

Original Research Article

Assessment of health related quality of life of asthma patients in a tertiary care teaching hospital

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ABSTRACT

Background: The present study is planned to assess the health related quality of life (HRQoL) in asthma patients by using HRQoL questionnaire (SF-36 v2).

Methods: A prospective observational study was conducted for a period of 6 months (September 2017 to February 2018) in Navodaya Medical College Hospital and Research Centre, Raichur on a total of 108 patients of either sex suffering from persistent asthma. The HRQoL of asthma patients was measured by face-to-face interview using HRQoL questionnaire (SF-36v2).

Results: Female patients were found to be more affected with asthma compared to male patients and the prevalence of asthma is found to be more in the middle aged and elderly patients compared to adults. The important triggering factors for the asthma were found to be exposure to dust, smoking, alcohol and cooking fuel. The mean physical component summary (PCS) scores is 47.46 (± 15.56) and the mean mental component summary (MCS) scores is 66.73 (± 13.59). The findings of our study reveals that the physical HRQoL is more affected compared to mental HRQoL as revealed by PCS and MCS scores.

Conclusions: The findings of our study conclusively suggest that the physical HRQoL is more affected than mental HRQoL in asthma patients and also the need to improve the quality of life in these patients by appropriate patient education regarding the triggering factors of asthma, preventive measures and the medication adherence.

Keywords: Asthma, Health related quality of life, SF-36 v2, Physical component score, Mental component score

INTRODUCTION

Asthma is a chronic disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person.¹ It is a disease of increasing prevalence that is a result of genetic predisposition and environmental interactions; it is one of the most common chronic diseases of childhood. According to the latest report of the Global Initiative for Asthma (GINA), about 334 million people in the world have asthma.² Quality of life (QoL) is a subjective and multidimensional index of well-being from a patient's point of view. It is defined as physical, emotional, social,

mental well-being and development, activity functional ability.³ Quality of life is a subjective concept based on an individual's perception of the impact that events and experiences have on his or her life. It encompasses the individual's satisfaction or happiness with their life in key areas or domains that are important to the individual.⁴

Health-related quality of life refers to the component of overall quality of life that is determined primarily by health status and focuses on the physical, psychological and social core domains. Measuring HRQoL has a role in describing health outcomes guiding and assessing clinical management, predicting health outcomes, formulating

clinical policy and allocating health resources. Asthma affects various aspects of life, including lifestyle, well-being, health, personal satisfaction, occupation and education.^{3,5} Asthma symptoms significantly predicted in asthmatics and poor asthma control and frequent exacerbations have also been shown to be related to a decreased HRQoL.

Traditional measures of disease impact such as prevalence, mortality and hospitalization rates are of limited use in understanding the extent of the impact of the disease on the individual's quality of life. Hence, the present study was conducted to estimate the HRQoL in asthma patients.

METHODS

The study was carried out for a period of 6 months from September 2017 to February 2018 after the approval from Institutional Ethics Committee of Navodaya Medical College Hospital and Research Center, Raichur.

Type of the study: Prospective observational study

Sample size: 108

Data collection: Using health related quality of life questionnaire (SF-36v2).

Inclusion criteria

Inclusion criteria were physicians diagnosed in-patients and out-patients with asthma in pulmonary & general medicine departments; patients of age group between 18-65 years of either sex undergoing anti-asthmatic treatment.

Exclusion criteria

Exclusion criteria were pregnant and lactating women; patients with severe chronic obstructive pulmonary disease or with h/o severe respiratory tract infection were excluded from the study; patients with h/o chronic rhinosinusitis, gastroesophageal reflux, recurrent viral lower respiratory tract infections, TB, chronic bronchitis or emphysema were also excluded from the study.

The study was carried out in general medicine and pulmonary medicine departments of Navodaya Medical College Hospital and Research Centre, Raichur - a 1000 bedded multi-specialty tertiary care teaching hospital after the approval from the Institutional Ethics Committee. A pilot study was carried out for a period of four weeks in the department of pulmonary medicine and general medicine to find the scope of the study in this department. The consent from the hospital authority was obtained during this phase. Literature which supports our study were also collected and reviewed for study of HRQoL in asthma patients.

Data collection

The study was planned with a total number of 108 patients to obtain information on Asthma. Informed consent was obtained from each patient after explaining the purpose of study. A data entry format for incorporating in-patient/ out-patient details which contains Information on name and address of subject, gender, age, occupational status, economic profile, social habits, laboratory investigations, drug chart and length of hospital stay were collected. Only those patients who satisfied the inclusion criteria were included in the study.

Short form 36 (SF 36v2)

HRQoL of all the patients were analysed and interpreted by SF-36v2.

The SF-36v2 has eight scales that gauge eight domains of HRQoL: physical functioning (PF, 10 items), role physical (RP, 4 items), role-emotion (RE, 3 items), bodily pain (BP, 2 items), vitality (VT, 4 items), social functioning (SF, 2 items), general health (GH, 6 items) and mental health (MH, 5 items). Eight health domains are further summarized into two; physical component summary (PCS) and mental component summary (MCS). The PF, RP, GH and BP scales strongly correlate with PCS, while the MH, RE, VT and SF scales strongly correlate with MCS. The SF-36v2 has become one of the most widely used health related quality of life measures.

Data evaluation

The scores obtained from the generic SF 36v2 to assess the HRQoL were analysed with the help of Microsoft excel.

RESULTS

Gender distribution

The present study was carried out for a period of six months. During this period, a total of 108 patients were included (both in-patients and out-patients) and it was observed that about 68 patients were female and 40 were males.

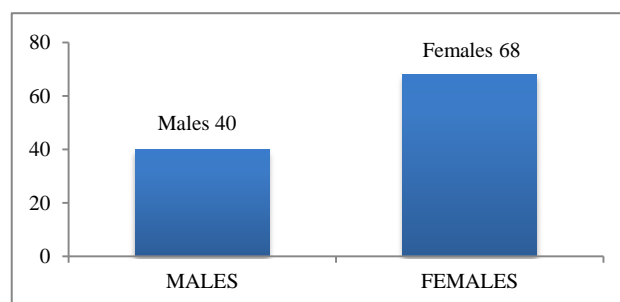


Figure 1: Gender wise distribution in the asthma patients (n=108).

Age distribution of patients

Figure 2 shows the age distribution of patients. Among 108 patients, 37.96% patients were in the age group of 40-50 years followed by the age groups of 50-60 years (25%), 30-40 years (17.59%), 20-30 years (12.03%) and the least were observed in the age group of 60-70 years (7.4%).

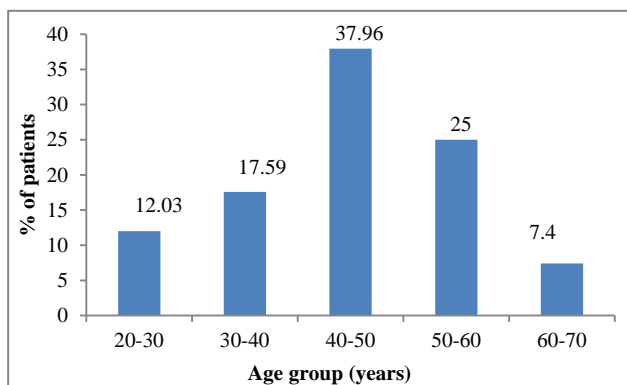


Figure 2: Age wise distribution in asthma patients (n=108).

Assessment of HRQoL using SF 36v2

The scorings are done between the two extremes 0 and 100, with zero indicating the lowest HRQoL and 100 indicates the better HRQoL. The SF 36v2 consists of 36 questions divided into 8 domains namely - Physical Function (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE) and Mental Health (MH). Out of 108 patients, all the patients were answered to all questions in 8 domains and found out that the least scoring was found in general health and highest score was for role emotional.

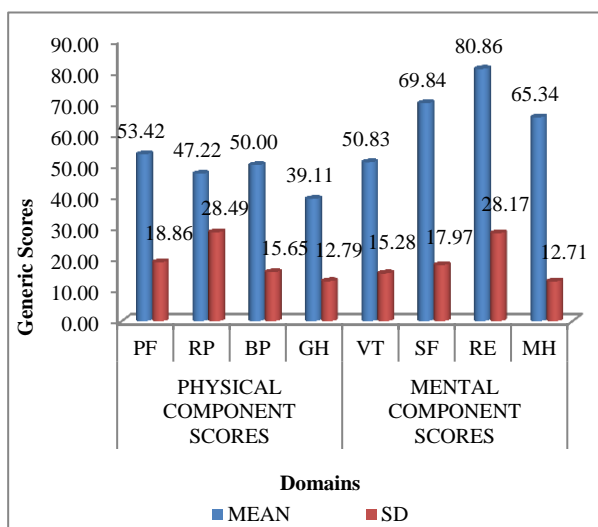


Figure 3: Scorings of generic HRQoL in asthma patients as per SF 36v2.

Comparison of PCS and MCS for SF 36v2

All the scores of 8 domains are aggregated to get the physical component summary (PCS) and mental component summary (MCS). PCS consist of PF, RP, BP and GH whereas MCS consist of VT, SF, RE and MH. The PCS and MCS scores are compared to assess the HRQoL. From our study it was found that PCS score (47.43) is lesser than that of MCS score (66.71).

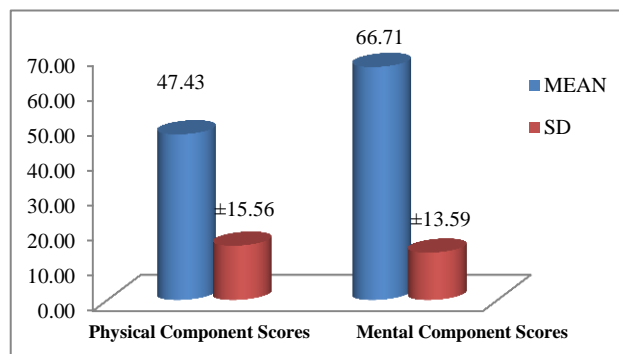


Figure 4: Comparison of PCS and MCS for SF 36v2.

DISCUSSION

Asthma is a term used to refer to a disorder of the respiratory system that leads to episodic difficulty in breathing.⁶ On-going patient education, for a partnership in asthma care, is essential for optimal patient outcomes and includes trigger avoidance and self-management techniques.⁷ Asthma may influence sleep ability to work and job performance, socialization, participation in sports, and a host of other activities.^{4,8} In recent years health-related quality of life has become an important outcome, since the influence of the disease on everyday living is an important factor for the patients and assessment of health-related quality of life is essential to assess the self-perceived impact of physical and mental impairment on patient's health.² Quality of life (QoL) is a subjective and multidimensional index of well-being from a patient's point of view. It is defined as physical, emotional, social, mental well-being and development, activity functional ability.³ Hence, in light of the above, the present study was undertaken to assess the health related quality of life in asthma patients in a tertiary care teaching hospital.

Patient's demographics

Patients demographics revealed that the prevalence of asthma was more in female patients (n=68) compared to male patients (n=40) and more in the middle aged, elderly patients compared to adults. Occupational status of the patients indicated that, 46 patients were housewives, 31 patients were involved in agriculture, 23 patients are working in the industry and 8 patients are students. A study conducted by Blanc et al showed that asthma has a potential relationship with the occupation of a patient and

also found that job exposures are associated with increased risk of asthma onset or exacerbating pre-existing asthma frequently.⁹ The gender and age distribution of the asthma patients is depicted in the Fig 1 and 2 respectively.

Triggering factors

The important triggering factors for the asthma were found to be exposure to dust, smoking, alcohol consumption and cooking fuel. Most of the male patients suffering from asthma were alcoholics and however, all the female asthmatic patients are non-alcoholic. Our results are in accordance with Vally et al who found that, alcoholic drink is an important trigger for the asthma and the consumption of alcohol in persistent asthmatics worsens the symptoms.¹⁰

Among the study population, most of them were smokers. Our results corroborates well with the studies of Thomson et al who conducted a study on asthma and cigarette smoking.¹¹ They concluded that, smoking increases the inflammation of airways and decrease the corticosteroids effect, thereby worsening the condition of asthma.

Most of the patients were using firewood which could be a factor responsible for the occurrence of asthma. Further, Ng et al in their study on effect of cooking gas on asthma found that exposure to the cooking gas for a limited period will limit the air flow and also repeated exposure leads to increase use of bronchodilators.¹² It was found that females were more addicted to tobacco consumption than males. However, no studies have been reported that correlates tobacco chewing and the asthma.

Sleep pattern

The sleep pattern of asthma patients will be altered due to the symptoms. People with asthma often suffer from night time coughing, wheezing and breathlessness that disturb their sleep.^{13,14} The study of the sleep patterns among the patients revealed that most of them were having disturbed and decreased sleep.

Assessment of generic SF36V2

The assessment of disease outcomes based on HRQoL score is an important concern, particularly for chronic non-communicable diseases like asthma. Short form 36v2 (SF-36v2) is a tool to assess the generic HRQoL. The scorings are done between the two extremes 0 and 100, with zero indicating the lowest HRQoL and 100 indicates the better HRQoL. The PCS is calculated in order to measure the overall assessment of physical health which include both functioning and evaluation of one's ability to perform physical activity whereas the MCS is calculated to assess the psychological distress and well-being, social and role functioning and overall vitality.

The mean of PCS and MCS of the individuals with asthma were 47.43 (SD±15.56) and 66.71 (SD±13.59) respectively. The findings of our study reveals that the physical HRQoL is more affected compared to mental HRQoL as revealed by PCS and MCS scores. The results of our study on HRQoL of asthma corroborates well with the findings of Siruox et al who also showed that PCS score are more affected than the MCS scores in the asthma patients.¹⁵ The individual domains of SF-36v2 is depicted in Figure 3. The PCS and MCS scores and its comparison shown in Figure 4.

CONCLUSION

Female patients were found to be more affected with asthma and the prevalence of asthma is more in the middle aged and elderly patients compared to adults. Exposure to dust, tobacco smoking and alcohol consumption were found to be major risk factor for the asthma in study population. The present study reveals that, the HRQoL especially the physical HRQoL is more affected compared to mental HRQoL. The findings of our study conclusively suggest the need to improve the HRQoL in asthma patients by the appropriate patient education regarding the triggering factors of asthma and the preventive measures.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee, Navodaya Medical College Hospital and Research Centre, Raichur

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