



ORIGINAL RESEARCH ARTICLE

Quality of life in asthmatic patients

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Abstract: Asthma is a chronic respiratory disease which is a major health problem in many parts of the world. Chronic diseases are among the factors affecting the quality of life. Asthma is affected by a wide variety of factors which enhance or suppress the disease and ultimately influence the patient's quality of life. The objective of this paper is to determine the quality of life in asthmatic patients. This paper is a descriptive-analytical study. The subjects were 120 asthmatic patients referring to Imam Khomeini Hospital in Ahvaz and were selected by means of available sampling. The instrument used for gathering data was the questionnaire of the quality of life in asthmatic patients which has two sections; the first part is related to personal information and the second part is about the quality of life. In order to determine the validity of the questionnaire, content validity, and for reliability, Cronbach's alpha was used. After that the data were analyzed. Most of the subjects were male, married, retired, under insurance coverage and had university education. The results indicated that the majority of the subjects have had a good quality of life. There is a significant relationship between the quality of life and level of education ($p=0.025$), duration ($p=0.008$), living conditions ($p=0.013$), age ($p=0.011$) of the studied subjects. The results of the study show that asthma has negative effect on the patients' quality of life. It is better that care and treatment programs are planned and implemented so as to improve these patients' quality of life and they should be considered as patients' top care objectives.

Key Words: Quality of Life; Asthma; Hospital; Ahvaz

INTRODUCTION

Chronic pulmonary diseases are the most prevalent problems that cause morbidity and mortality in human societies. Among the chronic pulmonary diseases, asthma is one of the most common diseases [1]. The prevalence of Asthma has increased due to the urban lifestyle [2]. Asthma also is the most prevalent diseases in Iran. In terms of the number of patients with asthma, Iran is at the world average [3]. About 5-7% of Iranian population has asthma [1, 4]. According to estimation by the World Health Organization (WHO), 15 million disability-adjusted life years is attributable to asthma [5].

Asthma affects the patients' life, performance, group activities and social performance, mental function, and even economic development [6 - 8]. The majorities of people with asthma are facing with limitations in their life and have weaker health condition, compared to normal people [9]. Quality of life (QoL) refers to one's satisfaction with an area of life that is important to person [10]. The

relevant studies have shown that although QoL is defined similarly in different social groups, the severity of the disease is not physiologically felt equally [11].

Due to its chronic nature, there is a clear relationship between the severity of asthma and QoL, and also between asthma management and QoL in Such patients [12-13]. The QoL changes in chronic diseases, and as asthma is a prevalent chronic disease, investigation into the QoL of such patients is very important [14]. Asthma affects QoL and negligence in controlling asthma is associated with lower scores in QoL [15]. The quality of life should be taken as an important part of management of asthma [16].

In a study in Tehran, QoL of the patients with asthma has been investigated and it has been shown that QoL is the majority of the studied units have been poor and relatively satisfactory; therefore, more precise planning is required to treat them [1]. In a study in the USA on QoL of the patients with asthma and

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the factors affecting it, it has been concluded that there is a significant correlation between the effect of training and scores of QoL [17].

In another study, it has been drawn that training patients with asthma improves pulmonary performance and thus training programs should be taken as a part of normal health care services for asthmatic patients [18].

In a study in Hungary, it has been concluded that asthmatic patients who trained with more appropriate means have had better knowledge and living conditions, compared to untrained patients [16]. Other study has been found that QoL was low in investigated units [5].

It shows that the prevalence of uncontrolled asthma has been about 32% to 64%. Inappropriate asthma control causes increased number of patients and sometimes acute attacks. [15]

Maintaining a high QoL is an important factor in promoting the survival of patients with chronic diseases. Although the concept of QoL cannot be measured clinically and physiologically, it is measurable through investigating one's perception of the effect of the disease and clinical condition on different aspects of life. Such reasons as the prediction of disease's impacts, identification of the patients' needs, provision of healthcare services, and finally improvement of healthcare system make QoL assessment significant [18].

Researchers' experiences indicate that QoL in patients with asthma is not satisfactory; therefore, we aimed to determine different aspects (physical health, symptoms of the disease, social performance, economic status, and mental performance) of the QoL in asthmatic patients.

MATERIALS AND METHODS

It was a descriptive-analytical study. The investigated population included asthmatic patients visiting Imam Khomeini Hospital in Ahwaz city, 2014. The investigation site was pulmonary ward of hospital.

Inclusion criteria were all patients with asthma visiting the hospital and diagnosed by a physician, at least 20 years, capability of communication, at least 6 months history of asthma, capability in reading and writing, and willingness to participate in the study.

Exclusion criteria were having underlying diseases (i.e. cancer, depression under pharmacotherapy, and violation of any item of inclusion criteria).

The investigated sample included 120 patients with asthma selected using convenience sampling method. For gathering data, the researcher visited of Imam Khomeini Hospital, in which after explaining the objective of the study to the patients and obtaining their consent and willingness to respond, the questionnaire was completed in an interview.

Ethic consideration

To meet ethical concerns, following items were taken into consideration:

1. Presenting the hospital with a cover letter written by the university, and obtaining authorities' permission;
2. Obtaining participants' consent;
3. Ensuring them about the confidentiality of their information.

Research instrument

Data collection instrument included a two-part questionnaire. The first part encompasses demographic information and the second part determined the physical, social, economic, mental, and symptomatic aspects of QoL.

Procedure

It is designed using some asthma-related standard QoL Inventory, Milton's QoL Inventory, Pickles' Inventory of Life Events, and Juniper's SF-36 QoL Inventory). To determine the scientific reliability of the inventory, Cronbach's alpha has been used, and reliability of 86% was obtained for all dimensions of QoL. The scientific validity of the inventory was confirmed through measuring content validity. Using those instruments, the five aspects of the QoL of the patients were investigated. Each aspect included: four bodily health related items, six symptoms related items, four social performance related items, three economic status related items, and six mental performance related items. The scores one and five indicated the worst and the best status of each aspect.

Data analysis

For statistical data analysis, SPSS16 was used. To explain data, descriptive-inferential statistics, standard deviation, mean, absolute and relative frequency, ANOVA, independent t-test and chi-square were employed. The

confidence coefficient of 95% was obtained in this study ($p < 0.05$).

RESULTS

Results suggested that the maximum age range of the patients was 20-34 years (38.3%), and the majority of them were men. In addition, most of the subjects had secondary and high school educational level (48.3%) and were married (82.5%), living with their partners and children. Most of the participants were employed (49.2%); they had disease history with minimum time of 6 months and maximum time of 420 months; and the highest amount of infection occurred in a range from 6 to 60 months (77.5%), Table 1.

Table 1: Frequency of demographic variables in investigated subjects

Variable	Frequency (%)
Sex	Male
	Female
Educational Level	Low Literate
	Secondary and High School
	Academic
Career	Employed
	Unemployed
	Housekeeper
Marital Status	Married
	Single
Place of Living	Ownership
	Rental
Life Conditions	With Partner
	With Partner and Children
	Parents

A significant correlation was found between the infection duration ($p = 0.008$), age ($p = 0.011$), educational level ($p = 0.025$), and living conditions with QoL. With respect to the results, it was found that people with academic education, younger people, those living with parents, householders, and employed ones had better QoL than the other groups. Longer disease duration is associated with decreased QoL of the patients. However, there was not any significant difference between the gender, marital status, carrier, and residence status with QoL (Table 2, 3).

Table 2: Relation between Demographic variable and QoL in Asthmatic Patients

Variable	Mean \pm SD	Scope	Frequency	Significance Level
Age	11.69 \pm 38.06	20 \leq Year	120	0.011
Duration of Infection	75.62 \pm 58.75	6-420 Months	120	0.008

Table 3: Significance level of demographic variables in relation to QoL of the asthmatic patients in the City of Ahwaz

Variable	Frequency (%)	Significance Level Chi-Square
Gender	Male	67 (55.8)
	Female	53 (2/44)
Educational Level	Low Literate	36 (30)
	Secondary and High School	58 (48.3)
	Academic	26 (21.7)
Career	Employed	59 (49.2)
	Unemployed	44 (36.7)
	Housekeeper	17 (14.2)
Marital Status	Married	99 (82.5)
	Single	21 (17.5)
Place of Living	Ownership	98 (81.7)
	Rental	22 (18.3)
Life Conditions	With Partner	18 (15)
	With Partner and Children	74 (61.7)
	Parents	28 (23.3)

The mean and standard deviation of different dimensions of the QoL of asthmatic patients are presented in Table 4. The highest and lowest mean scores were obtained by the mental health and economic dimensions.

Table 4: The mean and standard deviation of different dimensions of the QoL of asthmatic patients in the City of Ahwaz

Quality of Life Dimensions	Mean	SD	Overall Score	Scope
Physical Health	10.35	2.55	16	0-16
Symptoms of The Disease	16.22	5.53	24	0-24
Social Performance	16.155	3.97	16	0-16
Economic Status	9.85	2.94	9	0-9
Mental Performance	21.86	4.69	24	0-24
Overall QoL	47.5	10.96	89	0-89

Investigation into the QoL of the asthmatic patients showed that 48.3% of the studied units scored lower than the mean, indicating satisfactory QoL. In addition, 51.7% of the investigated subjects scored higher than the mean, indicating satisfactory QoL (Table 5).

Table 5: Frequency distribution of the asthmatic patients based on the QoL in 2014

QoL	Number	Percentage
Poor	58	48.3
Satisfactory	62	51.7
Sum	120	100

DISCUSSION

Obtaining QoL information not only contributes to an effective treatment, but also significantly improves supportive programs and rehabilitation measures. Today, people require improved QoL, and thus the states across the world take it more seriously into

consideration, attempt to decrease the prevalence of the disease, and expand healthcare services, and physical, mental and social welfare [20]. Results from a study by Razi et al., showed that the overall QoL of the investigated units was poor, and more precise plans should be devised for training and caring asthmatic patients. [1]

In our study, there was a significant relationship between educational level and QoL ($p=0.025$); in that, higher educational level was associate with better QoL in the investigated units. A significant correlation was also found between the educational level and QoL in a research by Kalepkcligo et al., [20 and 21]. In a study conducted in Florida, it was put that low literate patients visit physicians less frequently and did not adhere to medical decisions [15]. Higher educational level is associated with improved QoL, which per se can be due to the increased knowledge of people about the significance of their disease. Educational level has affected the health, sickness, and other aspects of life. It is obvious that people with higher education should have better QoL by having more access to supportive resources and thus better control over the disease's complications. In this study, a significant relationship was found between the symptoms of the disease ($p=0.009$) and mental health dimensions ($p=0.045$).

In addition, no significant different was observed between the gender and QoL ($p=0.605$). Rahnavard et al., did not found any relationship between those two variables [20]. In a study by Siam et al., also not significant correlation was observed between the gender and QoL [22]. Although, the statistical test did not suggest any significant relationship between the place of living and QoL ($p=0.209$), the tenants had lower QoL than householders.

In this study, a significant correlation was seen between age and QoL ($p=0.11$). Arash also confirmed this significant relationship maintaining that aging decreased QoL [23]. In a study by Rahnavard et al., on the QoL of patients with heart diseases, no correlation was found between those two variables [20]. In a research conducted in Nigeria, no significant relationship was found between the age and QoL [5]. Lioyd showed that age significantly affected the majority aspects of QoL [24]. Increased physical capabilities and the lack of social support for the elders

resulted in their poorer quality of life, compared to the younger people.

In the present study, there was not any significant correlation between the carrier and QoL ($p=0.432$). In a study by Arash et al., a significant relationship was observed between the QoL of asthmatic patients and their carrier [23]. In a study by Razi et al., also, the majority of the investigated subjects had relatively satisfactory QoL in terms of social aspect and occupational performance [12]. Here, it was found that employed people had higher QoL. In addition, a significant relation of carrier with social performance of the investigated units was observed ($p=0.025$).

Moreover, there was not any significant correlation between the marital status and QoL ($p=0.925$), but Arash et al., showed a significant relationship in this regard. Additionally, in a study on the QoL of the patients with heart disease, Shojae found such significant correlation, in which married people had better QoL [25]. On the other hand, Razi et al., [1] and Monjamed did not observe such significant relationship. According to Luttk et al., having supportive resources is essential for the survival and adaptation of the patients [27]. The difference in the investigated environments and subjects can be attributed to such disagreements, which should be further studied. It is observed here that married people have higher QoL than single people.

Some believe that family can provide the social support required for helping the patient in coping with and adapting to the tensions caused by the disease. It also is capable of satisfying the needs of love and attachment. Higher QoL of married people may be due to the companionship of the partners and children, and thus the supports received from them, which improve their QoL.

Performing statistical tests showed a significant relationship between the conditions of the investigated units and QoL ($p=0.013$); in that, people living with their partners and children had higher QoL. In a study by Momeni et al., a significant relationship was found between the QoL and living conditions [28]. Social-family welfare is an important aspect of QoL. The researcher believes that people who live with their partners and children receive adequate amount of support and thus have

better QoL. In this study, a significant correlation was observed between the living conditions with mental dimension of QoL ($p=0.010$) and with the symptoms of the disease ($p=0.030$).

In addition, results showed a significant relationship between the duration of disease and QoL ($p=0.008$). This correlation was also observed in the study performed by Rahnavard et al., [20]. Arash et al., also confirmed such relationship [29]. It seems that in older people, such factors as chronic diseases, weakness of organs, inability to perform personal tasks, and reduction of control over surrounding environment affect the QoL and weaken it.

CONCLUSION

In general, results from this study suggest that the QoL of half of the asthmatic patients is satisfactory. In addition, such variables as educational level, living conditions, duration of the disease, and age affect the patients' QoL. Also, variables like marital status, gender, place of living, and carrier do not have any significant relationship with the quality of life. Findings of this study showed that the QoL of asthmatic patients visiting Pulmonary Clinic of the Imam Khomeini Hospital is at its maximum and minimum levels on the mental and economic aspects.

Since the economic and physical aspects of the QoL of these patients are low, it is essential to provide them with required health, welfare, and supportive facilities, based on the findings of this study, it is recommended to performing studies on the improvement of QoL of such patients. Training them should be the prime objective of care and treatment systems, and the care and treatment team in the country should pay special attention to the training of patients with chronic diseases like asthma.

Among the limitations of the study was the use of convenience sampling and the conduction of the research in only one city and one hospital; therefore, the results are not generalizable across the country. As a result, performing similar studies in other areas within the country is recommended.

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