

Health-Related Quality of Life in Patients with Asthma, Survey based Study in Karachi, Pakistan

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Abstract

Background: Asthma is a chronic inflammatory disorder of the airways, usually associated with airway hyper-responsiveness and variable airflow obstruction, that is often reversible spontaneously or under treatment. Chronic respiratory diseases account for four million deaths annually. Allergen sensitization is an important risk factor for asthma. Asthma is often associated with rhinitis, an inflammation of the nasal mucosa. Asthma causes recurring periods of wheezing, chest tightness, shortness of breath, and coughing. The burden of preventable chronic respiratory diseases has major adverse effects on the quality of life and disability of affected individuals. Effective management plans have been shown to reduce the morbidity and mortality caused by chronic respiratory diseases. Prevention and management plans concerning chronic respiratory diseases are fragmented and need to be coordinated.

Objective: Our study aims to find out the current Health-Related Quality Of Life in Patients with Asthma in Karachi, Pakistan.

Methodology: A cross-sectional and random sampling method was used for the collection of data from asthmatic patients belongs to different age groups, genders and occupation in the months of January 2016 to April 2016 in Karachi, Pakistan.

Result: According to the results of our survey, 68.75% were male, 56.25% were unmarried and 68.75% have active wheezing chest. 68.75% asthmatic patients take their medications regularly, 81.25% patients' gets comfort from asthma device while 34% patients experience side effects for asthma medication. 44% of asthmatic patients are also suffering from comorbid condition.

Conclusion: Asthma is chiefly affecting the quality of life and disability of its victims. Least amount of medicines should be taken to treat and avoidance of risk factors is must to keep the patient symptom-free.

Keywords: Asthma; Chronic inflammatory disorder; Airways; Rhinitis; Quality of life

Introduction

Asthma stands a chronic inflammatory disorder of the airways, usually associated with airway hyper-responsiveness and variable airflow obstruction [1]. Asthma is a heterogeneous group of conditions that result in recurrent, reversible bronchial obstruction [2]. Allergen sensitization is an important risk factor for asthma. Asthma is often associated with rhinitis, an inflammation of the nasal mucosa [3]. Asthma affects both children and adults. Trends in asthma prevalence diverge between countries. For the previous 40 years, the prevalence of asthma has increased in all countries in corresponding with allergy. Asthma is still amassed worldwide as communities adopt modern lifestyles and become urbanized [4-6]. Asthma is often severe in poor people and minorities [7]. Asthma impairs school and work performance and social life [8]. Physical quality of life is impaired by bronchial symptoms, while social life is correspondingly diminished by rhinitis co-morbidity [9]. The encumbrance of asthma assessed by disability-adjusted life years (DALYs), which statuses 22 worldwide, is analogous to that of further chronic diseases such as diabetes or Alzheimer disease. The economic cost of asthma is significant both in relations of direct medical costs (such as hospital admissions and the cost of pharmaceuticals) and indirect medical costs (for instance time lost from work and premature death) [10,11]. The costs of asthma are high in severe or uncontrolled asthma [12]. Prenatal risk factors for asthma may include maternal smoking, diet and nutrition, use of antibiotics, stress and delivery by cesarean section. Childhood risk

factors for asthma may include allergic sensitization, environmental tobacco smoke, breastfeeding, exposure to animals, decreased lung function in infancy, family size and structure, antibiotics and infections, socio-economic status, and sex and gender. Occupational exposures constitute a common risk factor for adult asthma [13]. The primary goal of asthma management is to achieve and maintain control of the disease with the intention of thwart exacerbations (rapid and/or liberal worsening of asthma symptoms that often require immediate medical consideration and/or the consumption of oral steroid therapy) and reduce the risk of morbidity and mortality. The level of asthma control should be evaluated at each visit by means of the following criteria:

- No exacerbations
- Fewer than 3 doses per week of a rapid-acting beta2-agonist bronchodilator
- Daytime symptoms <3 days per week

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- No nighttime symptoms
- Regular physical activity
- No absenteeism commencing work or school
- FEV₁ (forced expiratory volume in 1 second) or PEF (*peak expiratory flow*) at least 90% of personal best [14].

Treatment should be tailored to achieve control. In most asthma patients, control can be attained over and done with the practice of both avoidance measures and pharmacological interventions. The pharmacologic agents frequently intended for the treatment of asthma can be classified as controllers (medications taken daily on a long-term basis that succeed control first and foremost through anti-inflammatory effects) and relievers (medications prescribed on an as-needed basis for rapid release of bronchoconstriction and symptoms). Controller medications comprise ICSs, leukotriene receptor antagonists (LTRAs), long-acting beta₂-agonists (LABAs) in combination with an ICS, and anti-IgE therapy. Reliever medications contain rapid-acting inhaled beta₂-agonists and inhaled anti-cholinergics [15-17]. Allergen-specific immunotherapy might besides be well-thought-out in most patients with allergic asthma, but must be prescribed by physicians who are adequately trained in the treatment of allergies [18,19]. Systemic corticosteroid therapy may also be required for the management of acute asthma exacerbations. Bronchial asthma is a major health problem in Pakistan and there is a substantial variation surrounded by General Practitioners in mutually their knowledge and management practices, including the assessment of severity of asthma, monitoring of the asthmatic patients as well as the use of proper medications. There is a need for improving the performance of General Practitioners about asthma management [20]. Asthmatic patients are usually maintained with inhaled corticosteroids on the other hand if symptoms are appearing we requisite to manage asthma through add on therapy either with LABA or leukotriene receptor antagonist [21].

Many of the deaths are preventable. In many areas of the world, people with asthma do not have access to basic asthma medications and health care [22]. The countries with the highest death rates are those in which controller therapy is not available. In numerous countries, deaths in arrears to asthma ought to decline recently as a result of better asthma management [23]. The hospitalization of patients through asthma is one more ration of asthma severity, but data cannot be obtained in most low and middle income countries [24]. In countries or regions where asthma management plans have been implemented, hospitalization rates have decreased [23-25].

Methodology

For the collection of data, we visited different public and private sector hospitals, tertiary health care systems, clinics and OPDs of the Karachi city from January 2016 to April 2016. Random and crossed sectional methods were used to collect data from asthmatic patients belonging to different age groups and genders. Data of 160 asthmatic patients was collected for analysis (n=160). A specially designed questionnaire was used and in depth patient interviews were performed with patients for data collection. We have statistically analyzed our result and plotted graphs to conclude the result.

Results

A total of 160 patients were interviewed for data collection. Among them, 68.75% were male, 56.25% were unmarried and 68.75% have active wheezing chest. Table 1 provides detailed socio-demographic characteristics of study participants. Table 2 provides details about

habits and routine life of study participants. Table 3 provides details about the side effects of asthmatic medications in study participants. Table 4 provides details about the comorbidities from which the asthmatic patients are suffering.

Discussion

Asthma is a chronic (long-term) lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing, chest tightness, shortness of breath, and coughing. The coughing often occurs at night or early in the morning. There is no cure for asthma, but the good news is it can be managed and treated so the patient can live a normal, healthy life. Initially in subsequent survey we checked the socio-demographics of study participants. In our survey, 68.75% male asthma patient and 31.25 female asthma patients have participated actively. In this population, patients belonging to different age groups were studied. 18.75% participants were belong to the age group of

Gender	N	%
Male	110	68.75
Female	50	31.25
Age (years)		
<5	30	18.75
6-18	30	18.75
18-30	40	25
31-45	10	6.25
46-60	40	25
>60	10	6.25
Marital Status		
Married	50	31.25
Unmarried	90	56.25
Widow	20	12.5
Occupation		
Unemployed	120	75
Employed	40	25
Wheezing Chest		
Yes	110	68.75
No	50	31.25

Table 1: Socio-demographics of the study participants (N=160).

Smoking Habits	N	%
Yes	10	6.25
No	140	87.5
Occasionally	10	6.25
Family History of Asthma		
Yes	110	68.75
No	50	31.25
Medication		
Regularly	110	68.75
No	10	6.25
Occasionally	40	25
Comfort with Asthma Device		
Yes	130	81.25
No	30	18.75
Last Asthma Control		
Not Controlled	20	12.5
Slightly Controlled	50	31.25
Well Controlled	90	56.25

Table 2: Habits and routine life of asthmatic patient.

Sleeping	N	%
Never	60	37.5
Sometimes	50	31.25
Always	50	31.25
Shakiness		
Never	100	62.5
Sometimes	10	6.25
Always	50	31.25
Rapid Heart Beat		
Never	60	37.5
Sometimes	30	18.75
Always	70	43.75
Headache		
Never	70	43.75
Sometimes	30	18.75
Always	60	37.5
Moodiness		
Never	50	31.25
Sometimes	40	25
Always	70	43.75
Hoarseness		
Never	80	50
Sometimes	50	31.25
Always	30	18.75

Table 3: Side effects of asthma medication.

Comorbidities	N	%
No	90	56.25
Bronchitis	10	6.25
Depression	40	25
Hypertension	20	12.5

Table 4: Details about the comorbidities from which the asthmatic patients are suffering.

less than 5 years, 18.75% participants were lay in the age group of 6 to 18 years. 25% participants were belong to the age group of 18-30 years, 6.25% participants were lay in the age group of 31 to 45 years. 25% participants were belong to the age group of 46-60 years, 6.25% participants were lay in the age group of greater than 60 years. In our survey, 31.25% participants were married while 56.25% participants were single (unmarried), whereas other 12.5% were widow/widower. In the survey, 75% was reliant on his/her family while other 25% were self-dependent. At the time of survey/interview, 68.75% have complaint of active wheezing chest while other 31.25% has no such complain Figure 1.

Then in the subsequent survey, we asked our participants about their habits and routine life with asthma. 6.25% asthmatic patients smoke regularly while 6.25% participants smoke occasionally, whereas 87.5% participants have no such habit to smoke 68.75% asthmatic patients have family history of asthma while 31.25% patients have no as such family history. In the survey, when we asked about medication routine of asthmatic patient, we concluded that 68.75% take their medications regularly, while 25% patients take their medications occasionally, as and when needed due to asthma attack, whereas 6.25% patients never take their medications. Further we asked about the comfort from the asthma device to asthma patient, we checked that 81.25% patients gets comfort from asthma device while other 18.75% patients doesn't get relief by asthma device in active condition. More, we asked our participants about the asthma control during last four weeks. We find 12.5% have uncontrolled asthma during previous four weeks while 31.25% patients have slightly controlled asthma whereas 56.25% have well controlled asthma in last four weeks Figure 2.

Moreover in the consequent survey, we asked our participants about their experience about side effects from asthmatic medications. The common side effects experienced by asthmatic patient by their medication/therapy are sleeping, shakiness, rapid heartbeat, headache, Moodiness and Hoarseness. In these side effects, 31.25% patients experience sleeping, 31.25% participants feel shakiness, 43.75%

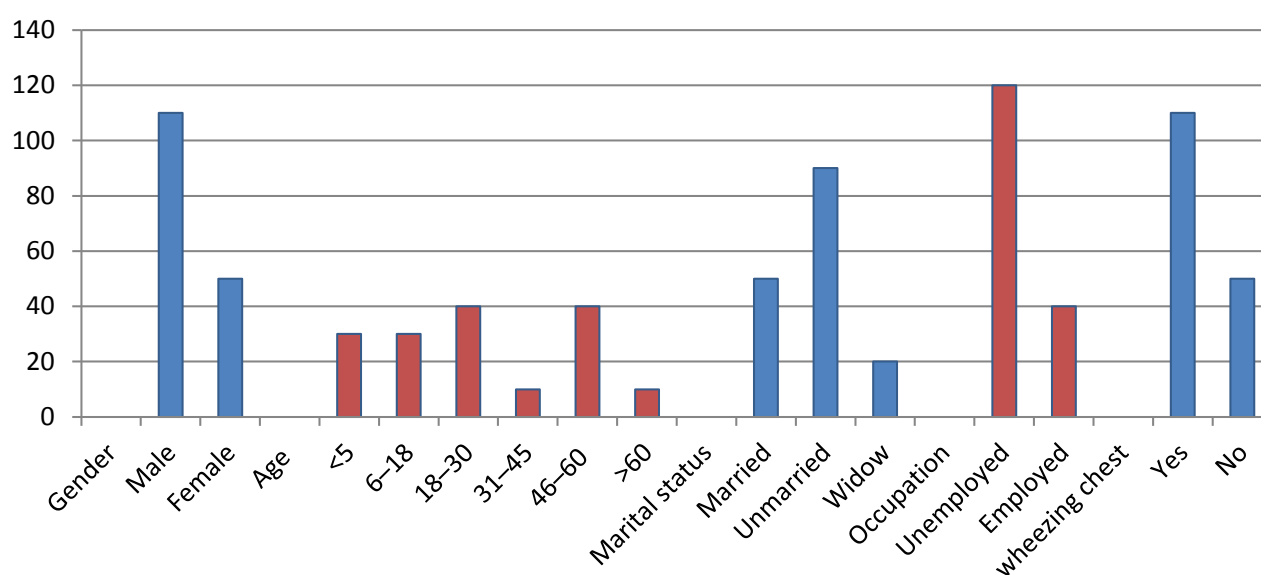


Figure 1: Socio-demographics of the study participants.

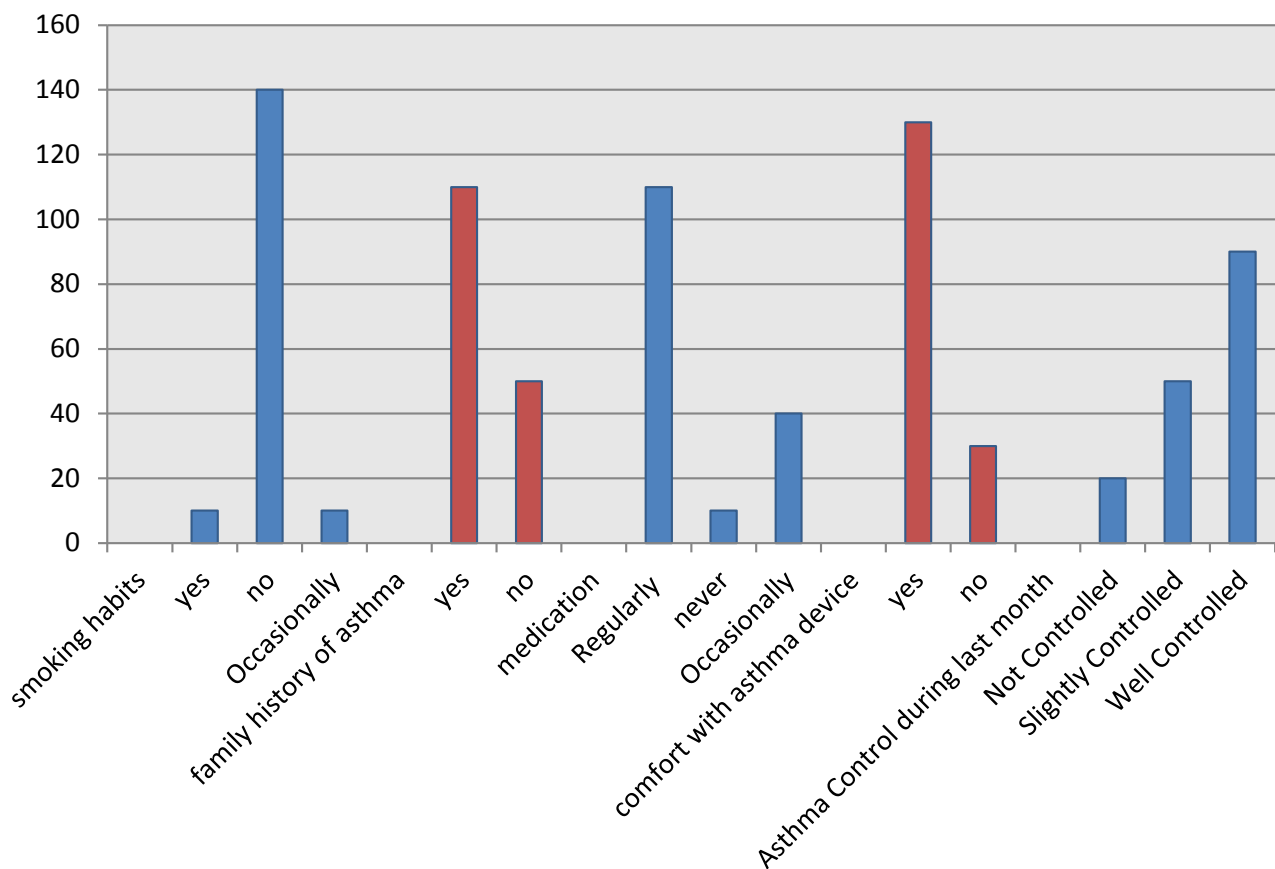


Figure 2: Habits and routine life of asthmatic patient.

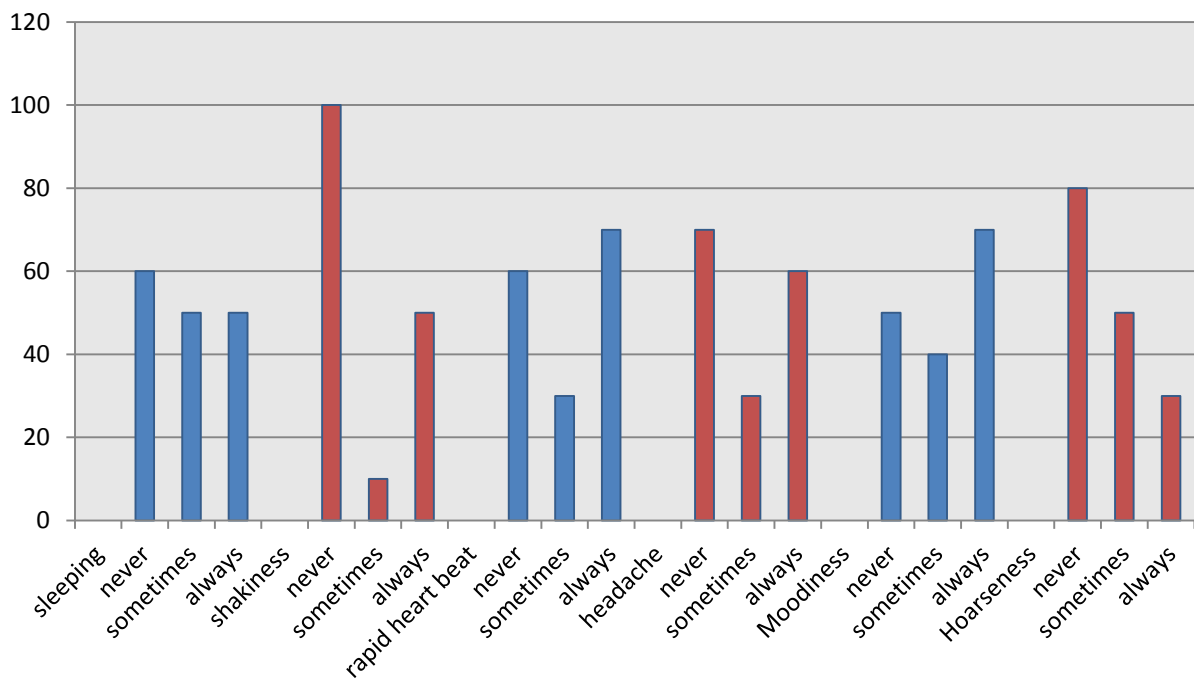


Figure 3: Side effects of asthma medication.

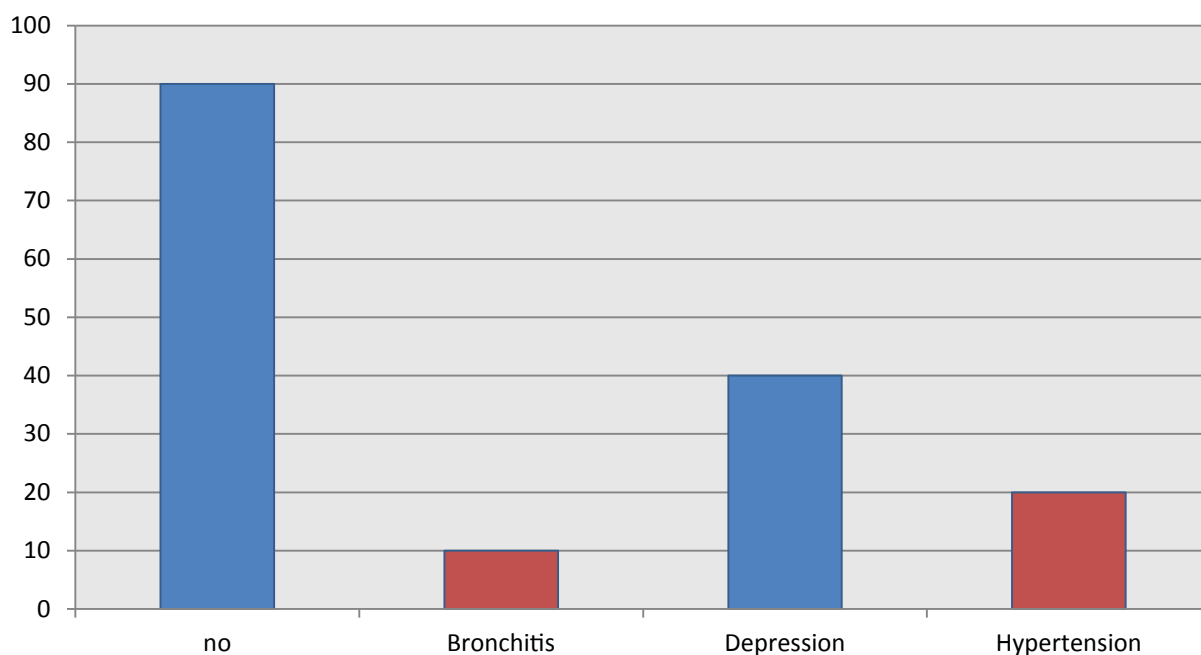


Figure 4: Comorbidities with asthma.

patients experience rapid heartbeat, 37.5% participants feel headache, 43.75% patients experience Moodiness and 18.75% participants suffers from Hoarseness permanently. While 37.5% patients never experience sleeping, 62.5% participants never feel shakiness, 37.5% patients never experience rapid heartbeat, 43.75% participants never feel headache, 31.25% patients never experience Moodiness and 50% participants never suffers from Hoarseness after the anti-asthmatic medication therapy Figure 3.

Furthermore in the same survey, we asked the asthmatic patients about their comorbid conditions. 56.25% of asthmatic patients have no any comorbid condition or any other disease. 25% asthmatic patients are suffering from depression too. 12.5% participants also have hypertension with asthma, while 6.25% patients have bronchitis Figure 4.

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