How to Cite:
Al-Hussien, I. Q. K., & Muhaibes, F. J. (2022). Determination of factors affecting quality of life of patient with coronary artery disease. *International Journal of Health Sciences*, *6*(S3), 11168–11176. https://doi.org/10.53730/ijhs.v6nS3.8816

Determination of factors affecting quality of life of patient with coronary artery disease

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***Abstract*---**Background: Coronary artery disease are the common cause of death globally, it can effect on patient physical, emotional, social and environmental aspects, coronary artery disease can disrupt the patient quality of life. Fortunately, ischemic heart disease can be treated successfully with lifestyle changes, medicines, and surgical procedures. Early recognition of the risk factors and primary prevention have significantly decreased the morbidity and mortality associated with CAD. Objective: The Objectives of the study are to Asses patients (Q.O.L.) after coronary artery disease, Find out the relation between the (Q.O.L.) for patient who complain from CAD and the demographical data and find out the relation between the (Q.O.L.) for patient with CAD and their clinical information. Methods: Descriptive cross sectional study design was selected to achieve the objectives of the study. Non probability (purposive) sample of 120 patients (77) male and (43) female were selected to study the factors affecting quality of life for patients with coronary artery disease in Al-Najaf Al-Ashraf city. Results: According to study finding, the overall evaluation of research sample quality of life were poor, the researcher found that there were non-significant relationship between the subjects demographical characteristic's and their overall assessment of (Q.O.L.) except of the one item (monthly income). According to the connection between the study subject (Q.O.L.) and their clinical characteristic's, the result of this study demonstrated that there were non significant connection between the study subject (Q.O.L.) and all items of clinical variables except at one item (number of blocked arteries). Conclusion: The quality of life is based on the individual perceptions to their various life aspect, The study declared that there were many independent variables that may have an effect on the

individual quality of life, like demographic and clinical characteristics. It is necessary to identify the factors that influence QoL. This will aid healthcare providers (nurses) in determining quality of life, improving health, and ensuring a maintained or improved QoL, which is significant for CAD patients. It may also lead to more wellness and patient care.

***Keywords*---**determination, affecting quality, patient, coronary artery disease.

Introduction

According to the American Heart Association, 16.5 million persons over the age of 20 have coronary artery disease in 2018. Ischemic heart disease-related deaths are on the decline in industrialized countries such as the United States and the United Kingdom. This reduction can be linked to a better understanding of illness prevention. Guidelines for primary and secondary prevention are available and are being actively implemented; however, In order to reduce cardiovascular morbidity and mortality rates, healthcare practitioners must be aware of implementation awareness in many aspects, which is crucial. Diagnosis and management of coronary artery disease, and the involvement of the health professionals in clients management and nursing interventions, are the emphasis of this activity. The drop in mortality in developed countries can be attributed to increased use of primary and secondary cardiovascular preventive strategies. High-risk cardiovascular problems can be prevented with primary prevention techniques because there is no prior history of such complications. Preventative measures that are secondary in nature are therapies that help people with a history of CAD avoid further heart disease (Benjamin, et al., 2018; Regmi & Siccardi ,2020).

Furthermore, atherosclerotic, or the obstruction the coronary arteries with fibrous, fatty plaque, is the most significant reason of coronary artery disease. A type of blood vessel disease known as coronary heart disease (CAD) lies under the umbrella concept of cardiovascular disease (CVD) (atherosclerosis). Atherosclerosis was originated of two Greek phrases: athere, which literally translates as "fatty mush," & skleros, which literally translates as "hard." Consequently, it is hypothesized that atherosclerosis begins initially soft fatty tissue that harden with time. In order to avoid confusion, atherosclerosis is also referred to as arterial hardening. Although atheromas (fatty deposition) can grow in every artery in the body, they are more likely to occur in the coronary arteries than in any other artery. Arteriosclerotic heart disease, circulatory heart problems, ischemic heart disease, heart disease, and coronary artery disease (CAD) are all terms used to describe this disease process. (Heitkemper et al., 2014 ; Felman, 2019).

In the current study, the quality.of.life for the coronary heart disease patients was evaluated. in An- Najaf AL-Ashraf and to determine the factors affecting with the quality of life in these patients. Identifying the quality of life of CAD patients adds considerably to the treatment of the disease and the reduction of psychological

and physical issues. Determining and identifying the factors that negatively and positively influence individuals with coronary artery disease's quality of life are very important since some factors lead to the worsening of the patient's condition, such as socioeconomic status and number of blocked arteries., which negatively affects the physical status of the clients.

Methods and Materials

Design of the Study

The cross.-.sectional descriptive method was chosen in order accomplish the research aims, which were to determine the (Quality Of.Life.) of patients with coronary.artery.disease in the city of Al-Najaf Al-Ashraf.

Setting of the Study

The Al-Najaf Al-Ashraf Health Directorate /Al-Sadder Medical City, Al Najaf. Center. for. Cardiac. Surgery. and. Trans. Catheter. Therapy, and Al Hakeem general hospital were chosen to conduct the study.

Sample of the Study

For this study, a non-probability (purposeful sampling) total of 120 patient populations (77 men and 43 women) was chosen who complain from (C.A.D.), and their quality of life were evaluated.

Study Instrument

An assessment tool (questionnaire) is adopted and developed by the researcher to measure the variables of interest. The final study instrument consists of two parts:
Part I: Patients' Socio-demographic Characteristics.
Part II: patients clinical characteristics.
Part III: Short form (36) quality of life scale.

Data Collection

The data had been collected through the utilization of the developed questionnaire after the validity and reliability are estimated, and by means of a structured interview technique with the subjects who were individually interviewed, by using the English version of the questionnaire and they were interviewed in a similar way, by the same questionnaire for all those subjects who were included in the study sample. The data gathering technique was carried out over a period of time that began on January 10, 2021 and finished on April 2, 2021. Each subject spends approximately (20-25) minutes to complete the interview.

Statistical analysis

The data were analyzed through application of the descriptive and inferential data analysis methods, included: Frequency, percentage, and Cumulative Percentage, Mean of scores and Chi esquire

Results

Table 1
Distribution of the studied sample according to their demographic data

Demographic data		Freq.	%
Age (Years)	<= 34	6	5.00
	35 - 44	14	11.67
	45 - 54	26	21.67
	55 Up	74	61.67
	Mean ± SD	55.4 ± 10.7	
Gender	Males	77	64.17
	Females	43	35.83
Education level	Illiterate	25	20.83
	Read and write	26	21.67
	Primary school graduate	32	26.67
	Intermediate school graduate	14	11.67
	Secondary school graduate	8	6.67
	Institute and college graduate	15	12.50
occupation	Student	2	1.67
	Employee	16	13.33
	Retired	28	23.33
	Self-employee	35	29.17
	House wife	39	32.50
Marital status	Single	2	1.67
	Married	115	95.83
	Divorce	1	.83
	Widowed	2	1.67
Monthly income	Insufficient	75	62.5
	Barely sufficient	38	31.67
	Sufficient	7	5.83
Residency	Urban	64	53.33
	Rural	56	46.67
Total		120	100%

The results of the demographical characteristics represent that the highest percentage for age categories were showed as 61.67% (n = 74) up to 55 year old. The findings reveal that male patients were more than female with a percentage of 64.17% (n =77). The results of participants' educational levels indicated that the highest percentage 26.67% (n = 32) were primary school graduate. however, in regard to their occupational status, the majority of participants 32.50 % (n = 39)

were a house wife. Moreover, the results of marital status categories showed that most of the participants exhibited as “married” 95.83 % (n = 11.(In addition, in regard to their monthly income, the majority of study sample 62.5 % (n = 75) had insufficient. The results of study sample residency indicated that 53.33% (n = 64) lived in urban area.

Table 2
Distribution of the studied sample according to their clinical data

Clinical data		Freq.	%
Smoking status	None	33	27.5
	Passive	35	29.17
	Previous	15	12.50
	Active Smoker	37	30.83
Duration of smoking (Years)	<= 10	5	9.62
	11 - 20	26	50.00
	21 Up	21	40.38
	Mean ± SD	24.9 ± 10.8	
Chronic disease	None	7	5.83
	Hypertension and Hyperlipidemia	52	43.34
	Diabetes Mellitus	6	5.00
	Cardiac Disease	9	7.5
	Hypertension, Diabetes Mellitus and Hyperlipidemia	46	38.33
BMI	Underweight	0	.00
	Normal weight	26	21.67
	Overweight	53	44.17
	Obese	41	34.17
Duration of disease (Years)	<= 5	90	75.00
	6 - 10	23	19.17
	11 Up	7	5.83
	Mean ± SD	4.3 ± 0.42	
Number of blocked artery	One artery	38	31.67
	Two artery	57	47.50
	Three or more artery	25	20.83
Type of cardiac catheterization	None	16	13.33
	Diagnostic	16	13.33
	Treatment	27	22.50
	Diagnostic and Treatment	61	50.83
Total		120	100%

The above table represent the clinical information about the study Sample, so the highest percentage of smoking status 55.00 % (n = 66). About the duration of smoking per years 50.00 % (n = 26) were between the (11 – 20) years. In regarding to chronic diseases the highest percentage 43.34% (n = 52) indicated (Hypertension and Hyperlipidemia). Furthermore, in regard to the study subjects BMI, majority of study sample 44.17 % (n = 53) had overweight. Concerning the duration of disease (years), about 75 % (n = 90) were equal and less than 5. In

addition, the table shows that the high percentages of participant 47.50 % (n = 57) had two blocked arteries. In related to the type of cardiac catheterization, majority 50.83 % (n = 61) of study subjects had both diagnostic and treatment catheterization.

Table 3
Distribution of Overall Quality of Life Domains

Overall Quality of Life domains		Freq.	%	Mean ± SD	Assess.
Overall Quality of Life	Poor	88	73.33	36.6 ± 17.6	Poor
	Good	32	26.67		
Total		120	100%		

Mean <=50: Poor, Mean >50: Good

The above table (2) that concerned to overall assessment of theQuality Of.life, so the result show the overall QualityOf.life was poor, with a mean value of less than 50

Table 4
Overall Quality of Life with demographical variables

Demographical variables	Chi.square	d.f	Pvalue
Age.	3.233	3	0.358 (NS)
Gender	0.399	1	0.528 (NS)
Education level	9.57	5	0.08 (NS)
Occupation	10.35	5	0.06 (NS)
Marital status	6.5	3	0.088 (NS)
Monthly income	16.1	5	0.007 (HS)
Residency	1.47	1	0.225 (NS)

Regarding to above table (3) represent there were non-significant relationship between all items of sample demographical characteristic's and the overall assessment of (Q.O.L.), except of the one item (monthly income) the result declared high meaningful relationship with the overall (Q.O.L.) at pvalue lower than 0.05.

Table 5
Overall Quality of Life with their Clinical variables

clinical data	Chi-square (X^2)	df	P-value (Sig.)
Smoking.status	0.933	3	0.818 (NS)
Duration of smoking (Years)	0.931	2	0.628 (NS)
Chronic disease	8.75	12	0.723 (NS)
BMI	1.07	3	0.78 (NS)
Duration of disease (Years)	3.64	2	0.162 (NS)
Number of blocked artery	11.20	2	0.004 (HS)
Type of cardiac catheterization	3.42	3	0.33 (NS)

In related to the table (4.30) the result shows there were non-significant relationship between all items of sample clinical data and the overall assessment of (Q.O.L.), except of the one item (Number of blocked artery) the result declared strong relationship with the overall (Q.O.L.) at pvalue lower than 0.05.

Discussion

The researcher found that there were non-significant relationship between the subjects demographical characteristic's and their overall evaluation of quality of life except in one item (monthly income). This study finding opposite with the article of researchers Santoso et al (2017) that demonstrated that there were highly association between the quality of life and the increasing of ages that indicated decrease of physical functioning and have high risk of coronary artery disease. The increasing in age include one of the non-modifiable risk factor. Impaired of physical activity in patients with CAD can causes decrease QoL score. Previous studies Chu et al., (2014) and Sajobi et al., (2018) revealed that several factors including the sex , age, socioeconomic status and chronic disease were affecting quality of life of study subjects. Regarding the personal income the result of study indicated that there.were strong relationship between the study subjects overall evaluation of (Q.O.L.) with their monthly income at pvalue lower than.0.05. Low socio-economic status may put individuals at risk with poorer health than the individual with good economic status for various reasons, such as less access to healthcare, poorer living conditions, less knowledge about the complication of disease and the negative effect on psychological status.

This finding are is in consisted with Keyvanara et al ., (2015), study they demonstrated there is positive and high meaningful relationship with the patient socioeconomic status and their (Q.O.L.). According to the relationship between the study subject quality of life and their clinical characteristic's, the result of this study demonstrated that there had been non- significant.relationship among both the study subject (Q.O.L.) and all items of clinical variables except at one item (number of blocked arteries), this finding mean that this factor have an effect on the subjects quality of life, it may be related to the severity of signs and symptom of disease because of the blocked artery lead to the decreased in myocardial perfusion which lead to the chest pain and shortness of breathing that have interfering with the physical activity , responsibilities and social relationships. This interpretation are matched with the study finding of Stewart et al ., (2013) who estimated that the severity of coronary artery disease symptoms like dyspnea, chest pain and fatigue have an direct effect on physical activity. In contrast the finding of the research by Scarabottolo et al ., (2019) demonstrated that the physically active people are with the better quality of life.

Conclusions

The study concluded that the quality of life is based on the individual perceptions to their various life aspect, The study declared that there were many independent variables that may have an effect on the individual quality of life, like demographic characteristics. The study concluded that the overall assessment of (Q.O.L.) of coronary artery disease clients were poor, there were non-significant relationship between the study subjects overall quality of life and their

demographical factors except in one item (monthly income) and there were non-significant relationship between the study subjects quality of life and their clinical characteristics except in one item (number of blocked artery).

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