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Cardiovascular Disease Patient's Quality of Life in Tabriz City in Iran in 2018

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ABSTRACT

Introduction: Recently, Cardiovascular Disease (CVD) is one of the most common causes of mortality all around the world. Achieving the high Quality of Life (QOL) is considered to be important for these patients. Therefore, the objective of the present study is to investigate the quality of life among patients with CVD in Tabriz Province.

Methods: This study was conducted in Tabriz University of Medical Sciences in 2018. In this study, 180 patients were selected using convenience sampling method. World Health Organizations QOL-brief (WHOQOL-BREF) modified questionnaire was used for data collection. Questionnaire was consisted of 26 questions about different aspects of patients' QOL. Descriptive statistics analysis including frequency, percentage and mean ± standard deviation was used to analyses the data. Independent samples T-test and One Way ANOVA was also used for data analysis by SPSS.16. P-value less than 5% was considered as statistically significant.

Results: Most participants (about 80%) were in the age group of 50-69. Among the participants, about 30% of the participants were satisfied with their health status and only 12% expressed that they can afford their needs. Less than half of the participants stated that they are satisfied with their ability in running their daily affairs. Mean (SD) score of QOL among the participants was 81.37 (11.88), with a minimum and maximum of 52 and 105, respectively. There was statistically significant relationship between age, place of residence, education and income with QOL ($p<0.05$).QOL

Conclusion: The results showed that QOL is low in patients with CVD in Iran. Therefore, further studies are needed on the above-mentioned factors in order to plan for improving the QOL in these patients.

Kewords: Cardiovascular diseases, Quality of Life, WHOQOL-BREF

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Introduction

Recently, Cardiovascular Disease (CVD) is one of the most common causes of death around the world (1, 2). Given the increasing expansion of urbanization, industrial lifestyle, inadequate physical activity, and socioeconomic conditions morbidity and mortality caused by these diseases are still on the rise (3, 4). According to statistics, about 30% of total deaths are now caused by CVD, and also approximately 10% of women and 33% of men are afflicted with these diseases before they reach the age of 60, and unfortunately most of whom do not recover (5-7). In addition to extensive and severe physical complications, CVD put huge burden of economic costs on the health system and society. For example, it has been estimated that the costs resulting from these diseases in the U.S. is amounted to 300 billion dollars in 2000 (8-10). The prevalence of CVD and especially coronary heart disease (CHD) is sharply increasing in China, India, Pakistan, and the Middle East, including Iran (8). Among developed countries, death resulting from CVD shows a high, moderate, and low rate in countries of the former Soviet Union, namely the U.S., the Europe, and Japan, respectively (11-13). In addition to death, disability, and high disease burden, CVD causes serious problems in mental, psychological, and social aspects of patients' life (14, 15). Hence, the proper approach to take care of these patients must cover various aspects of their life (16). The health status and the QOL are important indicators of health-related QOL to investigate the adaptability of the patients in chronic diseases (17, 18). The concept of QOL was firstly used as the traditional concept of health and the useful functional status, but QOL is defined as people's understanding of life, values, goals, standards, and interests now. Studies have also shown that QOL can be considered as one of the most important components of health care quality (19-21). Therefore, the objective of the present research is to study QOL among patients with cardiovascular disease in Tabriz Province.

Methods

This cross-sectional study was conducted to determine QOL of CVD patients in Tabriz University of Medical Sciences in 2018. All CVD patients referred between 1st of June to 30th of September 2018 to the department of Heart Specialty of Shahid Madani Hospital in Tabriz (The largest referral hospital in northwestern Iran) who had inclusion and exclusion criteria were included in the study. Inclusion criteria included the following items:

- CVD patients older than 18
- CVD patients without comorbidity
- Patients with the ability and wellness to participate in the study

Cochran's formula was used to determine the sample size. According to the statistical population of the hospital and the possibility of their participation in the study (about 255 patients), the sample size was 150 persons. Also, to increase the power of the study and reduce the effect of sample loss, 20% was added to the sample size and finally the sample size was calculated as 180. Patients were selected using convinced sampling method.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N}\left[\frac{z^2 pq}{d^2} - 1\right]}$$

World Health Organizations quality of life-brief (WHOQOL-BREF) modified questionnaire was used for data collection. Validity and reliability of the questionnaire were confirmed using content validity and test-retest methods (r=0.82). Questionnaire was consisted of 26 questions which measure QOL in four dimensions (physical health (7 questions), psychological health (6 questions), social relationships (3 questions), environment (8 questions) and 2 general questions which assess overall health condition with five-point likert scale (1=Not at all to 5=Completely) about different aspects of patients' QOL. The highest and lowest scores were 130 and 26, respectively.

The questionnaire was filled out using two trained questioner through the interview with the patients. The normality of the data (quantitative variables) was measured using Kolmogorov-Smirnov test. Descriptive statistics (frequency,

percentage, mean ± SD), two independent samples T-test, One Way ANOVA, Spearman's correlation coefficient and linear regression model were used for data analysis by SPSS version 16 software. P-value less than of 5% was considered as statistically significant. All moral considerations including confidentiality of the information were observed in this study. Ethical consent was obtained from participants in this study and the option was given to them to withdraw and leave the study whenever they want.

Results

In the present study, most participants (about 80%) were in the age group of 50-69 and 66% of them were male. Also, most of them who were 75 had an academic degree (41.5%) above high school diploma and 127 were married (70.6%). Expenditure for health in 45% of participants was more than of their income. In addition, duration of affliction was 6 to 12 months in most participants. Other demographic characteristics of participants are shown in Table 1.

Table 1. Demographic characteristic of included CVD patients referred between 1st of June to 30th of September 2018 to the department of Heart Specialty of Shahid Madani Hospital in Tabriz (n=180)

Variables	Groups	Number (%)
Gender	Female	119 (66/1)
	Male	61 (33/9)
Age	<50 year old	7(3/9)
	50 t0 69 years old	143(79/4)
	More than 70 years old	30(16/7)
Duration of disease	6 to 24 month	59(32/8)
	25 to 44 month	65(36/1)
	45 to 120 month	22(12/2)
	More than 121 month	34(18/9)
Marital status	Single	53(29.4)
	Married	127(70/6)
Living site	Urban	104(57/8)
	Rural	76(42/2)
Occupation	Unemployed	68(38/8)
	Employed	112(62/2)
Level of education	Under diploma	54(30)
	Diploma	51(28/3)
	Higher education	75(41/5)

Among the participants in the present study, about 30% were satisfied with their health status and only 12% expressed that they can afford their needs. Less than half of the participants stated that they are satisfied with their ability in running their daily affairs. Table 2 shows frequency distribution of various aspects of QOL among the studied patients. Mean ± SD score of QOL among the participants was 81.37±11.88, with a minimum and maximum of 52 and 105, respectively.

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Table 2. Frequency distribution of CVD patients' responses to the questions of World Health Organizations quality of life-brief questionnaire (N=180)

Statements	Very little*	Little	Moderate	Good	Very good
How do you evaluate your quality of life?	9(5)	32(17/8)	72(40)	45 (25)	22(12/2)
How much are you satisfied from your health conditions?	8(4/4)	59(32/8)	60(33/3)	45(25)	8(4/4)
How much physical pain does prevent you from doing your desired tasks?	5(2/8)	52(28/9)	55(30/6)	50(27/8)	18(10)
How much do you need medical treatments to do your routine activities?	0	40(22/2)	50(27/8)	58(32/2)	32(17/7)
How much do you enjoy your life?	9(5)	36(20)	70(38/9)	55(30/6)	10(5/6)
How meaningful is your life?	11(6/1)	34(18/9)	64(35/6)	55(30/6)	16(8/9)
How much can you focus on your affairs?	8(4/4)	23(12/8)	75(41/7)	50(27/8)	24(13/3)
How much do you feel secure in your daily life?	3(1/7)	23(12/8)	71(39/4)	71(39/4)	12(6/7)
How healthy is your surrounding environment?	7(3/9)	28(15/6)	64(35/6)	58(32/2)	23(12/8)
Are you sufficiently energized for your daily life?	6(3/3)	29(16/1)	62(34/4)	66(36/7)	17(9/4)
Can you accept your physical appearance?	16(8/9)	27(15)	51(28/3)	56(31/1)	30(16/7)
Do you have enough money to meet your needs?	17(9/4)	76(42/2)	65(36/1)	18(10)	4(2/2)
How much daily required information is available to you?	16(8/9)	47(26/1)	79(43/9)	29(16/1)	9(5)
How much do you have access to recreational activities?	20(11/1)	54(30)	74(41/1)	24(13/3)	8(4/4)
How do you evaluate your briskness and alacrity?	22(12/2)	40(22/2)	79(43/9)	30(16/7)	9(5)
How much are you satisfied from your sleep condition?	14(7/8)	41(22/8)	57(31/7)	49(27/2)	19(10/6)
How much are you satisfied from your daily activities?	14(7/8)	41(22/8)	57(31/7)	49(27/2)	19(10/6)
How much are you satisfied from your occupational capacity?	6(3/3)	40(22/2)	70(38/9)	50(27/8)	14(7/8)
How much are you satisfied from yourself?	11(6/1)	40(22/2)	48(26/7)	58(32/2)	23(12/8)
How much are you satisfied from your personal relations?	10(5/6)	26(14/4)	68(37/8)	57(31/7)	19(10/6)
How much are you satisfied from your sexual relations?	16(8/9)	40(22/2)	65(36/1)	34(18/9)	25(13/9)
How much are you satisfied from your friends' support?	4(2/2)	31(17/2)	55(30/6)	64(35/6)	26(14/4)
How much are you satisfied from your residency conditions?	10(5/6)	25(13/6)	78(43/3)	54(30)	13(7/2)
How much are you satisfied from the availability of health-treatment services?	11(6/1)	30(16/7)	74(41/1)	51(28/3)	14(7/8)
How much are you satisfied from your traffic conditions?	9(5)	36(20)	74(41/1)	45(25)	16(8/9)
How much do you feel offended, hopelessness, anxiety, and depression?	5(2/8)	43(23/9)	61(33/9)	48(26/7)	23(12/8)

Table 3 demonstrates that the correlation between demographic variables (Age, Gender, Living site, Occupation, Education, Income, Duration of disease and Marital status) and participant's QOL. As it can be seen in table 3, there is a significant correlation between age, living site, education and income with QOL ($p<0.05$).

Table 3: Correlation coefficients matrix between demographic variables of CVD patients and the mean score of the quality of life

Demographic Variable		Age	Gender	Living Site	Occupation	Education	Income	Duration Of Disease	Marital Status
Quality of life	P-value:	0.040	0.12	0.01	0.52	0.004	0.001	0.153	0.389
	R	-0.78	0.36	0.85	-0.42	0.83	0.89	-0.53	0.38

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Discussion

In line with the findings of the present research, many studies around the world and in Iran have shown that CVD occur in men more than women (7, 22-25). This can be attributed to the stresses and tensions in the men's workplace, risky behaviors such as smoking, invasive and violent behaviors in men, negligence of health, the role of androgens, and social factors. Previous studies conducted in developed countries show that the rate of mortality between men and women has lowered comparing to the recent years (26).

In the present study, mean score of QOL among the participants was relatively low. In a review study conducted by Yaghubi et al., it was shown that the QOL in Iranian patients with CVD is relatively low and effective interventions are required in order to improve this important variable (27).

Additionally, many studies have been conducted around the world on the measurement of QOL in the patients with CVD, some of which have systematically reviewed previous studies (26-29). The results of the present study are consistent with the findings of another study which assessed the QOL in patients with CVD (30-32). Furthermore, studies carried out by Brown in England (33), Norekval in Norway (34), Rubenach in Australia (35), Bengtsson in Sweden (36), and others have corroborated the low QOL in patients suffering from CVD.

Despite the consistency between the present study and other ones in terms of low QOL in patients with cardio vascular diseases, some studies conducted in some parts of the world indicate good QOL in these patients. For instance, Veenstra et al. (37) showed that QOL is desirable in patients after myocardial infarction. The study conducted by Folcoze in France also suggests this improvement (38). One reason for the low QOL among patients in our country could be the low quality of services offered to patients with CVD and the lack of economic and social support of such patients. Therefore, it is essential to improve the quality of the services provided for these patients and to increase the supports for them.

In this study, age, place of residence, education background, and income showed a significant relationship with QOL. In most of the similar studies, gender has been considered as an important factor in QOL, as some of the studies showed a significant relationship between gender and QOL, with higher QOL in men than women in most of the aspects. This is more prominent in the aspects of physical and mental performance (21, 39- 46). Although many studies have reported a significant relationship between gender and QOL, such a relationship was not found in some other studies (47, 48). In addition, a significant relationship has been observed between age and QOL in many studies, as the QOL significantly decreases in patients with the increase in their age (39, 40, 44, 49). Similarly to gender; age showed no significant relationship with QOL in some other studies (47, 50). Higher education, employment, and being married have been shown to be significantly associated with the improvement in some aspects of QOL among patients with CVD (39, 40, 50), when no significant relationship has been observed between these variables and QOL in some other studies (48).

Conclusion

The results of the present study showed that QOL is low in patients with CVD in Iran. Therefore, further studies are needed on the above-mentioned factors in order to make proper plans for improving the QOL in these patients. Additionally, due to the low level of physical and mental aspects, the necessary actions should be taken for providing adequate health insurance, more and cheaper welfare services, and more appropriate social and mental supports for patients with CVD. Finally, it can be stated that assessment of the quality of services provided for these patients and proposal of solutions for improving them can be a good area of research for future studies.

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Authors Contribution

S, A-A & N, D. designed the study and analyzed the data; H, GH gathered the data and prepared the first draft, M-H, A&S, A-A consulted and supervised the work, and critically revised the draft, and N, D &H, GH has done the management and proofing.

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Conflict of Interest

Authors have no conflict of interest.

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