



## Demographic Characteristics And Quality Of Life Of Asthma Patients

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### ABSTRACT

The measurement of quality of life among asthma patients is increasingly quoted as an important landmark in measuring the burden associated with this chronic disease. The aim of the study was to identify demographic characteristics of asthma patients as well as to describe their quality of life. Forty asthma patients consulted by two pulmonologists from a selected taluk of Kerala were used to describe the variables of interest. Demographic questionnaire and a standardised asthma quality of life questionnaire prepared by Juniper et al was used to meet the objectives. Among 40 patients, 77.5% had moderate quality of life and the remaining had poor quality of life. Except in emotional domain, females had better quality of life than males in every domain. Place of residence, duration of asthma and history of allergy have a significant association with quality of life of patients.

**KEYWORDS** : Asthma, demographic characteristics, quality of life

### Introduction

Asthma is a chronic health problem affecting the lives of more than 300 million people around the world<sup>1</sup>. The World Health Organization's (WHO) fact sheet indicates that there are 15-20 million asthmatics in India<sup>2</sup> and Kerala stands third in India with a prevalence among females of 4.04 % and with asthma prevalence among males of 2.98%.<sup>3</sup> Asthma is a disease which badly influences the quality of life of patients, but the demographic features of this disease shows different international and national trends. Reason for this variation is due to interplay of biological, psychological and social factors responsible for the disease and its exacerbation.<sup>4</sup> The modifiable demographic factors need to be identified in order to improve the quality of life of patients suffering from chronic diseases. The objectives of this study were to describe demographic characteristics and quality of life of patients with asthma and to identify the associated factors responsible for quality of life of asthma patients.

### Materials and Methods

Forty patients between the age group of 20-60 years, residing in Thodupuzha Taluk of Kerala, who had at least 5 hospital contacts for last 3 months as per the hospital register maintained in the respiratory physician's office were randomly recruited for the study. A descriptive survey design was used to meet the objectives of the study. Major tools used for this study include a researcher made demographic questionnaire and a standardised asthma quality of life questionnaire (AQLQ) which was developed by Juniper et al. AQLQ is a disease specific 32 itemed 7 point questionnaire to measure the functional problems of asthmatics from the age of 17-70 years in their domain of activity limitation, symptom, emotional function and environmental stimuli.

Data collected from February 2017 to April 2017 were used in this study to determine quality of life of patients from the selected taluk. During the planned home visit the eligible participants were instructed about the method of completing the demographic and quality of life questionnaire. There were 33 items in the demographic semi structured questionnaire which covers personal and asthma related questions. Malayalam (regional language) version of standardised 32 itemed asthma quality of life questionnaire was used to assess the quality of life of asthma patients. The developers of this questionnaire provided specific instruction about scoring and interpretation of the tool. For scoring and interpretation of AQLQ, individual items are equally weighed. The overall AQLQ score is the mean of the responses to each of the 32 questions. The resultant score is between 1 and 7. The domains are analysed in exactly the same way. Each item in the domain responses are added and divided by the number of items in the

domain so that resultant score of a domain with four items as well as with eleven items will both be between 1 and 7.

The highest score in AQLQ is seven and the lowest score is one. The interpretation of the scores in AQLQ is given below

Score of 7: Maximum quality of life  
Score of 4-6: Moderate quality of life  
Score of less than 4: lower quality of life

The data were analysed using descriptive statistics and the inferential statistics like chi square test.

### Results

#### Demographic characteristics

Among 40 patients selected for the study, 29 (72.5%) were females with mean age of 43.31 and 11 (27.5%) were males with mean age of 54 years. Fifty percentage of the sample were Christian and the remaining percentages were equally shared by Hindus and Muslims. In relation to residence 70% were from urban area and 55 % of the subjects had education above 10th standard. Seventy percentages of patients has family history of asthma where 87.5 % reported of atopy. Table:1 shows common allergens among asthma patients

**Table :1 Common triggers among asthma patients.**

Trigger	Percentage (n=40)
Dust	95
Smoke	90
Weather changes	67.5
Stress	65
Strong smell	57.5
Infection	47.5
Special foods	45

Fifty five percentages of the patients were first born child in their family where as birth order of 25% patients were fourth or higher. Liquefied petroleum gas was the only cooking fuel for 35% of patients' family and in the remaining families, wood was used as either alone or in combination as a cooking fuel. Frequent common cold was present in 37.5% of the patients where as frequent sneezing was present in 65% of the subjects.

#### Quality of life

Total quality of life varied from 2.84 to 6.22 (total =7), with a mean score of 4.51 and domain score of 4.51, 4.47, 4.51 and 4.62 for activity limitation, symptom, emotional functional and environmental stimuli domain respectively. The least (1.25) and the highest score

(6.5) was found to be in environmental domain. Males had a mean quality of life score (MQOL) of 4.39 where as that of female score was 4.56. The total and domain score for selected variables are listed below

**Table 2: Total & Domain Score for selected variables.**

Variable	n	Mean QOL				
		Total	Activity Limitation	Symptom	Emotional	Environmental
Sample	40	4.51	4.47	4.51	4.62	4.5
Males	11	4.39	4.40	4.32	4.63	4.25
Females	29	4.56	4.49	4.58	4.61	4.59
Urban	28	4.78	4.64	4.82	4.96	4.82
Rural	12	3.8	4.06	3.8	3.81	3.75
Family income less than 10000	9	4.01	4	3.98	4.11	4.05
Smoker at Home	8	4.08	4.23	4.22	3.82	3.56

Among 40 patients 31 (77.5%) had moderate quality of life and remaining had lower quality of life.

**Inferential information**

Association between demographic variables and quality of life Chi square test was used to find out the association of selected demographic variables such as gender, educational status, place of residence, duration of asthma, family history of asthma and history of allergy with total quality of life. The level of significance was set at 0.05.

**Table 3: Association of demographic variables with quality of life.**

Variable	P value	Inference
Gender	0.523	Not significant
Place of residence	0.012	Significant
Education status	0.551	Not significant
Duration of asthma	0.047	Significant
Family history of asthma	0.704	Not significant
History of allergy	0.039	Significant

**Discussion**

Asthma is one of the chronic diseases that cause significant reduction in quality of life due to its characteristic respiratory syndrome. Worldwide epidemiological studies showed asthma incidence, prevalence and severity were higher among adult women than that of men. In this study majority of the patients were female (72.5%) and this result is congruent with a study conducted at Bangalore to identify the role of gender in the prevalence of asthma and it was 54.3% among female in an asthmatic population of 18-70 years. 5 One of the important reasons for increased prevalence in favour of females in this study was the exclusion of smokers. National prevalence is also in favour of women.6 where as the prevalence of asthma among females the state of Kerala is almost double than that of males.2

In this study family history and history of atopy were found to be two important demographic characteristics for asthma patients and later has a significant association with quality of life of patients. An analytical study on 585 asthma patients residing in Mysore showed 64% of them have family history7 and a study among Finland population showed an Odds ratio for family history on asthma among males and females were 3.31 and 3.87 respectively.8

Study identified dust, smoke, weather changes, stress and strong smell as the major triggers for asthma exacerbation. A survey on Keralite asthmatic children showed dust (71%), weather (43%), smoke (94%), strong smell (56%), food allergy (26%) and stress (16%) as the major trigger for their asthma exacerbation.9 In this study the average mean quality of life was 4.51 and emotional function domain had maximum score and activity limitation had minimum score. Total quality of life of rural population was found to be lower

compared to other study variables. A study to assess quality of life of 85 asthmatics at Kempa Gowda Institute of Medical sciences showed their mean quality of life was 4.12; where as in domain means, emotional function (4.27) had the maximum score followed by activity limitation (4.18) and symptom domain had the least score (4.01).10 A Serbian study11 also support this findings where as in a US study12 environmental domain stimulus has maximum score.

Females had better quality of life score than males in all domains except in emotional domains. In most of the review females demonstrated lower quality of life compared to males. One of the reason for contradictory findings in this study might be due to younger female population compared to male counterparts (43.31 years Vs 54 years). The study showed a significant association between quality of life and demographic variables such as place of residence, duration of asthma and history of allergy where as no significant association was found between quality of life and attributable variable such as gender, education status and family history of asthma. A Spanish study on 2125 asthma patients identified a significant association of quality of life with education, place of residence, age and also with disease severity.13

**Conclusion**

Quality of life is a direct indicator in measuring the burden associated with asthma. Some of the modifiable and non modifiable risk factors have a substantial role in determining the quality of life of asthma patients. The identification of role of modifiable risk factors in determining quality of life of patients has a significant impact in reducing the burden associated with asthma. Small sample size was the major limitation for this study.

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**Conflict of interest**

Nil

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