicine, while (54.4%) did not reported social stigma as any effective cause of non-compliance. 83 individuals (30.7%) reported high cost cause of prescribed medicine as a reason for non-compliance. When forgetfulness was crossed tabulated against age and gender groups there was statistically non-significant difference found using chi square. Similarly when being apparently well was crossed tabulated against age and gender group there was non-significant difference found using chi square. Similar non-significant result were obtained for fear of addiction, social stigma and cost when cross tabulated against age and sex groups except for age groups and social stigma where older people seem more stigmatized using asthma medications (Table 1).

Table 1: Demographic variables and responses of sampled population regarding factors leading to non-compliance to standard asthma treatment (n=270)

Variable	No.	%
Age (years)	41.0±15.2	
Gender		
Male	161	59.6
Female	109	40.4
Forgetfulness		
Yes & Frequently	49	18.1
Yes & Rarely	69	25.6
No	152	56.3
Being Apparently Well		
Yes & Frequently	49	18.1
Yes & Rarely	72	26.7
No	149	55.2
Fear of Addiction		
Yes & Frequently	52	19.3
Yes & Rarely	90	33.3
No	128	47.4
Social Stigma		
Yes	123	45.6
No	147	54.4
Non Affordability/Cost		
Yes	83	30.7
No	187	69.3

DISCUSSION

Compliance and non-compliance are big issues in asthma management. It has been well established that compliant patients experience less exacerbations than less compliant patients and that compliance rates often are 50%. The reasons for non-compliance are multiple and complex and not always clearly understood. Methods proposed to improve compliance include patient education, more partnership care, less frequent dosing, simple schedules, diaries, etc. Less dosing and simple schedules are most effective.

It is difficult to improve compliance overall and despite extensive research and efforts, rates of compliance remain low. Non-compliance in asthma management is a fact of life and no single compliance-improving strategy probably will be as effective as a good physician–patient relationship. Our study well represent general population suffering from asthma, mean age of 41 years has shown that our sample consist of both young and old respondents. The gender distribution of the sample is a bit inclined towards male resulting in female participant only 40%.

Forgetfulness meaning thereby unintentional missing of the dose was reported as frequent by 18.1% and rarely by 25.6% showing that for more than 43% respondents forgetfulness is an important cause of non-adherence. Frequent visit to physician may help solve this problem. The results hereby our far greater than reported Obasan et al⁷. A periodic reminder through email and other communication sources may prove helpful in this regard.

Being apparently well is also a main cause of the missing dose of inhaler. Patient lack basic understanding of using the controller medicine. It is reported as a major cause by 45% but only 18% labelled it as a frequent cause of non-adherence. It is also clearly in excess for our sample when compared with previous studies^{7,9-13}

We wondered whether psychological factors, such as patient attitudes to asthma and its treatment, anxiety, depression, and interpersonal problems, may be related to asthma self-care and compliance. High cost is a factor for about 30% people but it isn't as much prevalent as is other four described factors.

Incorrect underlying beliefs about inhaler use may constitute a major obstacle to the adherence to disease management and other self-management behaviour and such beliefs thereby, may contribute to poor treatment outcomes. People had different levels of knowledge about the use of inhalers in obstructive pulmonary diseases disease and diverse underlying disease-related beliefs. The patients' use of inhaler devices and their adherence to the treatment

regimens is likely to be influenced by their attitudes, beliefs, and perceptions about inhalers. Fear of addiction to the inhaler medication showed maximum prevalence that is about 53%. This is an indirect measurement of doctor's time given and rapport develops. Fear of addiction has clearly shown lack of patient information and education.

Moreover, the attitudes, beliefs, and perceptions of the general population regarding the use of inhalers also influence the acceptability of inhalers in society. Similarly social stigma is also highly attached to compliance in asthma treatment. There is no gender difference in all the factors except old patients seems to be more stigmatized using the medications for asthma.

In short treatments that are easier to take invite better adherence. Patients are better motivated to adhere to a therapy regimen when they understand their illness, have faith in their physicians and treatment, and are free of psychological disorders. Improving a patient's motivation is primarily a clinician's responsibility and requires thorough patient and care giver education, more frequent patient contact, and the development of a patient-clinician partnership dedicated to effective asthma treatment. In short, physicians help motivate their patients when they do not assume their job is done after the prescription is written, when they assess the patient's readiness to change, take sufficient time with the patient, promote open discussion of adherence, provide ongoing education, answer questions fully, and see the patient more often.

In this era of cost-conscious managed care, encouraging extra patient office visits may be problematic, but managed care organizations must recognize that extra visits are required to gain a patient's commitment to a treatment program and will save money over the long term. High cost is a factor for about 30% people but it isn't as much prevalent as is other four described factors. Better control will reduce hospitalizations and emergency department visits. Certainly, a case manager who monitors a patient's progress can be a link between the patient and clinician, not only encouraging adherence but also facilitating the scheduling of needed office visits. The extra time devoted to the patient will ensure that the obstacles to adherence are adequately addressed.

We feel that such misplaced beliefs, attitudes and perceptions about inhalers among a majority of subjects will definitely inhibit the proper utilization off inhaler therapy. More importantly, the results have necessitated the urgent need for an individual and a collective national effort in the form of national educative programs to dispel the misconception and inadequate knowledge, beliefs, attitudes and the

perceptions of the patients and the common people towards inhalers.

Sincere and sustained efforts are required to disseminate the knowledge about all the aspects of asthma and its management amongst the patients and to dispel their myths and misconceptions which are associated with these diseases and their therapy. This will help the patients to participate in self-management plans and for a better control of their disease.

CONCLUSION

The most common factors leading to non-compliance to asthma treatment in patients presenting to Jinnah Hospital Lahore are forgetfulness, fear of addiction, being apparently well, social stigma and high cost. Our physicians should take it into consideration when prescribing the medicines to asthmatics. Novel and innovative methods can be used to eliminate forgetfulness like easy dosing schedule and use of SMS alerts. Fear of addiction can be reduced by increasing rapport with the patients. Health education about benefits of controller medication i.e. using the medicines when patient is apparently well seems to be quite helpful in reducing the non-adherence.

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