

Socio Economic Status Shaping the Drug Attitude of Asthma Patients

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ABSTRACT

Asthma is a syndrome characterized by airflow obstruction that varies both spontaneously and with specific treatment. As the inflammatory diseases such as asthma has a very slow recovery rate, patients go through a very long period of treatment. During such period, patient tends to leave the medication after sometimes that leads to the development of resistance in that patient. There are many factors which are responsible for the drug adherence or non-adherence of the patient. One such factor is the socio economic status of the patient. The main purpose behind the present research is to assess the impact of Socio Economic Status on the level of medication adherence among asthma patients. The sample size consisted of 100 Asthma patients taken from the OPD of Jaipur TB Hospital in the city of Jaipur, Rajasthan. The patient was administered on Drug Attitude Inventory (Hogan *et al.*, 1983) and then the Social Economic Status Scale (Pareek, 2017) was conducted on them. The results showed that majority of the patients having non-adherence towards the medications of asthma were found to belong to low socio economic status category. This concludes that socio economic status is one of the major factors influencing drug non-adherence among the patients undergoing prolonged treatment.

Key Words : Asthma patients, Socio economic status, Long treatment, Drug adherence

INTRODUCTION

Asthma is a syndrome characterized by airflow obstruction that varies both spontaneously and with specific treatment. Chronic airway inflammation causes airway hyper responsiveness to a variety of triggers, leading to airflow obstruction and respiratory symptoms including dyspnea and wheezing. Although asthmatics typically have periods of normal lung function with intermittent airflow obstruction, subsets of pts develop chronic airflow obstruction. The prevalence of asthma has increased markedly over the past 30 years. In developed countries, approximately 10% of adults and 15% of children have asthma. Most asthmatics are atopic, and they often have allergic rhinitis and/or eczema (Harrison, 2013). The majority of asthmatics have childhood-onset disease. Most asthmatics have atopy, and asthmatics often have atopic dermatitis (eczema) and/or

allergic rhinitis. A minority of asthmatic pts do not have atopy (negative skin prick tests to common allergens and normal serum total IgE levels). These individuals, occasionally referred to as *intrinsic asthmatics*, often have adult-onset disease. As the inflammatory diseases such as asthma has a very slow recovery rate, patients go through a very long period of treatment. During such period, patient tends to leave the medication after sometimes that leads to the development of resistance in that patient (Lango *et al.*, 2013).

A patient is considered adherent if they take 80 per cent of their prescribed medicines. If a patient takes less than 80 per cent of their prescribed medications, they are considered non-adherent. Patients are often reluctant to tell their doctor that they do not take their medicines. Unless a patient's medication-taking behavior is understood, therapy may be needlessly escalated (Osterberg, 2005). This results in increased costs to the

patient and health care system, potential harm to the patient and unnecessary work on the part of the practice during the visit. Medication non-adherence can lead to unnecessary hospitalization and emergency room visits, which can add to overall health care costs. The practice team can help identify and improve patients' adherence to their medications. Medication adherence is defined by the World Health Organization as "the degree to which the person's behavior corresponds with the agreed recommendations from a health care provider" (Jimmy, 2011). Poor adherence to prescribed regimens can result in serious health consequences. For instance, a recent study found that the risk of hospitalization was more than double in patients (WHO, 2003).

A patient's ability and willingness to follow a prescribed regimen directly influences the effectiveness of that therapy. One factor is the patient's ability to read and understand medication instructions. Patients with low literacy may have difficulty understanding instructions; this ultimately results in decreased adherence and poor medication management. Issues of low literacy must be recognized and strategies designed with this limitation in mind (Kenreigh and Wagner, 2005).

Adherence is a multidimensional phenomenon determined by the interaction of five sets of factors, termed "dimensions" by the WHO. These dimensions are:

Social/economic:

People who have social support from family, friends, or caregivers to assist with medication regimens have better adherence to treatment. Unstable living environments, limited access to health care, lack of financial resources, cost of medication, and burdensome work schedules have all been associated with decreased adherence rates.

Provider-patient/health care system:

The relationship of the doctor-patient is one of the most important health care system-related factors impacting adherence. A good relationship between the patient and health care provider, which features encouragement and reinforcement from the provider, has a positive impact on adherence. Poor or lack of communication concerning the benefits, instructions for use, and side effects of medications can also contribute to non-adherence, especially in older adults with memory problems.

Condition-related :

Long term drugs administration for many chronic illnesses and adherence to such treatment regimens often declines significantly over time. This often happens when patient have few or no symptoms and the absence of them is a barrier for people to take their medication. It is important for the patient to understand the illness and what will happen if it is not treated.

Therapy-related:

The complexity of the medication regimen, which includes the number of medications and number of daily doses required; duration of therapy; therapies that are inconvenient or interfere with a person's lifestyle and side effects have been associated with decreased adherence.

Patient-related factors:

Physical impairments and cognitive limitations may increase the risk for non-adherence in older adults. Lack of knowledge about the disease and the reasons medication is needed, lack of motivation, low self-efficacy, and substance abuse.

There are many factors which are responsible for the drug adherence or non-adherence of the patient. One such factor is the socio economic status of the patient. Socioeconomic status (SES) is defined as a measure of one's combined economic and social status and tends to be positively associated with better health. This study focuses on the three common measures of socioeconomic status; education, income, and occupation (Osterberg, 2005).

SES influences health through the ability to purchase health promoting resources and treatments. Socialization of early health habits and continuing socialization of health habits differs by SES and it has been posited that, rather than SES influencing health, health influences SES – less healthy individuals' complete fewer years of school, miss more work, and earn lower incomes.

Review of literature:

Cote (2003) Conducted a study to measure an adherence to drug treatment and health-related quality of life (HRQL) are two distinct concepts. Generally, one would expect a positive relationship between the two. The purpose of this study was to assess the relationship between adherence and HRQL. HRQL was measured using the physical and mental summary measures of the

RAND-12 (PHC-12, MHC-12), the SF-12 (PCS-12, MCS-12), HUI-2 and HUI-3. Adherence was assessed using Morisky's instrument. Three longitudinal datasets were used. One dataset included 100 hypertensive patients. Another dataset covered 199 high risk community-dwelling individuals. The third dataset consisted of 365 elderly patients. Spearman's correlation coefficients were used to assess association. Subgroup analyses by type of medication and inter-temporal analyses were also performed. Correlation between adherence and PHC-12 ranged from 0.08 ($p = 0.26$) to 0.22 ($p < 0.01$). Correlations between adherence and MHC-12 ranged from 0.11 ($p = 0.11$) to 0.15 ($p < 0.01$). Similar results were observed using HUI-2, HUI-3, and SF-12 as well as by type of medication and in the lagged analyses. Correlations between HRQL and adherence were positive but typically weak or negligible in magnitude.

Boulet *et al.* (2012) Conducted a study to measure Asthma management requires adequate adherence to many recommendations, including socio economic status, therapy, monitoring of asthma control, avoidance of environmental triggers, and attending follow-up appointments. Poor adherence is common in patients with asthma and is often associated with increased health care use, morbidity, and mortality. Many determinants of poor adherence have been identified and should be addressed, but there is no clear profile of the non-adherent patient. Interventions to improve adherence therefore demand tailoring to the individual by including financial status of the patient, patient-specific education, addressing patient fears and misconceptions, monitoring adherence, and developing a shared decision process.

Taminskiene (2019) Conducted a study to measure the quality of life for the family is an important outcome of childhood asthma. The aim of the study was to describe the quality of life in families who have a child with asthma. The Paediatric Quality of Life Inventory Family Impact Module was completed by the parents of 527 children with asthma. The median overall score was 75.0 (interquartile range 63.9, 87.5). The following factors were independently associated with lower quality of life: additional difficulties such as anxiety and financial hardship [3.81 (2.45, 5.93)], waking with asthma symptoms one or more nights a week [odds ratio 2.53 (1.34, 4.75)], regular use of symptoms reliever medication [2.47 [1.57, 3.87)], and female gender [1.97 (1.27, 3.05)]. Lower socioeconomic status of the family and exposure to

moulds at home doubled the odds for lower quality of life. Physician's diagnosed asthma severity and control were associated with quality of life in univariate, but not multivariate analysis. Multiple factors, several of which are not related to asthma, contribute to the family burden of having a child with asthma. Clinicians should be mindful of the impact of asthma on the child and the family, and consider exploring factors not directly related to childhood asthma.

Therefore, the past studies reveal that socio economic status has an influence over the attitude of the patient towards medication.

METHODOLOGY

Objective:

The main purpose behind the present research is to assess the impact of Socio Economic Status on the level of medication adherence among asthma patients.

Hypothesis:

There will be a significant impact of Socio Economic Status on the level of medication adherence among asthma patients.

Variables:

The study consisted of the following variables:

1. Asthma Patients
2. Drug Attitude Inventory
3. Socio Economic Status

Sample:

The sample size consisted of 100 Asthma patients taken from the OPD of Jaipur TB Hospital in the city of Jaipur, Rajasthan through the purposive sampling gathered on availability basis. The sample shall also be selected on the basis of inclusion and exclusion criteria of the study.

Research design:

The research design taken under the study shall consist of exploratory design.

Asthma Patients (N-100)



Will be measured on



Drug Attitude Scale



Will be further administered on



Socio Economic Status Scale

Tools employed:

1. Drug Attitude Inventory (Hogan *et al.*, 1983)
2. Social Economic Status (Pareek, 2017)

Inclusion criteria:

1. Patient given a definite diagnosis by the Doctor shall be included under the study.
2. Patient taking treatment for more than one year and up to two years shall be taken under study.
3. Informed consent.

Exclusion criteria:

1. Patients having any other comorbidity shall be excluded.
2. Patients having any organic disorder shall be excluded.
3. Patients refuse to co-operate shall be excluded.

Procedure:

The patient was administered on Drug Attitude Inventory (Hogan *et al.*, 1983) and then the Social Economic Status Scale (Pareek, 2017) was conducted on them. Proper rapport building was done. All the requisites were made available to the patient. Consent and cooperation of the patients was ensured. After administration the tests, the data was collected and scoring was done according to the respective manual of the test. Scores were tabulated, result tables were formed and interpretation of the findings was done.

Statistical analysis:

Relevant statistical tools such as percentage and frequency were applied to the data obtained as per the requirement.

RESULTS AND DISCUSSION

The main purpose behind the present research is to assess the impact of Socio Economic Status on the level of medication adherence among asthma patients. The sample size consisted of 100 Asthma patients taken from the OPD of Jaipur TB Hospital in the city of Jaipur, Rajasthan. The patient was administered on Drug Attitude Inventory (Hogan *et al.*, 1983) and then the Social Economic Status Scale (Pareek, 2017) was conducted on them. Consent and cooperation of the patients was ensured. After administration the tests, the data was collected and scoring was done according to the respective manual of the test. Scores were tabulated, result tables were formed and interpretation of the findings was done.

It may be seen from the table that among the asthma patients belonging to upper class Socio Economic Status (SES) 75% of the patients were found adherent towards the medications prescribed to them. In the upper middle class category of SES, it was seen that 55.5% of the asthma patients were adherent, whereas 44.4 % of them were non-adherent to the drugs. Majority of Middle class asthma patients were also observed to have developed adherence towards drugs, but 46.8% were still non-adherent.

When the prevalence of drug adherence of lower middle class and lower class category of Socio Economic Status (SES) was taken into account, it was seen among the asthma patients belonging to lower middle class SES

Table 1 : Showing the number of asthma patients having drug adherence and non-adherences belonging to a particular SES Category

Sr. No.	SES Category	N	DAI Category	Frequency	Percentage
1.	Upper class	8	Adherent	6	75
			Non- Adherent	2	25
2.	Upper middle class	27	Adherent	15	55.5
			Non- Adherent	12	44.4
3.	Middle class	32	Adherent	17	53.1
			Non- Adherent	15	46.8
4.	Lower middle class	19	Adherent	6	31.5
			Non- Adherent	13	68.4
5.	Lower class	14	Adherent	3	21.4
			Non- Adherent	11	78.5

that 68.4% were non-adherent to the medications given to them. Similarly, in the case of lower class, 78.5% were non-adherent to asthmatic drugs.

A similar study conducted by Horne *et al.* (2002) which was designed to evaluate the degree to which variations in reported adherence to preventer medication for asthma could be explained by two sets of beliefs: perceptions of asthma and perceptions of asthma medication (beliefs about its necessity and concerns over its use). It also begins the empirical testing of an extended self-regulatory model, which includes treatment beliefs as well as illness perceptions. Using a cross-sectional design, 100 community-based patients completed validated questionnaires assessing their perceptions of asthma, beliefs about preventer inhalers and reported adherence to them. The findings showed that non-adherent behaviors were associated with doubts about the necessity of medication and concerns about its potential adverse effects and with the socio economic status and with more negative perceived consequences of illness. The findings lend preliminary support for an extended self-regulatory model of treatment adherence, which incorporates financial aid, beliefs about treatment as well as illness perceptions.

Therefore, it may be said that, most of the patients suffering from asthma who belonged to lower middle and lower class found it difficult to remain adhere to the treatment prescribed to them for a longer duration of time. Due to their Socio economic condition, they tend to miss the course of treatment which may lead to the development of resistance towards the disease.

Conclusion:

It may be concluded from the findings that socio economic status is one of the major factors influencing drug non-adherence among the patients undergoing prolonged treatment.

Limitations:

1. Sample size is small, so the data cannot be generalized.

2. Data was only collected form one hospital.
3. Selected variables were analyzed.

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