Psychosocial Problems among Patients undergoing Coronary Catheterization

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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:** Assess psychosocial problems among patients undergoing coronary catheterization. **Setting:** the cardiac department and cardiac care unit at Ain Shams University specialized hospital, Egypt. **Sample:** A purposive sample composed of 100 patients undergoing coronary catheterization attending the previous mentioned setting. **Tools:** *First tool,* socio demographic interviewing sheet. *Second tool,* disease history questionnaire. *Third tool,* Patients' psychological and social problems questionnaire. **Results:** The mean age of studied patients was 53.6±4.2, more than two thirds of them were married, more than one third of them had technical institute education, the majority of the studied patients were working, More than two thirds of the studied patients were males and more than half of the studied patients were had enough monthly income. There is a highly statistical significant relation between age, gender and marital status of the studied patients and their severity of psychosocial problems. **Conclusion:** About half of the studied patients were always fear from death, anxious due to unknown procedure about catheterization & fear from hearing that someone death due to catheterization. Also, more than one third of the studied patients were always had family support by frequent visits, need others help before and after procedure, fear from affecting sexual desire & feel fatigue when doing any activities. Moreover, more than one third of the studied patients were always change work style after catheterization procedure, decrease ability to prognosis & decrease working hours. One third of the studied patients were sometimes had medical insurance & treatment at the expense of the state, while one third of them was rarely not had enough monthly income. More than one third of the studied patients were always had psychological, social & work respectively. **Recommendations:** Further research studies are needed for ongoing assessment of patients including large sample for generalization of results.

Key words: Psychosocial problems-Coronary catheterization.

Introduction

Cardiovascular diseases (CVDs) are currently the major cause of mortality and morbidity around the world. Among the CVDs, coronary artery disease (CAD) is the most common cause of deaths related to CVDs. Coronary catheterization is the best tool and gold standard for diagnosis of CAD. Coronary catheterization is an invasive procedure which is routinely used for the assessment and diagnosis of CAD. Coronary catheterization is generally an elective procedure in which a symptomatic patient with heart disease follows a protocol that

requires admission to hospital **(Astin et al, 2010)**.

Coronary catheterization is the insertion of a catheter to the heart by puncturing the groin site via the femoral artery. In this procedure, dye is injected and the extent and severity of stenosis of the coronary arteries are assessed **(Şatıroğlu et al., 2011)**.

Although being the test of choice to diagnose and treat coronary disease, it still presents potential risks, such as arrhythmias, embolism, neurologic alterations, vasovagal changes, in addition to ischemic, allergic and vascular complications **(Rossato et al., 2010)**.

Coronary catheterization can be a stressful experience for many patients because of its nature **(Jamshidi et al., 2010)**. Certain psychological and somatic dysfunctions whose connection with the inciting incident may be only temporal which can be observed. Anxiety alters the patient's vital signs; it results in physiological responses such as tachycardia, hypertension, elevated temperature, sweating, nausea and a heightened sense of touch, smell or hearing. A patient may also experience peripheral vasoconstriction. Anxiety may cause behavioral and cognitive changes which can result in increased tension, apprehension, nervousness and aggression. Some patients may become so nervous and apprehensive that they cannot understand or follow simple instructions. Some may be so aggressive and demanding that they require constant attention of the nursing staff. Patients with low anxiety tend to adopt a joking attitude **(Videbeck, 2011)**.

Patients with moderate anxiety may experience minor emotional tension occasional worry and fear usually they suffer from insomnia, and they respond well to mild sedatives. Their outward manner may seem relatively calm and well controlled, except for small moments where it is apparent to others that the patient is suffering from an inner conflict. They can usually perform daily tasks, only becoming restless from time to time. These patients are usually very motivated to develop reliable information from medical authority in order to reach a point of comfortable relief. Patient with low anxiety usually deny apprehension about operational dangers **(Agarwal, 2010)**.

Significance of the study

In daily practice it is observed that, patients undergoing coronary catheterization suffered from psychosocial problems due to stress and anxiety. Relatives are also stressed and share feelings and uncertainties with the patients, thus turning the situation more complex for the nursing team, since these experiences are mainly witnessed by nurses. In the daily routine, nurses find it difficult to deal with patients' psychosocial problems during catheterization period. In face of this situation, nurses should assess psychosocial problems among patients undergoing coronary catheterization to deliver a better care, thus diminishing the stressing factors to reduce patients' stress **(Buzatto & Zanei, 2010)**.

Aim of the study

This study aimed to assess psychosocial problems among patients undergoing coronary catheterization.

Research questions

What are psychosocial problems among patients undergoing coronary catheterization?

Subjects and Methods

Research design

A descriptive research design has been utilized to conduct this study.

Setting

The study was conducted in the cardiac department and cardiac care unit at Ain Shams University specialized hospital, Egypt.

Subjects

A purposive sample composed of 100 patients undergoing coronary catheterization attending the previous mentioned setting.

Tools of data collection

Data collected through used the following tools:

Tool (I):

Socio-demographic interviewing sheet; It included data related to socio-demographic characteristics such as; age, gender, marital status, etc.

Tool (II):

Disease history questionnaire; It was developed by the researcher. It was used to determine severity of patient illness.

Tool (III):

Patients' psychological and social problems questionnaire; It was developed by the researcher, it was used to measure:-

1) Psychological dimension as anxiety and depression…...etc.

2) Social dimension as social activities, family occasions, social isolation, acute and chronic stressors.

Scoring system

The questionnaire items were scored 3, 2, 1, and 0 for the responses always, sometimes, rarely and never. The scores of the items of each part were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed.

- Score (1 – 50): no stress.
- Score (51 – 100) mild stress.
- Score (101 – 150) sever stress.

Content and Face Validity and Reliability:

It was ascertained by a group of the experts in field of psychiatry and mental health nursing to test its content validity, reliability will be tested statistically.

Procedure

To carry out the study, an approval was obtained from the medical and nursing director of the cardiac department and cardiac care unit at Ain Shams University specialized hospital, Cairo, Egypt. A letter was issued to them from the Faculty of Nursing, Ain-Shams University, explaining the aim of the study in order to obtain their permission and cooperation. Data were collected in six months periods / the researcher will be available all days of weeks. Each patient interviewed individually using the previously mentioned study tools.

The researcher first met with the patients undergoing coronary catheterization in the previously mentioned setting, explained the purpose of the study after introducing herself. The caregivers were assured that information collected would be treated confidentially, and it would be used only for the purpose of the research. Then, individual

interviewing was done after obtaining caregiver consent to participate.

Ethical considerations

Verbal approval was obtained from the patients before inclusion in the study; a clear and simple explanation was given according to their level of understanding, physical and mental readiness. They secured that all the gathered data was confidential and used for research purpose only.

Statistical design

The collected data was statistically analyzed and presented in tables and graphs, using appropriate reliable and valid statistical methods and tests.

Results

Table (1): Distribution of the studied patients according to their socio-characteristic (No=100).

Items	No
Age	
40 – 50 years	31
50 – 60 years	56
≤ 60 years	13
Mean ±SD	53.6±4.2
Marital status	
Single	18
Married	67
Widow	8
Divorced	7
Educational level	
Illiterate	14
Read and write	23
Basic education	16
Technical education	32
University education	15
Occupation	
Working	86
Not working	14
Working types	
Handcraft	13
Employee	45
Work owner	12
Private working	16
House wife	14

Table (1): clarifies the distribution of the study sample according socio-demographic characteristics, 56.0 % of the studied patients was between age 50 – 60 years old with 53.6±4.2, 67.0 % of them was married and 32.0 % of them had technical institute education. In relation to occupation 86.0% of the studied patients was working and 45.0 % of them was employee.

Figure (1): Distribution of the studied patients according to gender (N=100).

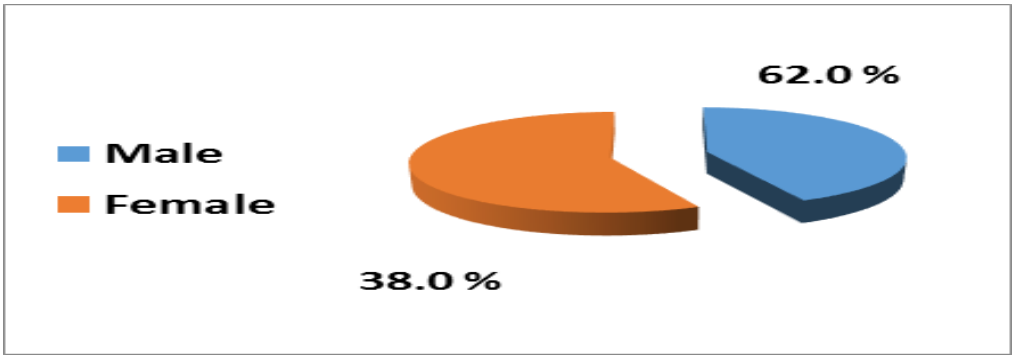

Figure (1) :reveals that, 62.0 % of the studied patients was males.

Figure (2): Distribution of the studied patients according to monthly income (N=100)

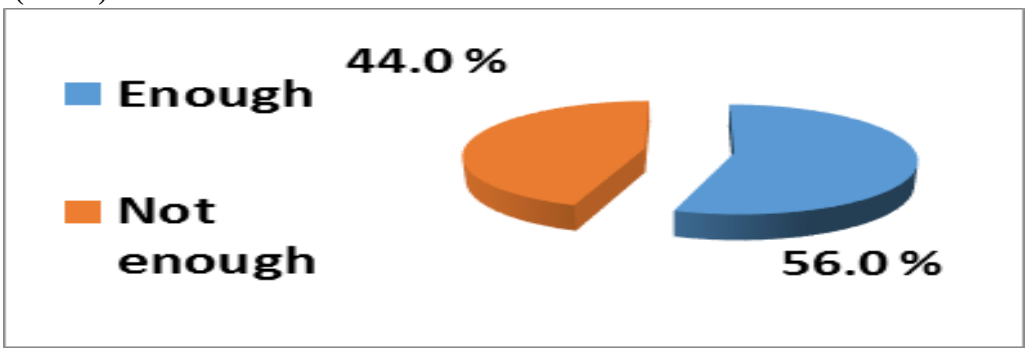

Figure (2) shows that, 56.0 % of the studied patients was had enough monthly income

Table (2): Distribution of the studied patients according to their psychological problems (No=100)

Items	Always	Sometimes	Rarely	Never
	No	No	No	No
Worry about future	25	40	20	15
Sad about disease	37	41	12	10
Anxious before procedure	45	30	15	10
Anxious due to complication	34	47	9	10
Shame toward others help	24	28	30	18
Sad due to sudden unplanned catheterization	40	30	15	15
Fear of being a burden on family	37	35	13	15
Annoyed from looks of others	24	18	33	25
Insomnia disorder	39	40	10	11
Anxious from bleeding after procedure	47	33	12	8
Anxious from procedure failure	33	24	20	23
Disappointed before procedure	45	41	10	4
Fear from stent	36	34	18	12
Boredom from chronic disease	41	36	12	11
Trouble from Gad	38	32	12	18
Not able to enjoy with life	43	34	10	13
Life become purposeless	33	37	14	16
Fear from death	51	32	8	9
Satisfy with my life	40	28	17	15
Anxiety due to procedure unknown	49	34	10	7
Anxiety due to hospitalization	44	38	9	9
Anxiety due to procedure not explain by medical team	24	30	20	26
Anxiety due to what to do after procedure	44	29	17	10
Fear form seen patient after procedure	33	42	20	5
Fear from hearing some one death due to catheterization	48	40	5	7

Table (2): shows that, 51.0%, 49.0% & 48.0% of them was always fear from death, anxious due to unknown procedure about catheterization & fear from hearing that someone death due to catheterization.

Table (3): Distribution of the studied patients according to their social problems (No=100).

Items	Always	Sometimes	Rarely	Never
	No	No	No	No
Not able to do family activities	30	32	23	15
Roles rotate between family members	23	27	19	31
Family support by frequent visits	38	30	18	14
Not able to understand others	27	25	30	18
common habits become not preferred	28	26	24	22
Decrease ability to family visits	22	27	26	25
Decrease ability to do regular rituals	30	28	24	18
Need others help before and after procedure	38	32	20	10
Fear from affect on sexual desire	37	29	23	11
Not able to marketing or do daily activity	33	27	25	15
Feel fatigue when doing any activities	36	33	22	9
Obstacles when traveling for long distances	26	27	22	25
Obstacles when participate in social occasion	30	31	17	22

Table (3): illustrates that, 38.0%, 37.0% & 36.0% of them was always had family support by frequent visits, need others help before and after procedure, fear from affecting sexual desire & feel fatigue when doing any activities.

Table (4): Distribution of the studied patients according to their work problems (No=100)

Items	Always	Sometimes	Rarely	Never
	No	No	No	No
Not able to do hard work after procedure	33	39	20	8
Change work style after procedure	42	36	12	10
Work efficiency may be affected due to long vacation	37	33	20	10
Decrease ability to prognosis	38	31	22	9
Frequent absenteeism	29	27	25	19
Decrease work hours	39	34	18	9
Help by collogue due to nature of disease	29	24	30	17
Work owner decrease work activity	36	30	21	13
Arrange work hours with nature of disease	37	30	20	13

Table (4): shows that, 42.0%, 38.0% & 39.0% of them was always change work style after catheterization procedure, decrease ability to prognosis & decrease working hours.

Table (5): Distribution of the studied patients according to their financial problems (No=100).

Items	Always	Sometimes	Rarely	Never
	No	No	No	No
Have medical insurance	29	32	18	21
Treatment at the expense of the state	27	30	22	21
Not enough monthly income	18	27	31	24

Table (5): clarifies that, 32.0% & 30.0% of them was sometimes had medical insurance & treatment at the expense of the state, while 31.0% of them was rarely not had enough monthly income.

Table (6): Distribution of the studied patients according to their psychosocial problems (No=100).

Items	Always	Sometimes	Rarely	Never
	No	No	No	No
Psychological problems	38	34	15	13
Social problems	31	29	22	18
Work problems	36	31	21	12
Financial problems	25	30	23	22

Table (6): reveals that, 38.0%, 31.0%, 36.0% & 25.0% of them was always had psychological, social, work & financial problems respectively.

Table (7): Relation between age, and marital status gender of the patients and their severity of psychosocial problems (n=100).

Items	Psychosocial problems			X^2	P Value
	Mild	Moderate	Severe		
	No	No	No		
Age					
40 – 50 years	3	6	22	47.61	****0.0001**
50 – 60 years	6	41	9		
≤ 60 years	7	4	2		
Gender					
Male	12	15	11	11.20	****0.004**
Female	4	36	22		
Marital status					
Single	2	7	9	14.22	***0.04**
Married	9	38	20		
Widow	1	4	3		
Divorced	4	2	1		

Table (7): illustrates that, highly statistical significant differences between age, gender and marital status of the studied patients and their severity of psychosocial problems.

Discussion

Cardiac catheterization is the standard procedure for the diagnosis of coronary heart disease. Although cardiac catheterization is relatively low risk for mortality, this procedure is linked to potential for morbidity and considerable psychological distress that occurs before, during and after the procedure. The threat of discomfort associated with cardiac catheterization procedure, the conscious state of the patient during the procedure, and the potential impact of the results from this diagnostic procedure can elicit a profound effect on patient's perception of health **(Gallagher et al., 2010)**.

The mean age of the studied patients was 53.6±4.2, more than two thirds of them were males and married, more than one third of them were had technical education, the majority of them were working, more than one third of them were employee and more than half of them were had enough monthly income **(Table 1and Fig. 1&2)**.These findings were in accordance with **Vural et al. (2010)** who found that, in a study about coronary artery disease in association with depression or anxiety among patients undergoing angiography to investigate chest pain, the mean age of the studied patients was 58.7±9.1, more than half of them were males and the majority of patients had enough income. Also, **Aboalizm (2016)** stated that, in a study about effect of early nursing preparation on anxiety among patients undergoing cardiac catheterization, Egypt, the majority of the studied patients were married. In the researcher's point of view, this may attributed to the high level of daily life stress on married patients than single one and that stress is considered one of the most aggravating factors for cardiac diseases.

Kalyani (2013) illustrated that, in a study about Iranian patient's expectations about coronary angiography: A qualitative study, more than half of the studied patients were had a work and one third of them were employee. Meanwhile, **Aboalizm (2016)** showed that, more than one third were had primary education.

About half of the studied patients fear from death and had anxiety due to unknown procedure. In the investigator's point of view, this may be due to the fact that, reassurances given by hospital personnel were not effective, there aren't any real reassurances available to aid with the stress stimuli that are subsequently encountered. This finding was in accordance with **Ulvik, et al., (2010)** who stated that, in a study about comparison of the short form 36 and the hospital anxiety and depression scale measuring emotional distress in patients admitted for elective coronary angiography, Brazil, in 15% of patients, depression or fear was expressed or verbalized. Anguish was found in approximately 30% of patients and the remaining 65% mentioned anxiety **(table 2)**.

More than one third of the studied patients were always supported by frequent family visits, need help from others before and after procedure, fear from affect on sexual desire, feel fatigue when doing any activities and not able to marketing or do daily activity. These findings were in the same line with **Bosworth et al. (2011)** who revealed that, in a study about social support and quality of life in patients with coronary artery disease, Netherlands, the majority of the patients were had poor social support. Also, **Steinke (2014)** pointed out that, in a study about Cardiac Comorbidities and Sexual Activity Predict Sexual Self-perception and Adjustment, Victoria, Changes in sexual desire and activity are often reported by cardiac patients **(table 3)**.

More than one third of the studied patients change work style after procedure, decrease work hours and decrease ability to prognosis. This result supported by **Ruge (2013)** who clarified that, in a study about assessment and management of the anxious patient in the cardiac catheter laboratory, Australia, about half of patients had work demands or job loss **(table 4)**.

About one third of the studied patients were had medical insurance and treatment at the expense of the state. These findings agreed with **Sahib and Mohammad (2016)** who illustrated that, in a study about Cardiac Catheterization Patients Satisfaction towards Health Care Services Provided At Cardiac Center in AL-Najaf AL-Ashraf Governorate, about half of patients were had medical insurance and treated at the expense of the state **(table 5)**.

More than one third of the studied patients were had psychological problems, work problems and social problems. Meanwhile less than one third of patients were had financial problems. These findings were in the same line with **Nekouei et al. (2011)** who stated that, in a study about comparing anxiety in cardiac patients candidate for angiography with normal population, the majority of patients who underwent cardiac catheterization were had psychological problems. Also, **Videbeck (2011)** confirmed that, in a text book of Psychiatric –Mental Health Nursing, the most of the sample suffered from social problems **(Table 6)**.

There is a highly statistical significant differences between age, gender and marital status of the studied patients and their severity of psychosocial problems whereas the psychosocial problems were sever in age group of 40 – 50 years, female gender and married patients. These findings were consistent with **Okvat (2012)** who stated that, in a study about massage therapy for patients undergoing cardiac catheterization, significant relation found between psychosocial problems and gender as women expressed greater psychosocial problems than the men. Also, **Norton (2010)** mentioned that, married were more label to expose to cardiac disorder. Meanwhile, these findings were contradicted with **Ali (2015)** who stated that, in a study about Determination The Level of Anxiety Among Patients Scheduled for Diagnostic Cardiac Catheterization, Iraqi, no significant relation presented between anxiety and age **(Table 7)**.

Conclusion

On light of the current study results, it can be concluded that, about half of the studied patients were always fear from death, anxious due to unknown procedure about catheterization & fear from hearing that someone death due to catheterization. Also, more than one third of the studied patients were always had family support by frequent visits, need others help before and after procedure, fear from affecting sexual desire & feel fatigue when doing any activities. Moreover, more than one third of the studied patients were.

Recommendations

- ✓ Establishing a special rehabilitation program to provide patients with adequate support to overcome patients' psychosocial problems.
- ✓ Preparation of patient education material, either sensory- or procedural-oriented, is thought to help the patient reduce

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