Health Related Quality of Life Among Cardiac Disease Patients At Queen Alia Heart Institute

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Abstract

Background: Cardiac disease is a debilitating condition that seriously affects the lives of patients and their families and therefore, impacts the health-related quality of life for their patients.

Objectives: The aims of this study are to evaluate the quality of life among cardiac disease patients, and examine the relationship of certain sociodemographic factors, treatment modalities and the presence of co-morbidic diseases on the quality of a cardiac patient's life.

Methods: A quantitative non-experimental correlational research design was utilized to guide this study. Data were collected from Queen Alia Heart Institute in Amman city using European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-c30 version 3). The convenient sample was 118 cardiac disease patients; this study sample was equally distributed in relation to gender.

Results: The study findings revealed that the majority of the study sample had a moderate quality of life with a mean score of 78.78 and 20.63 S.D. There were no significant differences in the quality of life among cardiac patients related to treatment modalities. On the other hand, significant differences were found in the quality of life of cardiac patients related to gender (T=2.42, P=.017) and exercise performance (T=2.14, P=.034). Moreover, the results revealed that the presence of hypertension and diabetes mellitus had a significant negative relationship to the quality of life among cardiac disease patients.

Conclusion: The study concluded that cardiac patients have moderate quality of life as determined by the EORTC QLQ-c30 (version 3) questionnaire and reduced health status related to the quality of life which was associated with low income level, decreased exercise performance, and the presence of hypertension and diabetes mellitus.

Keywords: Quality of Life, Cardiac Disease, Co-morbidic Diseases, and Treatment Modalities.

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Introduction

The symptoms of cardiac diseases have important implications for the patients' health related quality of life. Cardiac disease patients have poorer perceived general health, more breathlessness and thoracic pain, higher level of depression and a less satisfactory sex life. [1]

Improving the patients' health-related quality of life has become an important goal of health care providers. The quality of life is a subjective experience of a person concerning his/her own life. [2, 3] It is a remarkably comprehensive concept that consists of the satisfaction of life, personal feeling of wellbeing or happiness. Satisfaction is usually associated with cognitive dimensions and happiness with emotional dimensions. [4]

The effect of a cardiac rehabilitation program on exercise tolerance and the quality of life among older patients after myocardial infarction was examined. The study reported that cardiac rehabilitation after myocardial infarction improves exercise tolerance and health related quality of life in randomized controlled trials. [5]

Likewise, measurements of health as a state of complete physical, mental, and social well-being is a multifaceted concept which encompasses the traditional approach to medical care and the modern inclusion of Health Related Quality of Life concept (HRQL). Patients' perception and self assessment of health have proven to be useful adjuncts to more traditional ways of measuring morbidity and mortality, the benefits of health care interventions and impact of health services. [6]

A study conducted to determine gender differences in the quality of life among cardiac patients. The results showed that women with cardiac diseases indicated significantly lower quality of life than men with cardiac disease over the course of a 12 month longitudinal follow up.[7]

Further researchers have reported that chronic diseases have an impact on the overall quality of life. An extensive study revealed that physical impairment in patients with heart failure was higher than patients with a history of chronic lung diseases or arthritis. [8]

The purpose of this study is to evaluate health-related quality of life among cardiac disease patients and determine if certain variables such as age, gender, income level and the presence of other co-morbidic chronic diseases have an effect on the quality of life for such patients.

Research Questions

1. What is the health-related quality of life among cardiac patients included in the study?
2. Is there a correlation among treatment modalities and quality of life among cardiac patients included in the study?
3. Are there any differences in the health-related quality of life among cardiac patients attributed to certain socio-demographic attributes such as age, gender, and income level?
4. Is there any difference in the health-related quality of life among cardiac patients attributed to the presence of other co-morbidic chronic diseases?

Methodology

Research Design: A quantitive-nonexperimental correlational research design was utilized to accomplish the purpose of the current research.

Setting: The study was conducted at Queen Alia Heart Institute which is affiliated with the Royal Medical Services, Amman, Jordan. Queen Alia Heart Institute is one of the specialized heart institutes in the Middle East. The Institute encompasses 170 beds. It provides diagnostic and curative medical and surgical health care services for various cardiac patients.

Sample: A convenient sample consisted of 118 inpatients at Queen Alia Heart Institute with cardiovascular diseases experiencing different treatment modalities have been involved in the study.

Instrument: The quality of life of patients was assessed by using the EORTC QLQ- c30 (version

3) questionnaire. The questionnaire was translated to the Arabic language. The validity of the translated questionnaire was obtained and test-retest reliability of (0.84) has been demonstrated using Pearson correlation coefficient. The questionnaire includes 30 statements, 28 of them on 4- point likert scale, very much, quite a bit, a little, and not at all, and in the remaining two, patients were asked to rate their sense of quality of life on a scale from 1-7 with 1 representing very poor, and 7 representing excellent. The questionnaire was concerned with the following domains, global health status, functional status, and symptom health status. Moreover, the questionnaire includes demographic information regarding: age, gender, income level, treatment modality, activities, and presence of certain chronic diseases. For the purpose of this study, the alternatives for the first 28 items were inverted and scored from 1-4 with 1 representing very poor quality of life and 4 representing excellent quality of life. Total scores of quality of life for each patient ranged from 30-126 sorted into three levels: High quality of life=94-126, moderate quality of life=62-94 and low quality of life=30-62. Low score in the health-related quality of life questionnaire represents more manifestations of cardiac diseases which implies poorer quality of life and vice versa.

Data Collection Procedure: Once an official permission was obtained from the Royal Medical to proceed with the study, the purposes and nature of the study were explained to the research participants. Voluntary participation and confidentiality were ensured for the participants by anonymity, and utilization of consent form to participate in the study. The data were collected during the period of January to March, 2008. The questionnaires were completed by the patients who met the inclusion criteria and agreed to participate in the study.

Data Analysis: SPSS program was used for data entry and analysis. Descriptive statistics were used to describe study sample. T-Test and one-way ANOVA test were used for analysis of variances among study variables.

Results

Table (1) demonstrates the sociodemographic characteristics of the study sample. The majority of study sample were above fifty years old; they were equally males and females with regard to gender, most of the sample patients identified themselves with a low income level (68.6%) as defined by the demographic characteristics of the scale, and the majority of the study sample do not perform any exercises (83.9%).

Table (1): Sociodemographic characteristics of the study sample (N=118).

Variables	*No*	*%*
Age		
↓50	*30*	*25.4*
51-60	*41*	*34.7*
↑60	*47*	*39.8*
Gender		
Male	*59*	*50*
Female	*59*	*50*
Income Level		
Low	*81*	*68.6*
Moderate	*29*	*24.6*
High	*8*	*6.8*
Exercise Performance		
Yes	*19*	*16.1*
No	*99*	*83.9*

Table (2) presents the sample distribution according to treatment modalities and the presence of chronic diseases. The table indicates that the majority of the sample had interventional procedures while the minority had surgeries. Regarding the presence of chronic disease; the table demonstrates that most of the study sample had hypertension (45.8%) compared to other chronic diseases for the study sample.

Table (3) reflects the health-related quality of life of the study sample. The table shows that the majority of the study sample had a moderate quality of life as defined by the EORTC QLQ (M=78.78 & SD=20.63).

Table (4) reflects the correlation between the health-related quality of life among cardiac patients and their sociodemographic characteristics. In this table, a T-test was used

indicating the relationship, if any, of characteristics in two categories such as gender and exercise performance. A One-Way ANOVA test was used to indicate the relationship, if any, between age and income level. The table indicates that there was a significant relationship among health-related quality of life and gender (P=.017) and exercise performance (P=.034) i.e. males had a higher quality of life than females. There was a positive relationship between exercise performance and health related quality of life among cardiac disease patients.

Table (5) demonstrates the correlation between health-related quality of life among cardiac patients and treatment modalities. The table indicates that there was no significant difference among treatment modalities included in the study.

Table (6) reveals the correlation between health-related quality of life among cardiac patients and the presence of chronic diseases. The table shows that those patients with the presence of hypertension and diabetes mellitus reported decreased (P=.021 and P=.00, respectively) health-related quality of life among patients with cardiac disease.

Table (2): Sample distribution according to treatment modalities and the presence of chronic diseases.

Variable	*Yes*		*No*	
	Frequency	*%*	*Frequency*	*%*
Treatment Modalities				
Surgical	*52*	*44.1*	*66*	*55.9*
Interventional procedures	*93*	*78.8*	*25*	*21.2*
Medications	*83*	*70.3*	*35*	*29.7*
Presence of other chronic diseases				
Diabetes Mellitus	*46*	*39*	*72*	*61*
Hypertension	*54*	*45.8*	*63*	*53.4*
Renal Failure	*7*	*5.9*	*111*	*94.1*
Heart Failure	*5*	*4.2*	*113*	*95.8*
Others	*1*	*.8*	*2*	*1.7*

Table (3): Health-related quality of life of the study sample (N=118).

Quality of Life Dimensions	*M*	*SD*
Global Health Status	*7.92*	*3.04*
Functional Health Status	*38.30*	*10.55*
Symptoms Health Status	*32.55*	*9.42*
Total	*78.78*	*20.63*

Low QOL=30-62
Moderate QOL=62-94
High QOL=94-126

Table (4): Correlation between health-related quality of life dimensions among cardiac patients and sociodemographic characteristics.

Variables	*M*	*SD*	*T*	*F*	*Sig. Level*
Gender					
Male	*83.30*	*21.25*	*2.42*		*.017 **
Female	*74.27*	*19.12*			
Age					
↓ 50	*84.86*	*21.57*		*1.87*	*.159*
51-60	*77.75*	*21.75*			
↑ 60	*75.80*	*18.53*			
Income					
Low	*76.53*	*21.32*		*1.62*	*.201*

Moderate	*83.10*	*17.76*		
High	*86*	*21.45*		
Exercise Performance				
Yes	*87.94*	*14.91*	*-2.14*	*.034 **
No	*77.03*	*21.60*		

**** P≤.05***

Table (5): Correlation between health-related quality of life among cardiac patients and treatment modalities.

Variables	***Category***	***M***		***SD***		***T***	***Sig. Level***
		Done	***Not Done***	***Done***	***Not Done***		
Treatment Modalities	*Surgery*	*78.21*	*79.52*	*19.23*	*22.46*	*-.340*	*.734*
	Interventional Procedures	*73.04*	*80.33*	*19.45*	*20.76*	*-1.57*	*.117*
	Medications	*78.40*	*78.95*	*19.67*	*21.14*	*-.123*	*.895*

Table (6): Correlation between health-related quality of life among cardiac patients and presence of chronic diseases.

Chronic Diseases	***M***	***SD***	***T***	***Sig. Level***
Diabetes Mellitus				
No	*84.30*	*20.51*	*3.84*	*.00 **
Yes	*70.15*	*17.83*		
Hypertension				
No	*82.61*	*20.49*	*2.34*	*.021 **
Yes	*73.83*	*19.82*		
Renal Failure				
No	*75.44*	*20.57*	*1.37*	*.172*
Yes	*68.42*	*20.19*		
Heart Failure				
No	*79.39*	*20.56*	*1.53*	*.127*
Yes	*65*	*19.14*		

**** P<.05*** ***** P<.001***

Discussion

The purpose of this study was to assess the health related quality of life among cardiac disease patients. The study revealed that the majority of the study sample was above 51 years old; most of the sample reported a low income level. The majority of the study sample did not perform any exercises, the majority of sample had interventional procedures, most of the study sample had diabetes mellitus and hypertension compared to other chronic diseases for the minority of the study sample, the majority of the study sample had a moderate quality of life. Additionally, there were significant correlations between gender; and income level with health related quality of life among cardiac disease patients. There were no significant differences among treatment modalities included in the study. The presence of hypertension and diabetes mellitus decreased significantly the quality of life among patients with a cardiac disease.

The findings of the current study supported by a study that aimed at describing the quality of life among people suffering from coronary artery disease. The quality of life was evaluated using the Nottingham health profile. The study concluded that the health related quality of life for coronary artery disease was significantly poorer. [9]

In the current study, the results showed no significant difference among various treatment modalities included in the study. The current study result was contradicted with other research studies, one explanation may be that the sample size of the current study had a limited number of patients who had undergone surgery.

On the contrary, a prospective study for 400 patients followed up at Queen Alia Heart Institute Amman/Jordan to evaluate the intermediate to long-term health related quality of life in patients with heart disease following open heart surgery. The study implied that open heart surgery is well tolerated by the majority of patients and there was an overall improvement in all aspects of life social, academic, leisure, and sexual for most patients. [10]

Regarding socioeconomic characteristics; a study on the health related quality of life in hospitalized patients with heart failure has been carried out, 230 adult patients hospitalized with heart failure were randomly selected from wards. The study indicated that patients' age, sex, duration of diagnosis, smoking and positive familial health disease history affected the quality of life. [11]

Furthermore, gender differences in health related quality of life among cardiac patients were examined. The study concluded that women with cardiac disease indicated significant lower health related quality of life than men with cardiac disease. [12]

Additionally, in the study conducted to explore the influence of exercise tolerance on the health related quality of life among heart failure patients, it implied that exercise testing is safe feasible and effective in evaluating exercise tolerance and that both exercise duration and exercise intensity were important factors in determining health related quality of life. [13]

With regard to the presence of chronic disease, the current study reinforced the findings of a study which investigated the responsiveness and the ability to provide information about a diabetes-specific association with health related quality of life. The findings were highly responsive to changes in HRQOL in patients with Type I diabetes mellitus. [14]

Moreover, the association between hypertension and health related quality of life compared to those without hypertension was examined. The study concluded that cardiac patients with hypertension reported lower physical health than those without hypertension, [15] which was consistent with the findings of the current study.

Conclusions and Recommendations

The study concluded that cardiac patients have moderate health related quality of life as determined by the EORTC QLQ-c30 (version 3) questionnaire and reduced health status related to the quality of life which was associated with low income level, decreased exercise performance, and the presence of hypertension and diabetes mellitus. This study needs to be repeated using the same type of sample but with emphasis on both the presence of other chronic diseases and surgery as a treatment modality to be added as an inclusion criteria for sample selection to allow the researcher to study the relationship between the presence of chronic diseases, surgery as a treatment modality and the health-related quality of life among cardiac disease patients.

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جودة الحياة المتعلقة بالصحة لدى مرضى القلب في مركز الملكة علياء لأمراض وجراحة القلب

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الملخص

الأهداف: تهدف هذه الدراسة إلى تقويم جودة الحياة لدى مرضى القلب، واختبار العلاقة ما بين جودة الحياة و العوامل التالية: الخصائص الديمغرافية، طرق المعالجة، والأمراض المزمنة المصاحبة.

الطرق: استخدم المنهج الارتباطي غير التجريبي، وقد تم جمع البيانات في مركز الملكة علياء لأمراض و جراحة القلب في مدينة عمان باستخدام استبانه نوعية الحياة الأوروبية الخاصة ببحث ومعالجة السرطان. كما تم استخدام عينة مقنعة تكونت من 118 مريض قلب، حيث وزعت بالتساوي اعتماداً على الجنس.

النتائج: بينت نتائج الدراسة ان معظم العينة كانت تتمتع بجودة حياة متوسطة (متوسط=78، 78) بانحراف معياري (20،63). ولم تظهر فروق ذات دلالة إحصائية في جودة الحياة لدى مرضى القلب تعزى لطريقة المعالجة، هذا من جهة، ومن جهة أخرى كشفت النتائج عن فروق ذات دلالة إحصائية في جودة الحياة لدى مرضى القلب تعزى للجنس (ت2،42 ; α = 17.,) وممارسة الرياضة (ت=2،14; α =34.,). كما أظهرت النتائج ان هناك علاقة سلبية بين جودة الحياة ووجود الأمراض المزمنة لدى مرضى القلب مثل ارتفاع ضغط الدم ومرض السكري.

الاستنتاج: تشير نتائج الدراسة إلى ضعف في جودة الحياة لدى مرضى القلب، ووجود علاقة سلبية ما بين جودة الحياة من جهة وعدم ممارسة الرياضة ووجود الأمراض المزمنة كارتفاع ضغط الدم والسكري من جهة أخرى.

الكلمات الدالة: جودة الحياة، أمراض القلب، الأمراض المزمنة المصاحبة، طرق العلاج.