

Psycho- social Problems and Coping Strategies among Patients Undergoing Coronary Catheterization at Benha University Hospital

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Abstract

Background: Coronary catheterization can be a stressful experience for many patients because of its invasive nature and potential risks. **Aim of study:** Was to asses psycho-social problems and coping strategies among patients undergoing coronary catheterization. **Design:** A descriptive research design was utilized to fulfill the aim of the study. **Setting:** This study was conducted at Cardiac Catheterization Unit at Benha University Hospital, Benha City, Qalubiya Governorate. **Sample:** A purposive sample of 100 patients undergoing coronary catheterization was taken from the above mentioned setting. **Tools of data collection:** Three tools were utilized to collect data; **I:** A Structured interviewing questionnaire sheet, **II:** Psychological and social problems scale and **III:** Coping strategies scale. **Results:** Half of the studied patients had severe level of psychological and social problems. Also, more than half of them had low level of coping strategies. **Conclusion:** There was a highly statistically significant negative correlation between total psychological and social problems scale and total coping strategies scale among the studied patients. **Recommendations:** Designing a special rehabilitation program to provide patients undergoing coronary catheterization with adequate support and effective coping to overcome patients' psychosocial problems

Key words: Coping strategies, Coronary catheterization and Psycho-social problems.

Introduction

Heart is the main organ in the circulatory system, the structure is primarily responsible for delivering blood circulation and transportation of nutrients in all parts of the body this continuous task uplifts the heart's role as a vital organ whose normal operation is constantly required the heart's blood-pumping cycle called the cardiac cycle. About 5.6 liters of blood circulate the body, and three cardiac cycles are completed per minute (Benjamin, 2019).

Cardiac Catheterization is common procedure done to diagnose or treat variety of heart problem such as abnormalities of the coronary arteries ,heart disease, including

coronary artery disease, myocardial disease, and to determine the location and extent of the disease process, to assess the following states, severe angina unresponsive to medical management, Unstable angina pectoris ,Uncontrolled heart failure, ventricular dysrhythmias, or cardiogenic shock associated with acute myocardial infarction, papillary muscle dysfunction, ventricular aneurysm, or septal perforation(Kim, 2018).

Psychosocial problems such as stress, anxiety, depression, social isolation, low self-esteem and loneliness) are common among patients undergoing coronary catheterization as they occur as a response that caused by a

discomfort from unmet needs or obstacles. Many patients are nervous or scared before the procedure because they fear what could happen during the procedure or the results of the test, discharge, and diagnoses and may not have the best prognosis (Strang, 2016) .

Furthermore, Patients undergoing coronary catheterization seem to exhibit symptoms of anxiety, stress and depression when there is unknown information that they may have to wait for. The core symptoms of anxiety among those patients are fear, worry and anger. Some patients become overly afraid of cardiac catheterization procedure that trigger fears, while others react with explosive fear and frustration. Few people recognizing the severe distress they experience (Alonso, 2019).

Self-esteem is also psychologically affected among patients undergoing coronary catheterization and it is used to describe a person's overall subjective sense of personal worth or value. In other words, self-esteem may be defined as how much you appreciate and like yourself regardless of the circumstances. Some researchers found that those patients show low self-esteem and usually have some problems as a result of low self-esteem such as lack of motivation, aggressive relationship with the other (Tippett, 2018).

Coping strategies is expending conscious effort to solve personal and interpersonal problems, and seeking to master, it is used by patients undergoing coronary catheterization to minimize or tolerate anxiety, stress or conflict. Types of coping strategies usually used Appraisal-focused: Directed towards challenging one's own assumptions, problem-focused: Directed towards reducing or eliminate stressors, emotion-focused: Directed towards changing one's own emotional reaction. Emotions focused coping strategies are disclaiming

escape, avoidance, accepting responsibility or blame, exercising self-control, positive reappraisal (Ditton, 2018).

Role of psychiatric mental health nurse, toward patient undergoing catheterization the focus of psychiatric/mental health nursing is not on the origins of the diagnostic categories of diseases but on people's relationships with their illness or with their health and unique lived human responses to distress such as grief, anxiety, loneliness, and other psychosocial behavioral issues. The goal of psychiatric/mental health nursing is on achieving and maintaining optimal mental health, wellbeing, and quality of life mental health nurse should educate patients dealing with anxiety and stress , maintain patients mental, social and physical wellbeing.by learn how to relax if patient finds oneself under stress educate relaxation technique. Think toward positive thoughts, value oneself, demonstrate good time management, plan and think ahead, and express emotions. Communicate with people and seek new activities providing patients with accurate information from reliable sources It is vital to trust, improve their self-esteem. By following these simple strategies facilitating acknowledgment and validation of their feelings (Fournier, 2019).

Significance of the study:

Coronary catheterization is a vital procedure that affects the life of patients and has an impact on society as many studies found that most of patients undergoing coronary catheterization experience many social and psychological problems which has a great impact on their quality of life Furthermore, World Health Organization (WHO) reported that coronary heart disease deaths in Egypt reached 29,38% total death (WHO, 2018) as well as statistical department at Benha university hospital reported that there 693 patients perform

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coronary cauterization at 2019. So there is an important need for the researcher to conduct his research to asses the psycho social problem among patients undergoing coronary catheterization and learn the different coping strategies to cope with their disease.

Aim of the study

This study aimed to assess psycho-social problems and coping strategies among patients undergoing coronary catheterization.

Research Question:

What are Psycho- social problems and coping strategies among patients undergoing coronary catheterization?

Subject and Methods

Research Design

A descriptive design was used to conduct this study.

Study Settings

The study was conducted at Cardiac Catheterization Unit at Benha University Hospital which affiliated to Ministry of High Education.

Study Subjects:

Sample Size:

The sample size in this study included 100 patients undergoing coronary catheterization.

Sampling Type:

A purposive sample of 100 patients undergoing coronary catheterization according to the following **inclusion criteria:**

- 1- Patients undergoing coronary catheterization.
- 2- Aged from 18-65 years old.
- 3- Both sex.
- 4- Different education levels.
- 5- Willing to participate in the study.

Exclusion criteria:

- 1- Patients with other heart surgeries.
- 2- Patients with psychotic disorders.
- 3- Patients with hearing or visual impairment.

Tools of the study:

Three tools were used in this study;

Tool (I): A Structured Interviewing Questionnaire Sheet:

It was designed by the researcher after reviewing the related literature and reviewed by supervisors. It was written in Arabic language for gathering data and consisting of two parts:

Part (1): Socio - demographic characteristics of studied patients, such as age, sex, education level, marital status, residence, occupation and financial income.

Part (2): Disease History Data:

It was developed by the researcher and it include information about disease history such as onset of disease, number of previous coronary catheterization procedure, history of previous hospitalization, suffer from any other chronic medical disease, smoking, feel dyspnea and chest pain while walking and make any effort, family history from heart diseases and if he has health insurance.

Tool (II): Psychological and Social problems scale: It was developed by (Mohamed& Mohammed 2016) and adapted by the researcher. It was used to assess psychological and social problems among patients undergoing coronary catheterization.

Scoring system:

The scale was consisted of 50 items divided into two main dimensions (psychological and social). Firstly, Psychological dimension consisted of 25 items divided as anxiety subscale (15 items), depression subscale (5 items) and spiritual subscale (5 items). Secondary, Social dimension consisted of 25 items divided as social activities subscale (13 items), work related problems subscale (9 items) and financial problems subscale (3 items). The total score of the scale was 150 grades. Each statement was scored 0 to 3 corresponding to

never, rarely, some-times, and always. These scores were summed and were converted into a percent score. It was classified into 4 categories:

- 0 indicated: No psychological and social problems.
- 0-<50 degree (< 33.3%) indicated: mild psychological and social problems..
- 50-< 100 degrees (33.3% -<66.7%) indicated: moderate psychological and social problems.
- 100-≥150 degree (≥ 66.7%) indicated: severe psychological and social problems.

Tool (III): Coping Strategies Scale:

This scale was adapted from (Zaki, 2008) and it was used to assess the coping strategies patterns among patients undergoing coronary catheterization. It was included, 3 categories; avoidant patterns, seeking support and active patterns. All items are being scored on a scale value of 0 to 2 (2= use always, 1 = use some times, 0= use rarely), the high score mean that the patient use the pattern much and the low score mean that the patient use the pattern little.

Scoring system:

The scale was consisted of 51 items divided into 3 categories; avoidant patterns, seeking support and active patterns. Firstly, avoidant patterns category consisted of 23 items divided as affective adaptation subscale (6 items), denial subscale (3 items), cognitive withdrawal subscale (5 items) and negativity subscale (9 items). Secondary, seeking support category consisted of 9 items divided as resorting to religion subscale (4 items) and seek psychological support subscale (5 items). Thirdly, active patterns category consisted of 19 items divided as planning subscale (4 items), acceptance subscale (4 items), positive interpretation subscale (3 items) and active dealing subscale (8 items). The total score of

the scale was 102 grades. Each statement was scored 0 to 2 corresponding to use rarely, use some times and use always. These scores were summed and were converted into a percent score. It was classified into 3 categories:

- 0-<51 degree (< 50%) indicated: low coping.
- 51-< 76 degrees (50% -<75%) indicated: moderate coping.
- 76-≥102 degree (≥ 75%) indicated: high coping.

Validity of tools:

To achieve the criteria of trust and worthiness of the tools of data collection in the study. The tools were tested by five experts in Psychiatric and Mental Health Nursing field. As some notifications done in rephrasing of some sentences in Arabic translation in patient psychological and social questionnaire.

Reliability of tools:

Reliability was applied by researcher for testing the internal consistency of the tools by administration of the same subjects under similar conditions on one or more occasions. Answers from related testing were compared (test-re-test reliability) through Alpha Cronbach reliability.

Tool	Cronbach's Alpha	Internal consistency
Patient Psychological and Social Questionnaire	.909	Strong
Coping Strategies Questionnaire	.921	Strong

Ethical Consideration:

All subjects were informed that participation in the study is voluntary; no name will be included in the questionnaire sheet. Anonymity confidentiality of each

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participant was respected and protected, confidentiality was assured and subjects was informed that the content of the tool was used for research purpose only and they have the right of refuse to participate in the study or withdrawal at any time without any consequences.

Pilot Study:

A pilot study was conducted on 10% (10 patients) of the total sample. In order to test the applicability of the constructed tools and the clarity of the included questions. The pilot has also served to estimate the time needed for each subject to fill in the questions and to identify the problems that may be encountered during the study. This sample was excluded from the actual study sample.

Field Work / Procedure of Data Collection:

After securing the official permission from the dean of Banha faculty of nursing to the director of Benha university hospital, the researcher met the director of Benha university hospital before applying of the study to determine the suitable time to meet the study participants and explain the aim and objectives of the study.

The researcher introduced herself to subjects then explain the aim of the study to each one of them. Oral consent was obtained from every participant who fulfills the inclusion criteria. An individual interview was conducted for every patient to collect the necessary data using the tools for data collection, the average time needed for patient psychological and social questionnaire was around 20-25 minutes and about 25-30 minutes for coping strategies questionnaire.

The actual fieldwork for the process of the data collection has consumed three months started at beginning of January 2021 and was completed by the end of March 2021. The researcher was collecting the data from the study subjects at 2 days (Sunday,

Tuesday) /week at morning shift (10a.m-1p.m) to collect data. The researcher was meeting with a number of patients ranging from 3-4 patients in each meeting.

Statistical analysis

Data collected from the studied sample was revised, coded and entered using Personal Computer (PC). Computerized data entry and Statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 25 (SPSS Inc., Chicago, IL, USA). Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the arithmetic mean (\bar{X}) and standard deviation (SD) for quantitative data. Chi-square test (X^2) was used for comparisons between qualitative variables. Spearman correlation measures the strength and direction of association between two ranked variables.

Results

Table (1): Shows percentage distribution of the studied patients according to their socio-demographic data. It clarifies that, more than half (52%) of the studied patients their age ranged between 50-<60 years, the Mean \pm SD of age is 54.8 ± 10.5 years. As regard to sex and marital status, less than three quarters and three quarters of the studied patients are males and married (72% & 75%, respectively). In addition, half (50%) of them have secondary education. Moreover, about three quarters (74%) of them residing at rural areas. Also, less than three quarters (70%) of the studied patients working and more than half (54.3%) of them working at governmental sector.

Table (2): Reveals percentage distribution of the studied patients according to their medical history. It shows that, more than half (52%) of the studied patients have disease from 3-<5 years. Moreover, three quarters (75%) of them have a previous

coronary catheterization procedure one time previously. The vast majority (95%) of the studied patients have history of previous hospitalization and less than half (45.3%) admitted at hospital more than two times previously. In addition, the majority of the studied patients suffer from other chronic disease and more than half of them have hypertension (85% & 52.9%, respectively). concerning smoking the majority (82%) of them are smokers. More than two-thirds of the studied patients and majority of them feel dyspnea and chest pain while walking and when make an effort (70% and 82%, respectively). Furthermore, more than half (60%) of the studied patients have family history for heart diseases and two-thirds (66.6%) of them are first degree relatives. Regarding health insurance, more than half (54%) of the studied patients have health insurance while, less than half (46%) of them mentioned that the total cost of treatment on their own payment.

Figure (1): Reflects percentage distribution of the studied patients according to their total psychological and social problems scale. It reflects that, half (50%) of the studied patients have severe level of psychological and social problems. Also, one third (33%) of them have moderate level. While, the minority (12%) of them have mild level of psychological and social problems.

Figure (2): Illustrates percentage distribution of the studied patients according to their total level of coping strategies scale. It reflects that, more than half (54%) of the studied patients have low level of coping

strategies. Also, less than one-third (32%) of them have moderate level. While, the minority (14%) of them have high level of coping strategies toward their illness

Table (3): Reveals relationship between socio-demographic characteristics and total level of psychological and social problems among the studied patients. It illustrates that, there is a statistically significant relation between patients' total psychological and social problems and their socio-demographic characteristics as age, marital status, education level, occupation and financial income at ($P = < 0.05$). While, there is no statistically significant relation with their sex and residence at ($P = > 0.05$).

Table (4): Displays relationship between socio-demographic characteristics and total level of coping strategies among the studied patients. It shows that, there is a statistically significant relation between patients' total coping strategies and their socio-demographic characteristics as age, education level, occupation and financial income at ($P = < 0.05$). While, there is no a statistically significant relation with their sex, marital status and residence at ($P = > 0.05$).

Table (5): Indicates correlation between total psychological and social problems scale and total coping strategies scale among the studied patients. It reflects that, there is a highly statistically significant negative correlation between total psychological and social problems scale and total coping strategies scale among the studied patients at ($P = 0.001^{**}$).

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Table (1): Percentage distribution of the studied patients according to their socio-demographic characteristics (n=100).

Socio-demographic characteristics	Studied patients (n = 100)	
	N	%
Age		
< 20 years	2	2
20-<30 years	5	5
30-<40 years	10	10
40-<50 years	15	15
50-<60 years	52	52
≥ 60 years	16	16
Mean SD	54.8 ± 10.5	
Sex		
Male	72	72
Female	28	28
Education level		
Illiterate	8	8
Read and write	8	8
Primary education	13	13
Preparatory education	17	17
Secondary education (diplome)	50	50
Post graduate	4	4
Marital status		
Single	10	10
Married	75	75
Separated	4	4
Widowed	11	11
Residence		
Rural	74	74
Urban	26	26
Occupation		
Work	70	70
Not work	30	30
If patient work, what type of work (n=70)		
Employee at Governmental sector	38	54.3
Employee at Private sector	16	22.9
Free works	12	17.1
Housewife	4	5.7

Table (2): Percentage distribution of the studied patients according to their medical history (n=100).

Medical history	Studied patients	
	N	%
Onset of disease		
1-<3 years	22	22
3-<5 years	52	52
≥ 5 years	26	26
Mean SD	7.95±4.01	
Number of previous coronary catheterization procedure		
One time	75	75
Two time	17	17
More than two times	8	8
History of previous hospitalization		
Yes	95	95
No	5	5
If yes, number of previous hospitalizations (n=95)		
One time	22	23.1
Two time	30	31.6
More than two times	43	45.3
Suffer from any other chronic medical disease		
Yes	85	85
No	15	15
If yes, what is the chronic medical disease (n=85)		
Hypertension	45	52.9
Diabetes mellitus	32	33.6
Liver disease	4	4.7
Renal disease	2	2.4
Others	2	2.4
Smoking		
Yes	82	82
No	18	18
Feel dyspnea and chest pain while walking.		
Yes	70	70
No	30	30
Feel dyspnea and chest pain when you make any effort		
Yes	82	82
No	18	18
Are any family members suffering from heart diseases		
Yes	60	60
No	40	40
If yes, who is this? (n=60)		
First degree relatives	40	66.6
Second degree relatives	10	16.7
Others	10	16.7
Do you have health insurance?		
Yes	54	54
No	46	46
The cost of treatment you receive		
Free	38	38
Free with little cost payment as x-rays, labs	16	16
Total own cost payment	46	46

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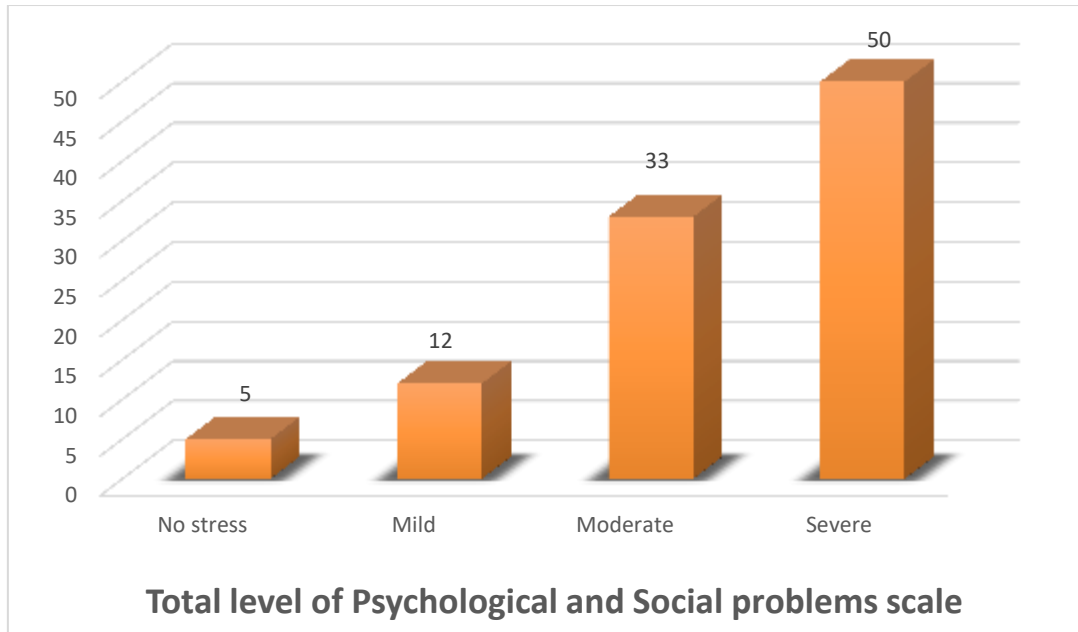


Figure (1): Percentage distribution of the studied patients according to their total psychological and social problems scale (n=100).

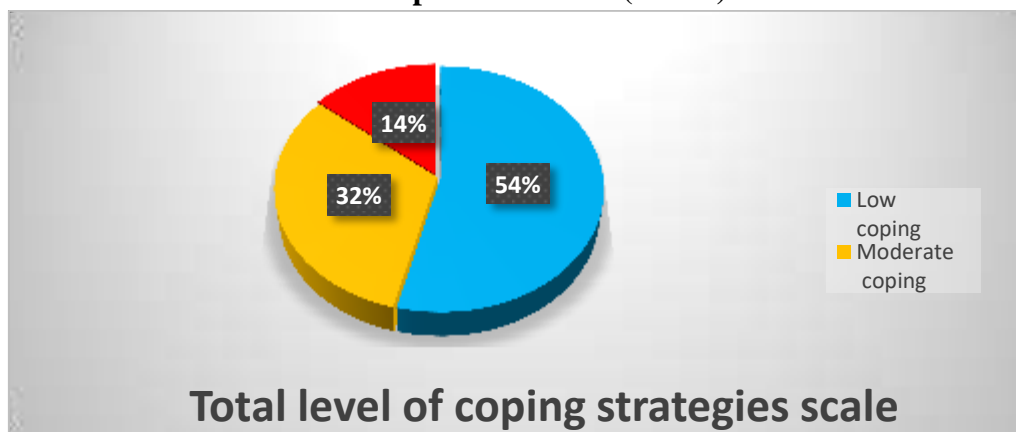


Figure (2): Percentage distribution of the studied patients according to their total level of coping strategies scale (n=100).

Table (3): Relationship between socio-demographic characteristic and total level of psychological and social problems among the studied patients (n=100).

Socio-demographic characteristic		Total level of psychological and social problems								X2	P-Value
		No (n=5)		Mild (n=12)		Moderate (n=33)		Severe (n=50)			
		N	%	N	%	N	%	N	%		
1. Age	< 20 years	0	0.0	0	0.0	0	0.0	2	4	9.521	<0.05*
	20-<30 years	0	0.0	0	0.0	0	0.0	5	10		
	30-<40 years	0	0.0	0	0.0	0	0.0	10	20		
	40-<50 years	0	0.0	2	16.7	3	9.1	10	20		
	50-<60 years	1	20	0	0.0	28	84.8	23	46		
	≥ 60 years	4	80	10	83.3	2	6.1	0	0.0		
2. Sex	Male	3	60	8	66.7	21	63.6	40	80	2.563	>0.05
	Female	2	40	4	33.3	12	36.4	10	20		
3. Marital status	Single	0	0.0	0	0.0	0	0.0	10	20	8.523	<0.05*
	Married	5	100	12	100	31	93.9	27	54		
	Separated	0	0.0	0	0.0	0	0.0	4	8		
	Widowed	0	0.0	0	0.0	2	6.1	9	18		
4. Education level	Illiterate	3	60	5	41.7	0	0.0	0	0.0	8.774	<0.05*
	Read and write	2	40	6	50	0	0.0	0	0.0		
	Primary	0	0.0	1	8.3	12	36.4	0	0.0		
	Preparatory	0	0.0	0	0.0	15	45.4	2	4		
	Secondary	0	0.0	0	0.0	6	18.2	44	88		
	Post graduate	0	0.0	0	0.0	0	0.0	4	8		
5. Occupation	Work	0	0.0	0	0.0	25	75.8	45	90	7.999	<0.05*
	Not work	5	100	12	100	8	24.2	5	10		
6. Residence	Rural	3	60	8	66.7	23	69.7	40	80	2.855	>0.05
	Urban	2	40	4	33.3	10	30.3	10	20		
7. Financial income	Not enough	0	0.0	0	0.0	10	30.3	50	100	10.63	<0.05*
	Enough	0	0.0	2	16.7	23	69.7	0	0.0		
	Enough and increase	5	100	10	83.3	0	0.0	0	0.0		

No significant at $p > 0.05$. *Significant at $p < 0.05$.

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Table (4): Relationship between socio-demographic characteristic and total level of coping strategies among the studied patients (n=100).

Socio-demographic characteristic		Total level of coping strategies						X ²	P-Value
		Low coping (n=54)		Moderate coping (n=32)		High coping (n=14)			
		N	%	N	%	N	%		
1. Age	< 20 years	0	0.0	0	0.0	2	14.3	11.69	<0.05*
	20-<30 years	0	0.0	0	0.0	5	35.7		
	30-<40 years	0	0.0	5	15.6	5	35.7		
	40-<50 years	0	0.0	13	40.6	2	14.3		
	50-<60 years	38	70.4	14	43.8	0	0.0		
	≥ 60 years	16	29.6	0	0.0	0	0.0		
2. Sex	Male	46	85.2	22	68.8	4	28.6	2.552	>0.05
	Female	8	14.8	10	31.2	10	71.4		
3. Marital status	Single	5	9.3	5	15.6	0	0.0	3.625	>0.05
	Married	34	63	27	84.4	14	100		
	Separated	4	7.4	0	0.0	0	0.0		
	Widowed	11	20.4	0	0.0	0	0.0		
4. Education level	Illiterate	8	14.8	0	0.0	0	0.0	11.92	<0.05*
	Read and write	8	14.8	0	0.0	0	0.0		
	Primary	13	24.1	0	0.0	0	0.0		
	Preparatory	13	24.1	4	12.5	0	0.0		
	Secondary	12	22.2	28	87.5	10	71.4		
	Post graduate	0	0.0	0	0.0	4	28.6		
5. Occupation	Work	54	100	16	50	0	0.0	9.256	<0.05*
	Not work	0	0.0	16	50	14	100		
6. Residence	Rural	49	90.7	21	65.6	4	28.6	3.582	>0.05
	Urban	5	9.3	11	34.4	10	71.4		
7. Financial income	Not enough	54	100	6	18.8	0	0.0	10.12	<0.05*
	Enough	0	0.0	25	78.1	0	0.0		
	Enough and increase	0	0.0	1	3.1	14	100		

Table (5): Correlation between total psychological and social problems scale and total coping strategies scale among the studied patients (n=100).

Variables	Total coping strategies scale	
	R	p-value
Total psychological and social problems scale	-.344	.001**

****highly significant at p < 0.01.**

Discussion

Cardiac catheterization is a valuable diagnostic and therapeutic procedure which does a comprehensive examination of how the heart and its blood vessels function. One or more catheters are inserted through a peripheral blood vessel in the ante-cubital artery or vein or femoral artery or vein with x-ray guidance. This procedure gathers information such as adequacy of blood supply through the coronary arteries, blood pressures, blood flow throughout chambers of the heart, collection of blood samples, and x rays of the heart's ventricles or arteries (Aliyu et al., 2020).

Regarding to the socio-demographic data of the studied Patients Undergoing Coronary Catheterization, the finding of the current study revealed that, more than half of the studied patients their age ranged between 50-<60 years, the Mean \pm SD of age is 54.8 ± 10.5 years. These results might be due to changes of the heart and blood vessels that occur with aging such as the decrease in elasticity and the ability to respond to changes in compliance of the arterial system that increase the work needed to drive the blood to various organs of the body due to resultant increase in the resistance to the pumping action of the heart.. This result supported with Ali, & Ali, (2019) who revealed that less than three quarters of the studied patients their age ranged between 50-<60 years, the Mean \pm SD of age is 54.60 ± 4.78 years old.

Regarding gender of the studied patient, the present study showed that less than three quarters them are males. This might due to men are more exposure to more stress from heavy physical activities and more limited ways to express emotional stress than women. Moreover, female hormones protect female from coronary artery disease (CAD). This finding in same line with Elgazzar, &

Keshk, (2018) who reported that, most patients were males.

On other hand, this result was contraindicated with the study of Gao et al., (2019) who revealed that, cardiac catheterization procedure due to coronary vascular disease (CVD) occurs similarly in men and women especially after menopause, because estrogen deficiency leads to several structural and functional changes in cardiovascular system which increase of cardiovascular risk.

The current result presented that less than three quarters of the studied patients were working. This result may ascertain that the relationship between stress, heart disease and sudden death has been shown to increase significantly as a consequence of any severe stressor that evokes "fight or flight" responses. This result in the same line with study by Mohammed., & Mohammed, (2016) who showed that, more than two thirds of the studied patients working. On other hand, this result was contraindicated with the study of Abdelatif et al., (2019) represented about three quarter of the studied patients not working..

The present study findings reported that, the vast majority of the studied patients have history of previous hospitalization and less than half admitted at hospital more than two times previously. This result may be due to the majority of the studied sample suffer from other chronic disease. These results were similar with the study of Rincy et al., (2019) who revealed that the majority of the studied sample had history of previous hospitalization.

The present result displayed that the majority of the studied patients suffer from other chronic disease and more than half of them have hypertension. This result might due to hypertension considered one of the risk factors for all types of cardiac diseases. These

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current results were supported with the study done by **Qasim, & Kathim, (2017)** and found that the majority of the studied patient had history of chronic diseases and less than half of them had hypertension. In the field, **Sung et al., (2020)** revealed that cardiac catheterization is common in people who suffer from medical diagnosis (ischemic heart disease) and coronary heart disease associated with hypertension, diabetes mellitus.

Concerning smoking, the present study results The present study revealed that more than two-thirds of the studied patients and majority of the studied patients feel dyspnea and chest pain while walking and when make an effort, respectively. This result might due to the negative effect and complication from cardiac diseases. These results were congruent with the study of **Abdelatif et al., (2019)** who illustrated that all studied patient had chest pain and dyspnea.

Concerning to total psychological and social problems scale, the present study illustrated that half of the studied patients had severe level of psychological and social problems. Also, one third of them have moderate level. While, the minority of them have mild level of psychological and social problems. These results ascertain that despite its numerous benefits for patients, coronary catheterization is also an invasive technique that brings about a lot of physical and psychological problems due to its aggressive nature. This finding in same line with study by **Molazem et al., (2018)** who revealed that the mean scores of fears, anxiety and depression in both experimental and control groups before intervention were high.

According to total level of coping strategies. the finding of the current study demonstrated that, more than half of the studied patients have low level of coping strategies. Also, less than one-third of them

have moderate level. While, the minority of them have high level of coping strategies toward their illness. This result may be due to the seriousness of the procedure, which takes over the mind and thinking of patients. These results were agreement with the study achieved by **Rong et al., (2018)** who found that less than two thirds of the studied sample had moderate level of coping strategies..

Concerning relationship between socio-demographic with total social and physical of coping strategies. This study in the same line with **Mohammed et al., (2019)** who illustrated that, highly statistically significant differences between age, gender and marital status of the studied patients and their severity of psychosocial problems. Moreover, this finding agreement with **Aboalizm et al., (2016)** who showed that there is a statistically significant relation between the studied patients' total psychological and their education.

Concerning to relationship between socio-demographic characteristics and total level of coping strategies among the studied patients. The present study showed that, there were statistically significant relation between patients' total coping strategies and their socio-demographic characteristics as age, education level, occupation and financial income. While, there was no a statistically significant relation with their sex, marital status and residence This findings might due to financial status is related to feeling secure, self- confident and useful, people feel less secure, self-confident and useful when they have a low income. As a result, when they encounter a problem, they express self-directed emotional reactions such as blaming themselves in order to decrease their stress.

These results were in harmony with result done by **Yazdi et al., (2016)** who stated that, there were a statistically significant

relation between patients' total level of coping strategies & age and financial income. In the same field, these results were supported with the study done by **Gonzalez et al., (2016)** who found that there was a statistically significant relation between patients' total level of coping strategies and their education level. This results might due to high educated patients used more acceptance resignation coping strategies, most likely because these patients might have better health literacy or good understanding of treatment adherence. Besides, educational levels were associated with a higher propensity of seeking knowledge.

According to the correlation between total psychological and social problems and total coping strategies among the studied patients. The present study reflected that, there was a highly statistically significant negative correlation between total psychological and social problems and total coping strategies among the studied patients. This could be explained as, the level of psychological and social problems was lower among patients with high level of coping strategies. This finding in same line with **Rong et al., (2018)** & **Livneh, (2019)** who mentioned that there was negative correlation between total psychological and social problems and total coping strategies among the studied patients.

CONCLUSION

Half of the studied patients have severe level of psychological and social problems. Also, more than half of them have low level of coping strategies. Moreover, there is a highly statistically significant negative correlation between total psychological and social problems scale and total coping strategies scale among the studied patients.

RECOMMENDATIONS

- Designing a special rehabilitation program to provide patients undergoing coronary

catheterization with adequate support and effective coping to overcome patients' psychosocial problems.

- Psychological counseling program can be designed and administered to patients to improve their coping strategies with their disease.
- Implementing non-pharmacological alternative therapies; as muscle relaxation, aromatherapy, meditation, music therapy, massage therapy and reflexology to minimize psychological problems
- **Further research:** Replication of the study using larger sample in different correlational settings to generalize the results.

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المشاكل النفس اجتماعية واستراتيجيات التكيف لدى المرضى الخاضعين لعمل قسطره بالشريان التاجي نعمه صبحي شاهين عفيفي - سيدة احمد عبداللطيف - هند احمد مصطفى حسائين

القسطرة القلبية هي الإجراء الحتمي والمتبع لتشخيص أمراض القلب الناتجة عن قصور بالشريان التاجي حيث ان قسطرة القلب عملية امنية و منخفضة نسبيا من حيث خطر الوفاة، إلا أن هذه العملية تعتبر مصدر للمشاكل النفسية والاجتماعية التي تحدث قبلوانشاء وبعد اجراءها ويرجع خطر هذه المشاكل الى حاله الواعيه للمرضى اثناءاجراء قسطره بالشريان التاجي والتاثير المحتمل لنتائج هذا الإجراء التشخيصي الذي قد يؤثر على الصحة وجوده متطلبات الحياه لدى المرضى الخاضعين لعمل قسطره بالشريان التاجي . لذلك هدفت هذه الدراسه إلى تقييم المشاكل النفس اجتماعية واستراتيجيات التكيف لدى المرضى الخاضعين لعمل قسطره بالشريان التاجي. أجريت هذه الدراسة في وحدة قسطرة القلب بمستشفى بنها الجامعي التابع لوزارة التعليم العالي بمحافظة القليوبية. تم تطبيق هذه الدراسة علي (١٠٠) مريض الخاضعين لعمل قسطره بالشريان التاجي من المكان السابق ذكره. حيث كشفت النتائج ان نصف المرضى الخاضعين للدراسه لديهم مستوى حاد من المشاكل النفسية والاجتماعية. كما أن أكثر من نصفهم لديهم مستوى منخفض من استراتيجيات التكيف تجاه هذه المشاكل.وعلاوة على ذلك وجود ارتباط سلبي ذات دلالة إحصائيةعاليه من المشاكل النفسية والاجتماعية واستراتيجيات التكيف لدى هؤلاء المرضى الخاضعين لعمل قسطره بالشريان التاجي. كما أوصت الدراسة بتصميم برنامج تأهيلي خاص لتزويد المرضى بالدعم الكافي، التأقلم الفعال وزيادة الوعي للتغلب على المشاكل النفسية والاجتماعيه لدى المرضى الخاضعين لعمل قسطره بالشريان التاجي.