

Poor adherence to inhaler therapy in patients with bronchial asthma: Rates and causes

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ABSTRACT

Objective: To assess adherence rates to inhaler therapy in bronchial asthma patients, and to find out the most common causes of non-adherence.

Method: prospective study of 295 patients diagnosed to have bronchial asthma in King Hussein Medical Center (KHMC) in the period between March 2014 and January 2015. Patients were followed up for 15 weeks, after which adherence to their inhaler therapy was assessed, and the causes of non-adherence were investigated.

Results: It was found that 138 patients from the 295 patients included in our study were non-adherent to their inhaler therapy, which equals 47% of the patients in this study. The most common cause for non-adherence was the patients' fear that using inhalers would be habit forming, and would be associated with a social stigma. This cause accounted for 46% of the causes for non-adherence in our study group.

Conclusion: Non-adherence rates to inhaler therapy in bronchial asthma were shown to be significant in our study. The fact that the most common causes for non-adherence in our study were found to be due to non-drug related causes, and mainly caused by poor patient understanding of their condition and treatment, makes patient's education very important, and emphasizes the significance of doctor-patient communication to answer all the questions that might cause non-adherence to inhalers.

Key words: Bronchial asthma, Inhaler therapy, Adherence, Jordan

Introduction

Bronchial asthma is one of the most common chronic diseases in the world. The incidence and prevalence of bronchial asthma is increasing, and studies show that bronchial asthma affects 5-10% of the population worldwide. (1,2) Being a chronic and common medical condition, proper management of bronchial asthma is a very important goal to achieve. Inhaler therapy is the cornerstone in bronchial asthma management. (3,4) Inhalers have the advantage of delivering high concentration of the medications to the airways with minimal systemic side effects. (5) A common issue which is usually faced and prevents proper management of bronchial asthma is non-adherence to the inhaler therapy. Some studies show adherence rates of around 50% in bronchial asthma patients.(6) This means that about half the patients diagnosed to have bronchial asthma are non-adherent to their inhaler therapy.

Poor adherence to inhaler therapy increases the risk of morbidity and mortality from bronchial asthma.(7,8) It was shown that poor asthma control is a frequent cause of Emergency Department (ER) presentation and hospital admission.(9)

Another important aspect that shouldn't be overlooked is the economic burden of uncontrolled bronchial asthma to the health care system. This aspect has been studied and documented in industrialized countries.(10) It was shown that 1/3 of all asthma costs in the United States of America come from ED use for managing bronchial asthma.(11)

In our study, the aim was to follow up patients diagnosed with bronchial asthma for 15 weeks, for whom inhaled therapy was given. We assessed the rates of adherence to these inhalers by the end of the 15-week period. The causes of non-adherence were also investigated in these patients, hoping that by knowing the causes of non-adherence we can maximize our efforts to target these causes and increase adherence rates to inhaled therapy in bronchial asthma patients.

Methods

In our study, 295 patients who were diagnosed to have bronchial asthma in KHMC, Respiratory Medicine Division, between March 2013 and January 2015, were enrolled for the study. All

of these patients were prescribed inhaler therapy according to the GINA guidelines. Initially, proper education about their disease, the types of inhalers to be used and proper technique were explained to the patients. Follow up every 3 weeks for the next 15 weeks was done in the clinic. By the end of the 15 weeks, adherence to the inhaler therapy was assessed.

Adherence day was defined as a day in which the exact number of puffs of the prescribed inhalers was taken. Patients were labeled as adherent if they fit the above definition for more than 80% of the days of the study (>84 days).

During each visit to the clinic, the patients were asked about their adherence to inhalers during the 3 week period preceding their appointment, and the number of adherent days was recorded in their files. By the end of the 15 weeks, the number of adherent days was calculated by reviewing the patients' files.

In the non-adherent group, the cause for non-adherence was investigated by asking the patients about the major reason that prevented them from adhering to their inhaler therapy.

Results

From the 295 patients with bronchial asthma who were enrolled in our study, 138 patients were found to be non-adherent to their inhaler therapy. This represents 47% of the patients in our study.

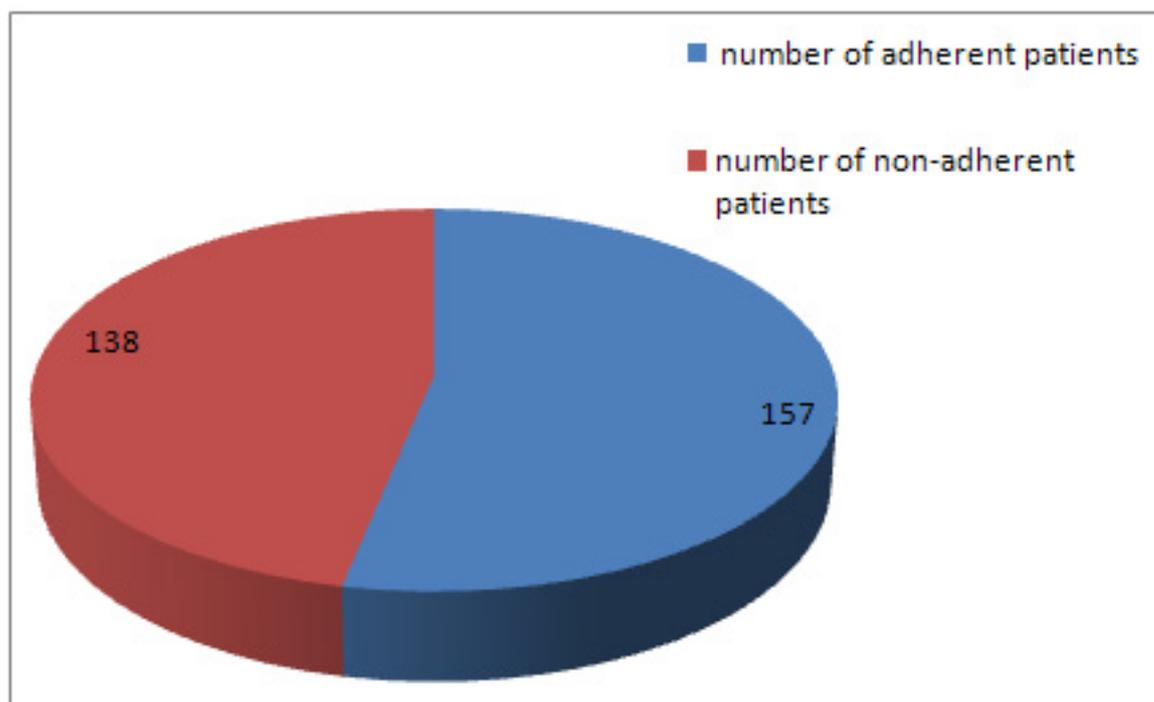
The cause was investigated in the non-adherent group. 63 patients (46% of the patients in the non-adherent group) stated that the major cause was that they were afraid that by using their inhalers regularly they will form a habit, which will be associated with a social stigma according to them. 54 patients (39% of the patients in the non-adherent group) said that they were non-adherent because they had doubts regarding the efficacy of inhalers, and they thought that oral treatment is superior to inhalers in treating bronchial asthma. 13 patients (9%) said that the cause was their fear of side effects. The remainder of the non-adherent patients (8 patients, 6%) gave other causes such as forgetfulness, difficulty in using their inhalers and refusing the concept of being asthmatics.

Table 1: Causes of non-adherence to inhaled therapy in bronchial asthma

Cause	Number of patients	% to non-adherent group
Habit forming and social stigma	63	46%
Inhalers are non efficient, and prefer oral treatment	54	39%
Fear of inhalers side effects	13	9%
Others*	8	6%

*Other causes such as forgetfulness, difficulty in using their inhalers and refusing the concept of being asthmatics.

Figure 1: A comparison between the number of adherent and non-adherent patients to inhaled therapy from the 295 patients in our study



Discussion

Bronchial asthma is a common chronic medical condition. Adherence to bronchial asthma treatment, of which inhaled therapy forms the cornerstone, decreases morbidity and mortality caused by this disease, and adherent patients are less likely to experience exacerbations than less adherent patients.(12)

However, adherence rates to inhaled therapy in bronchial asthma have been shown to be less than satisfactory. The WHO recorded adherence rates to treatment in chronic diseases to be around 50 %.(13) Many other studies assessing adherence to inhaled therapy in bronchial asthma specifically showed non-adherence rates between 20-80%. (14)

In our study, it was found that 138 patients from the 295 patients with bronchial asthma enrolled in the study were non-adherent to their inhaled therapy, with non-adherence percentage of 47%.

This high percentage of non-adherence is worrisome and the causes of which should be investigated thoroughly.

In our study, it was found that the main causes for non-adherence were not related to the drugs per se, rather it was due to poor understanding by the patient about their disease and treatment choices and strategies.

We found that 46% of non-adherent patients were not adhering to their inhaled therapy because they were afraid that using the inhalers will form a habit, which is associated with a social stigma according to these patients. 39% of the patients in the non-adherent group stated that they were non-adherent because they preferred to use oral treatments because they thought it was superior to inhaled therapy. Other less common causes included fear of side effects of the inhaled therapy (9%), and forgetfulness, difficulty in using their inhalers and refusing the concept of being asthmatics (6%).

As it is clearly shown in our study, the main causes for non-adherence stem from poor understanding by the patient about bronchial asthma as a chronic, non curable disease, that needs lifelong treatment, and the significant role that inhaled therapy plays in managing bronchial asthma.

These causes for non-adherence were investigated thoroughly in various other studies. Gupta & Gupta found in their study that up to 76% of bronchial asthma patients consider inhaled therapy inferior to oral medications.(15) Another study done by Bedi found that 42% of the patients didn't adhere to their inhaled therapy because they were afraid that it would be habit forming.(16)

The fact that the majority of the non-adherent patients stated causes which stemmed from poor understanding of their disease and treatment choices, makes patients' education and doctor-patient communication of utmost importance in trying to improve adherence rates of bronchial asthma patients to inhaled therapy.

Conclusion

Non-adherence to inhaled therapy in patients with bronchial asthma is common. This emphasizes the need to regularly assess patients' adherence to their inhaled therapy during their regular clinic visits.

The fact that non-adherence in bronchial asthma patients is mostly caused by non-scientific ideas by the patients about their disease and treatment methods, makes an informative doctor-patient relation very important, where patients should be educated about their disease, and the therapeutic strategies, of which inhaled therapy forms the cornerstone, discussed in detail with them.

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