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Investigating the Quality of Life in Patients with Tuberculosis: A Study in Southwest Iran

Research Article

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Abstract

Introduction: Tuberculosis is one of the most common diseases of the present era, which affects the quality of life of patients. The present study was conducted with the aim of investigating the quality of life of patients with pulmonary tuberculosis referred to health centers in Ahvaz city. Methods: The current research is a cross-sectional study that was conducted on 75 patients with tuberculosis who referred to the health centers of Ahvaz city in 2021 through a simple random sampling method of patients with tuberculosis. Data collection tools include: demographic variables checklist and sf-36 standard questionnaire (Survey short-form 36-item health) which was collected in person. After completing the sampling, the data were analyzed using SPSS version 21 statistical software and descriptive and inferential statistical tests using independent t-tests, analysis of variance and chi-square. Results: The lowest average score was related to limited physical activity followed by psychological problems and social functioning. Also, independent t-test results showed that the average scores of quality of life in men and women, pulmonary and non-pulmonary tuberculosis patients, and the patient's place of residence are statistically and significantly different. Conclusion: According to the results, tuberculosis and its treatment affect the social performance, psychological and emotional aspects of the patients' quality of life.

Keywords: Tuberculosis, Quality of life, Iran.

Introduction

Tuberculosis remains a major challenge to global public health in the 21st century with increasing cases of drug-resistant TB (1). Tuberculosis cases are increasing worldwide, and HIV disease is considered one of the main causes. Tuberculosis is the second leading cause of death among infectious diseases around the world after HIV (2.5), which manifests in 85% of cases in pulmonary form and 15% in extrapulmonary form (19). In 2016, 10.4 million new cases of tuberculosis were reported, resulting in 1.4 million deaths (6). Tuberculosis is considered as one of the most common infectious diseases in Iran, so according to the report of the World Health Organization (WHO), the incidence of tuberculosis cases including (HIV+TB) in Iran in 2016 was 14 cases per hundred thousand (11). In this regard, global goals for reducing TB deaths have been set for 2015 (2). Iran, with a prevalence of 17.5% and an incidence rate of 27%, has the 17th rank in terms of tuberculosis in the world. In the Khuzestan region, the death rate from tuberculosis between 2002 and 2006 was 15.3%, and this shows that indicates that tuberculosis control in Khuzestan is far from developed countries (3). The keys to controlling the spread of TB include finding the right cases, rapid diagnosis, prompt initiation of effective treatment, and contact tracing to stop further transmission (1). One of the important concerns in TB control strategy is the increasing prevalence and rapid distribution of drug-resistant TB (4).

Successful treatment of tuberculosis requires appropriate drug treatment and also requires direct supervision of the medical staff, including direct control of drug use and monitoring of the course of the disease during treatment, as well as bacteriological testing of

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patients' sputum, if all these factors are done correctly, control Tuberculosis is one of the most cost-effective interventions in the health system (5). Despite active anti-tuberculosis treatment (ATT) and national tuberculosis control programs, controlling this disease is a big challenge (7). Chronic lung diseases lead to disturbances in daily activities, work and quality of life. The existence of depression and anxiety reported with such diseases can lead to deterioration of social performance and quality of life of these patients. The prevalence of anxiety and depression in chronic lung diseases is not uncommon. The World Health Organization defines quality of life as a person's understanding of his position in life in the context of the cultural and value systems in which he lives and in relation to goals, expectations, standards and concerns. defines (8). Tuberculosis and its treatment have short-term and long-term effects on the quality of life of disabled patients, so that no other disease reduces income and breaks up families as much as tuberculosis. In some societies, disabled patients are rejected by the society, or due to the contagious nature of the disease, they must be kept and cared for in isolation, and these actions cause social isolation and affect their mental health in the long run, so that it causes anxiety and depression in these patients (9). Lipsen and his colleagues state that if people can actively participate in maintaining their health, they may exceed their life expectations and significantly improve their quality of life and health (10). The results of the study by Namdar and colleagues on the quality of life of dialysis patients showed that the quality of life in women is significantly lower than in men. The results of the study by Hashemi Banjar et al showed a significant difference between the quality of life and the marital status, so that married people had a higher quality of life, but in the study of Saadtjoo and colleagues on diabetic patients, the opposite result was observed with the results of the present study; In such a way that the quality of life in single patients was higher than in married patients (17). One of the main goals of the Healthy People Initiative in 2010 was to improve the quality of life of adults with chronic diseases. Maintaining a satisfactory quality of life is one of the main goals of nursing care. Health-promoting behaviors, especially when linked to a healthy lifestyle that encompasses all aspects of life, should lead to improved health, higher functional ability, and better quality of life at all stages of development. Studies show that a healthy lifestyle is an effective factor on the quality of life (13). Giddens sees lifestyle as a relatively coherent set of all the behaviors and activities of a certain person in the course of his daily life, which requires a set of habits and orientations)20). It is obvious that the improvement of lifestyle components will lead to prevention of daily stress, reduction of depression and increase of happiness. Also, lifestyle has been the focus of health education and health promotion activities, and one of the important goals of health education is to change people's behaviors in order to create a healthy lifestyle (37).

Not having a healthy lifestyle is associated with increased mortality and those who have a healthy lifestyle will have higher life expectancy and better quality of life. Studies have shown that more than 50% of deaths in the United States of America are related to unhealthy lifestyles (45) and in Iran, diseases caused by unhealthy lifestyles are one of the main causes of death and disability (46). According to the report of the World Health Organization, by changing and modifying the lifestyle, it is possible to deal with many risk factors that cause death. (45) The result of a study in Japan showed that a large part of cardiovascular diseases can be caused by Changes in lifestyle can be prevented. Also, another study in England attributed the development of cancers to the influence of people's lifestyle. Another study conducted in Taiwan found lifestyle modification useful and effective in reducing the risk of high blood pressure (46).

The cause of the increase in tuberculosis in recent years is chronic diseases such as diabetes and AIDS (21,22,23). Since 1991, the AIDS epidemic has contributed to a significant increase in the incidence of tuberculosis, such that it is 5-10% in normal people and 5% in people with AIDS has a 50-80% chance of developing tuberculosis (23). Other important factors that have increased the prevalence of tuberculosis are homelessness, imprisonment, and substance abuse, which are seen in 79% of leprosy patients (24, 25). Tuberculosis has been 100 times more among prisoners in the world (26). Immigrants comprise a large percentage of tuberculosis patients in the United States and England (27, 28). In Tehran, 30-45% of patients were Afghan immigrants (29, 30). Other factors include silica dust (18), daily use of prednisolone, weight loss of more than 10%, chronic kidney failure (41) and seasonal patterns (31). But the main way of transmitting this disease from one person to another is by coughing or sneezing of a person with active tuberculosis (32,33) and as a result, the possibility of the spread of this contagious disease in one or more places or neighborhoods as hot spots of this If the disease is more than other areas, it is very high. In recent years, geographic information system (GIS) and spatial analysis have been used to describe the pattern of tuberculosis and hot spots of the disease (34,35,36).

In the last 12 years, the proportion of tuberculosis cases in Asians has continuously increased from 20.5% in 2000 to 29.9% in 2011(27). The World Health Organization is always looking for tools and methods to identify, monitor, analyze and manage environmental factors affecting the spread and The spread of this disease has been and the geographic information system (GIS) is considered as a tool for analyzing spatial and non-spatial technical information, very effective in monitoring and evaluating the environmental factors affecting the spread and spread of the disease. With the ability to provide risk zoning maps, spatial analysis and monitoring of environmental factors affecting the spread of the disease, modeling the risk of disease and analyzing the spatial distribution of the disease in relation to the factors affecting its spread, this system is a reliable tool in the tuberculosis control program at the global level. It has been transformed (34,36,38).

Since the first step to improve the quality of life of patients with tuberculosis is to know the quality of life of these patients and the factors related to it(12), also since the quality of life is influenced by lifestyle(13), considering Iran's neighborhood with The two countries of Afghanistan and Pakistan, which are among the 22 infected countries in the world (39, 40), the endemicity of this contagious disease in Khuzestan province, the short-term and long-term effects of tuberculosis on the quality of life of patients, which causes a decrease in income and the breakdown of families. (9) and due to the lack of studies on this issue, therefore, the present study was conducted with the aim of investigating the quality of life in patients with tuberculosis and developing a preventive strategy by reducing the cost and increasing the public health of tuberculosis in 2021 in Ahvaz.

Method

The current research is a cross-sectional study that was conducted on 75 patients with tuberculosis who referred to the health centers of Ahvaz city in 2021 through a simple random sampling method of patients with tuberculosis. After approving the subject in the student research committee of the faculty and approval of the vice president of research of the university and obtaining permission from the ethics committee of the university, along with an official letter of introduction from the faculty and relevant authorities, the researcher went to the main health centers of Ahvaz and after introducing himself to the relevant authorities and obtaining. They will be allowed to take samples from people who visit health centers regularly at the time of visit. After selecting the research samples, a sufficient explanation was given regarding the research and its objectives, and after obtaining informed and written consent from them, quality of life questionnaires and a checklist of demographic variables were provided to them, and after completing the questionnaires The researcher collected the questionnaires and extracted the results using SPSS version 21 statistical software. This study examined patients with tuberculosis who were in the age range of 18 to 65 years and at least 15 days had passed since the start of treatment for their disease. Data collection tools include: demographic variables checklist and sf-36 standard questionnaire (Survey short-form 36-item health) which was collected in person. Checklist of demographic variables includes: age, sex, place of residence and type of tuberculosis. The sf-36 questionnaire is a questionnaire to determine the quality of life, in its questions, various aspects and factors of the quality of life are taken into consideration and are scored in different ways. This questionnaire has 36 statements in 8 dimensions, including Physical Function (10 statements), mental health (5 statements), Social Functioning (4 statements), physical role playing (4 statements), Bodily Pain (2 statements), emotional role playing (3 statements), Vitality and Fatigue (4 phrases) and general health (4 phrases) that these eight areas will be collected through interviews in the health centers of Ahvaz city. In this survey, the total points that can be calculated for each patient is 100 points (12). So that the quality of life in people with a score of less than 34 will be considered low, a score between 34-67 will be considered average, and a score above 67 will be considered high. The mentioned questionnaire has already been translated and validated in the research conducted by Saeedpour et al. (12). This self-report questionnaire, which is mainly used to assess the quality of life and health, was created by Ware & Sherbourne (42). Apart from this, SF-36 also provides two general measures of functioning; The total score of the physical component (PCS), which also measures the physical dimension of health, and the total score of the mental component (MCS), which also evaluates the psychosocial dimension of health. The subject's score in each of these areas ranges from 0 to 100, and a higher score means a better quality of life. The validity and reliability of this questionnaire has been confirmed in the Iranian population (43,44) and the internal consistency coefficients of its 8 subscales are between 0.70 and 0.85 and their retest coefficients with a time interval of one week are between 0.43 and 0.79 has been reported. Also, this questionnaire can distinguish healthy people from sick people in all indicators (44).

After completing the sampling, the data were analyzed using SPSS version 21 statistical software and descriptive and inferential statistical tests using independent t-tests, analysis of variance and chi-square.

Results

Out of the total of 75 patients included in the study with an average age of 55.66 ± 16.39, 53.3% were male and 46.7% were female. In terms of residence, 76.39% of patients were in urban areas and 23.61% were rural residents. In terms of tuberculosis diagnosis, 86.67% of these people had pulmonary tuberculosis and 13.33% of them had extrapulmonary tuberculosis.

Table1. Frequency distribution of demographic variables of research subjects

Factor	N (%)
Gender	Female - 35(46.7) Male - 40(53.3)
Place of Residence	Urban Areas - 55(76.39) Rural Areas - 20(23.61)
Type of Tuberculosis	Extra-pulmonary Tuberculosis - 10(13.33) Pulmonary Tuberculosis - 65(86.67)

Table 2. Mean scores ± standard deviation of 8 dimensions of quality of life in TB patients

Quality of Life Dimensions	Mean±SD
Physical Function	68.08 ± 9.26
Limited Physical Activity Following Mental Problems	71.56 ± 21.11
Limited Physical Activity Following Physical Problems	81.86 ± 16.96
Vitality and Fatigue	68.11 ± 13.58
Mental Health	67.26 ± 9.73
Social Functioning	64.83 ± 16.2
Bodily Pain	73.8 ± 17.58
General Health	65.91 ± 18.14
Total Score of Quality of Life	62.125 ± 13.96

The average scores of 8 dimensions of quality of life in patients are shown in Table 2. The average scores of quality of life in women, patients living in urban areas and patients with extrapulmonary tuberculosis were significantly higher than men, patients living in rural areas and patients with pulmonary tuberculosis.

Discussion and Conclusion

Compared to the results of Khohi et al.'s study, the average quality of life of the majority of people in some countries was 74.26 (47), so the results of the present study show that the average scores of quality of life in TB patients were much lower than normal. In addition, men, patients living in rural areas and patients with pulmonary tuberculosis had a lower mean quality of life score.

In Adeyeye et al.'s study, the mean quality of life scores in patients with pulmonary tuberculosis were lower than normal. Values according to the factors affecting the quality of life, including age, gender, economic status, unemployment, duration of treatment and concomitant diseases (48). In the study by Jastrzebski et al., mean quality of life scores were lower in patients with lung involvement including pulmonary fibrosis, chronic obstructive pulmonary disease, or tuberculosis. In addition, the mean quality of life scores in TB patients were much lower than in patients with other chronic lung diseases [49]. Gorilova and Gerasimova's study, by evaluating and comparing the quality of life in 29 tuberculosis patients with the quality of life of 20 healthy people, concluded that the quality of life in tuberculosis patients is impaired in three dimensions: physical performance, physical condition, and emotional condition, and a greater effect was observed in patients. It has been argued that TB as a chronic infectious disease can undermine the quality of life during and after treatment. It shows that monitoring the quality of life with appropriate tools can be part of the follow-up treatment and care of these patients [50]. In the present study, the dimensions of emotional and social functioning had the lowest average, which indicates the importance of emotional and social functioning in these patients, because tuberculosis is a communicable disease and people in the community tend to communicate less with people suffering from tuberculosis.

In Marra et al.'s study, the quality of life was evaluated using the SF-36 questionnaire in two groups of patients with active tuberculosis (110 people) and patients with latent tuberculosis (100 people). The average scores of quality of life in patients with active tuberculosis were significantly higher than those with latent tuberculosis in most dimensions of quality of life. Similar to our study, the patients' quality of life decreased during the treatment period (51).

In the present study, the mean scores of quality of life in rural patients were lower than those living in urban areas.

Therefore, it was concluded that on this basis, health care providers as well as medical and health service providers are required to pay more attention to the quality of life in patients as a monitoring tool to evaluate medical care and treatment response in addition to prescribing drugs.

Various factors affect the quality of life of TB patients. Quality of life monitoring should be part of the assessment of response to long-term treatment and medical care for patients with tuberculosis. A negative impact on various areas of quality of life, including social and psychological areas, has been observed. Paying attention to the quality of life in the care of patients can help to minimize this damage and facilitate the return of patients to society.

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Conflict of Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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