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ORIGINAL PAPER

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The Quality of Life in Chronic Patients in the Process of Rehabilitation

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ABSTRACT

Objective: The aim of this study was to examine whether there is a correlation between self-evaluated quality of life, anxiety, depression, motivation, subjective-rated financial status, education, age and autonomous movements in patients with chronic conditions. **Respondents and Methods:** The study consecutively included 68 chronically ill patients, the average chronological age of 56.21 years. The Hospital Anxiety and Depression Scale for self-evaluation of the quality of life of respondents was used to evaluate the presence of anxiety and depression, the Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form was used for self-evaluation of the quality of life, and the Visual analogue scale of motivation was used for self-evaluation of the level of motivation. **Results:** It was found that anxiety, depression, education, financial status, chronological age and mobility have a significant impact on the sense of satisfaction with the quality of life of patients with chronic diseases. **Conclusions:** These results are important for clinical practice, planning and delivery of health services, evaluation of the implemented public health measures.

Keywords: the quality of life, chronic disease, self-evaluation, factors.

eases are at the increase, the number of patients with long-lasting diseases grows, often they are not fully reversible and the patient is left only to reconcile with them and adjust to constraints and losses that they impose on them.

The loss of health is more difficult than most other losses because it undermines our image of ourselves and our abilities, and is regularly followed by other difficult losses, such as losses of material and social status, as well as the employment, earlier way of life, failure in life plans, and sometimes the loss of support of family and friends. According to Rajmil et al. (5) the quality of life related to health is the individual's personal perception of their physical, mental and social health. It is defined as a state of well-being and consists of two components: the ability to perform daily life activities that are related to physical, psychological and social well-being and the patient's satisfaction with the degree of operation and control of the disease (5, 6). The subjective evaluation of quality of life related to the health of an individual is affected by many factors, from the heritage, style and conditions of life of the individual to the family, work and the wider social environment (7). The study of factors that influence the subjective perception of quality of life for people with chronic diseases presents an important challenge in the field of research and planning of preventive programs and actions. Numerous biological, socio-economic, behavioral, psychological and cultural characteristics influence the perception of the health of each individual, and the motivation for maintaining or achieving subjective well-being is strongly linked to the personality and needs of each individual.

2. AIM

The aim of this study was to examine whether there is a correlation between self-evaluated quality of life, anxiety, depression, motivation, subjective-rated financial status, education, age and

1. INTRODUCTION

Chronic disease is a disease with acute or subacute beginning in which there is no complete cure but requires long-lasting therapy and rehabilitation (1). Many chronic diseases require constant repetition of diagnostic tests, and sometimes invasive procedures (2), which is why they are often accompanied by long-lasting psychological problems, the experience of grief, depression and fear. Chronic diseases also bring with themselves disability that reduces the quality of life of patients and increases their need for social services (e.g. health care) (3, 4). Chronic dis-

autonomous movements in patients with chronic conditions.

3. PATIENTS AND METHODS

The study consecutively included 68 patients, who were hospitalized during the period November 2016 - January 2017 at the Department of Physical Medicine and Rehabilitation in Tuzla, University Clinical Center Tuzla, Bosnia and Herzegovina. Chronic conditions of patients are due to a disease of the spinal column, rheumatic diseases and neurological diseases.

The HADS scale (Hospital Anxiety and Depression Scale) is a self-evaluation scale used to detect the symptoms of anxiety and depression in medical facilities, primary care and general population. The scale contains 14 questions, of which seven relate to anxiety and seven relate to depression. Questions relate to how the respondents felt during the last week, and each question is evaluated with a scale that has four levels (0=not at all, 3=all the time), but the overall score ranges from 0 to 21 for anxiety, as well as for depression (8). Respondents with a score of 0-7 are not anxious/depressed, 8-10 indicates a marginal state, a 11-21 represents anxiety/depression (9).

The Q-LES-Q-SF instrument (Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form) is used for self-evaluation of patient's satisfaction in the area of his/her physical health, mood, functioning, activities in the household, social and family relationships, free activities and economic status, ability to function in daily life, physical mobility, sexual drive and interest, the ability to perform hobbies and overall well-being. Each of the 14 items is rated with the five-degrees scale. Each level indicates the degree of the consumption or satisfaction experienced by the patients during the last week (1=very poor, 5=very good). The overall result of all the 14 items is calculated in the range from 14 to 70, and is expressed as a percentage (1-100) of the maximum overall score (10). Higher results in the Q-LES-Q-SF show higher satisfaction. The instrument also includes two additional items for measuring pleasure with rehabilitation and treatment and a total life satisfaction during the last week that are not included in the total score (11).

The visual analog scale of motivation was offered to respondents to indicate their level of motivation for recovery and self-help (through active participation in the rehabilitation program). It is presented by the ordinate with columns from 0 to 100. The lowest level of motivation is 0 and the highest level of motivation is 100. The respondents showed by their hands on the scale how, in their opinion, motivated they were to participate in the rehabilitation program.

The data on the financial status of the respondents (bad, medium, good), the level of education (primary, secondary and higher), the chronological age of the respondents (age in years) and the ability of patients to move independently (immobile, walks with the help of aids, self-moving) were collected with the usage of a structured questionnaire created for this study.

The data were analyzed using the Pearson linear correlation coefficient (for the variable of an interval) and the Spearman's rank correlations (for ordinal size). P-values <0.05 were considered as significant.

4. RESULTS

The study included 68 patients, 26 (38.2%) men and 42 (61.8%) women. Chronic conditions of respondents are the result of diseases of the spinal column and there were 25 of them (58.48%) in the sample, 20 (51.10%) with rheumatic diseases and 23 (56.17%) with neurological diseases.

The median age of patients was 56.21 (± 14.9) (ranging from 22-78 year olds). Most patients (58/85.3%) live with their families, while a smaller number of them (10/14.7%) live alone.

Variables	Sig	Quality of life
Anxiety	r	-0.297*
	P value	<0.05
Depression	r	-0.492**
	P value	<0.01
Motivation	r	0.145
	P value	0.239
Subjective-rated financial status	rho	-0.45**
	P value	<0.01
Education	rho	0.598**
	P value	<0.01
Age in years	r	-0.433**
	P value	<0.01
The ability to walk	rho	-0.346**
	P value	<0.01

Table 1. The correlation between the quality of life for chronically ill and anxiety, depression, motivation, subjective-rated financial status, education, age, and ability to move.

*-Significance at 0.05 level; **-Significance at 0.01 level.

The survey results (Table 1) show that 37 (54.41%) of respondents were not anxious, 17 (25%) were borderline anxious and 14 (20.59%) of respondents were anxious. In terms of depression, 34 (50%) of respondents did not have the elements of depression, 19 (27.94%) were minimally depressed, and 15 (22.06%) were depressed. The average rate of the quality of life of patients was 58.84 (± 15.91) of the maximum total score (ranging from 23 to 93). A medium strong negative correlation between subjectively evaluated quality of life and anxiety, $r=-0.297$, $N=68$, $p<0.05$ is determined by the usage of the Pearson coefficient of linear correlation, as well as significantly strong negative correlation between the subjectively evaluated quality of life and depression, $r=-0.492$, $n=68$, $p<0.01$, wherein the high levels of subjectively perceived quality of life are followed by low levels of subjectively experienced anxiety, or depression.

The patients from the sample with a high degree of motivation were engaged in the rehabilitation program. The average rate of motivation was 81.69 (± 23.69) (ranging 0-100). The Pearson correlation coefficient ($r=0.145$; $p=0.239$) did not prove the connection between the level of motivation and the subjectively evaluated quality of life of patients.

In connection with material status, 26 (38.2%) of respondents said that they had good material status, 34 (50%) had medium and 8 (11.8%) had poor material status. There was a medium strong negative correlation between subjectively evaluated quality of life and financial status of patients. The Spearman's correlation coefficient is $r=0.450$, $n=68$, $p<0.01$, and patients with good material status evaluated their qual-

ity of life better in comparison to patients with moderate and poor material status.

In relation to education 27 (39.71%) of respondents had completed elementary school, 33 (48.53%) secondary and 8 (11.76%) higher education. A strong positive correlation between the quality of life of patients and education was determined with the Spearman's correlation coefficient $r=0.598$, $n=68$, $p<0.01$, and patients with higher levels of education evaluated their own quality of life with higher scores than patients with lower level of education.

The median age of patients was 56.21 (± 14.9) (ranging from 22 to 78 year olds). The medium strong negative correlation was determined between subjectively evaluated quality of life and the chronological age of patients, the Pearson correlation coefficient is $r=-0.433$, $N=68$, $p<0.01$, wherein the elderly respondents with chronic diseases evaluated their quality of life as poorer in comparison to younger respondents.

The ability to move independently had 31 (45.6%) patients, 28 (41.2%) moved with the help of aids and 9 (13.2%) patients were immobile. The medium strong negative correlation was determined between the quality of life and mobility of patients, according to which the Spearman's correlation coefficient is $r=-0.346$, $N=68$, $p<0.01$, wherein the independently movable patients reported better quality of life in comparison to the immobile patients who reported bad quality of life.

5. DISCUSSION

Depression is an obstacle to rehabilitation and has a negative impact on long-lasting recovery of patients (12). It is a predictor of more severe cognitive deficit, reduced quality of life and frequent mortality (13). Symptoms of chronic diseases are exacerbated in the presence of anxiety or depression (14). Some researchers define depression as a lack of satisfaction in life which can have negative effects on the general health of the individual. Anxiety is defined as the emotion of fear, and it includes feelings of worry, anxiety and fear related to functional impairment and inability (15,16). The health care neglects psychological aspect, i.e. the impact of chronic disease on the psyche, but also vice versa, although patients with chronic diseases have a high risk for psychological distress (psychological suffering and distress) (17). Anxiety and depression are the main factors that negatively affect patient's quality of life (lack of concentration, sleeping disturbances, fatigue, pessimistic mood), may influence the course and outcome of chronic diseases (18), loss of motivation (19), the perception of sufferers and pain response, their cooperation and the ability to benefit from the rehabilitation programs (20), the mortality and morbidity, the use of services (21) and the results of treatment and rehabilitation. Mental difficulties are often the cause of non-compliance with the recommendations in the course of the treatment and during the conduct of medical treatment (22). It is therefore important for the clinicians involved in the rehabilitation programs to identify patients with an increased level of anxiety and depression, as well as to provide appropriate counseling or treatment where necessary (23).

In this survey, respondents with good financial status evaluated their quality of life as better than patients with medium and poor financial status. This can be explained by the fact that respondents with better material status have pro-

vided the funds needed for medical expenses, the purchase of necessary supplies, the provision of services related to care, and that can have a positive effect on psychological functioning of the person. Social status is a factor that can influence people's subjective view of what makes a good quality of life. The association of their own socioeconomic status with subjective indicators of health has been studied in several works where, the connection was mostly found (though not always) and it was always a positive correlation (24).

Education, as a factor of the quality of life for chronically ill, has a positive effect on mental hygiene, better knowledge of the disease and generally highly educated people cope better with the challenges posed by chronic disease. The education of sufferers plays an important role in the life of chronically ill and can improve quality of life (25).

6. CONCLUSION

The quality of life of chronic patients is influenced by many factors. In this study we show that anxiety ($r=-0.297$, $p<0.05$), depression ($r=-0.492$, $p<0.01$), education ($r=0.598$, $p<0.01$), financial status ($r=-0.45$, $p<0.01$), chronological age ($r=-0.433$, $p<0.01$) and mobility ($r=-0.346$, $p<0.01$) are factors that have a significant impact on the sense of satisfaction with the quality of life of patients with chronic diseases. These results are important for clinical practice, planning and delivery of health services, evaluation of the implemented public health measures.

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