

Assessment of Psychosocial Outcomes for Patients Who Had Undergone Cardiac Surgery in Baghdad City

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الخلاصة

الهدف: تهدف الدراسة إلى تقييم النتائج النفسية والاجتماعية للمرضى الذين أجريت لهم عمليات القلب (زرع شرايين تاجية وتبديل صمامات القلب) وكذلك إيجاد علاقة بين النتائج النفسية والاجتماعية وبعض المتغيرات.

المنهجية: دراسة وصفية تحليلية أجريت على (50) مريض اختيروا بطريقة عمدية من الذين أجريت لهم عمليات القلب والمراجعين للعيادة الخارجية في مستشفى لراحة القلب (ابن البيطار والمركز العراقي) وفي المدة من الرابع من كانون الثاني إلى السادس عشر من آب عام 2007. تم إعداد وتطوير استبانة مكونة من جزئين، الأول يتعلق بالخصائص الديموغرافية للمرضى الذين أجريت لهم عمليات القلب والثاني يتعلق بالنتائج النفسية والاجتماعية وتحتوي على 48 فقرة تصف النتائج النفسية (القلق، الكآبة، الغضب) وكذلك النتائج الاجتماعية.

وتم تحليل النتائج من خلال تطبيق الوسائل الإحصائية الملائمة لتحليل النتائج. أشارت نتائج الدراسة إلى أن المرضى يعانون من مستوى عالي من النتائج النفسية (القلق، الكآبة، الغضب) ومن مستوى متوسط للنتائج الاجتماعية.

التوصيات: أوصت الدراسة بإنشاء وحدات تأهيلية واستشارية للمساعدة في تقليل العوامل النفسية الخطرة للمرضى الذين أجريت لهم عمليات القلب لتحسين نوعية الحياة لهم.

Abstract

Objective: The study aimed to assess the psychological outcomes for patients who were undergone cardiac surgery (CABG and VR) and to find a relationship between the psychosocial outcomes.

Methodology: A descriptive-analytic study was conducted on (50) patient was selected purposively and who were undergone cardiac surgery and had a follow-up clinic of two cardiac surgical hospitals (Ibn Al-Bitar Hospital and Iraqi Center for Heart Diseases). The study was carried out during the period of January 4th, 2007 to August 16th, 2007.

A questionnaire was adopted and developed that consists of two parts, the first was related to demographic characteristics of the sample, and the second was concerned with psychosocial outcomes, and it consists of 48 item that describe the psychological outcomes (anxiety, depression and anger) and the social outcomes. Data were analysed through the use of the suitable statistical methods.

Results: The results of the study revealed that patients suffer from severe level of psychological outcomes (anxiety, depression and anger) and from moderate level of social outcomes.

Recommendations: The study recommended establishing a cardiac rehabilitation and counselor units to help in reducing psychological risk factors for patients who were undergone cardiac surgery to improve the quality of life and establishing an educational program for the nurses and the patients' families concerning the psychosocial and social complications for these patients.

Key words: Psychosocial Outcomes, Cardiac Surgery

Introduction:

Cardiac diseases are the leading cause of death in the world today. Surgery resulting from heart disease has increased dramatically over the past few years. Depression and anxiety are both highly prevalent diseases among these patients and both cause a significant decrease in quality of life for the patient and impose a significant economic burden on society⁽¹⁾.

The amount of psychological distress is usually measured by the level of anxiety and depression reported by the patients which are correlated negatively with surgical outcome.

Cardiac surgery is now offered to more patients than ever before coronary artery bypass graft in particular has become an increasingly common treatment for coronary heart disease. However, an unexpectedly great number of patients after successful CABG surgery display only minor recovery in the psychosocial functioning⁽²⁾.

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Psychosocial Outcomes for Cardiac Surgery

During recovery from cardiac surgery, nurses have many opportunities to facilitate and provide psychosocial interventions, and during the course of caring for such patients, it is important to evaluate the patients sources of social support, as well as the presence of high level of negative emotional status, including anxiety, depression, and anger. So, nurses can provide functional support in terms of education and knowledge. Achieving optimum level of functioning has always been the primary focus of health care providers. Measurement and reporting of outcomes have become essential for the nurse to be able to identify which outcomes have optimum influence or impact on the patient⁽³⁾.

In order to find-out ways to help these cardiac patients and to deal scientifically with their situations, the current study sought to focus specifically on psychosocial predictors of these patient in Iraq, recovery symptoms and related mood status during recovery after cardiac surgery. Such a study has never been done previously in Iraq.

Methodology:

A descriptive-analytic study was conducted on patients after cardiac surgery in a follow-up clinic from two hospitals in Baghdad City (Ibn Al-Bitar Hospital and Iraqi Center for Heart Diseases) and the sample was selected purposively in the period of 4th January to 16th August 2007.

Questionnaire was constructed by the researchers based on extensive review of literature, and Zung self-rating anxiety scale, Depression scale, the Clinical anger scale and the Multidimensional scale. It consists of two parts; the first part is concerned with demographic characteristics of the patients, and the second one consists of 48 item that are concerned with the psychological outcomes (anxiety, depression and anger) and social outcome.

The items were rated according to a three level Lickert scale (never 1, sometimes 2, and always 3). The severity of the outcomes were measured by relative sufficiency (RS).

It were distributed as the following:

Scores (Never = 1, Sometimes = 2, and Always = 3)
No Severity: (RS < 33.33) %
Mild: (33.33-49.99) %
Moderate: (50.00-66.66).
Severe: (66.67 – 100.00) %.

Level of Scores

The validity of questionnaire was determined by exposing it to (18) expert of different fields. Reliability was determined through a pilot study that was carried out on (10) patients who had undergone cardiac surgery and were visiting the outpatient clinic for follow-up. In Ibn Al-bitar hospital, test and retest technique of two weeks interval was used to find-out the correlation between two tests. Alpha correlation coefficient was ($r = 0.89$).

Data were collected from patients during two weeks after discharge by using a private room in the clinic and conduct the interview, and it took approximately (20-30) minuet. Appropriate statistical measures were employed such as Frequencies, Percentage, Mean, and Mean of score, Standard deviation and Inferential statistics through chi- square and fisher exact test).

Results:

Table 1. Distribution of the sample according to their socio-demographic characteristics

Patients' characteristics	F	%
1-Gender		
Male	21	42.0
Female	29	58.0
2-Age		
20-29	6	12.0
30-39	9	18.0
40-49	19	38.0
50-60	13	26.0
60-79	3	6.0
3- Level of Education		
Illiterate	2	4.0
Read and Write	5	10.0
Primary	13	26.0
Intermediate	7	14.0
Secondary	8	16.0
Institution	8	16.0
Graduated	6	12.0
Postgraduate	1	2.0
5-Occupation		
Employee	14	28.0
Retired	12	24.0
Self-employed	8	16.0
Jobless	2	4.0
Housewife	14	28.0

F= frequency, %= Percentage

This table shows that (42%) of the participants was male, and (58%) was female. In regard to the age, most of the participants was of (50-49) years old. Most of participants (38 %) was married 100%. With regard to their educational level, most of participants (26 %) was of primary level. This table shows also that most of participants (28%) is employee, the same percentage was housewife, and the majority of participants has insufficient income (68%). While, (60%) of the participants have undergone valve replacement surgery.

ranged from (77.33-73.33%) to mild level including 2 items No. 1, and 3, RS: ranged from (66.00-65.33%).

The result in the area of social problems reached the moderate level RS:(82.61%), and the item No. 7, 8 (Unable to continue in my work, I feel lonely) had the most severe level RS: (94.66%).

Psychosocial Outcomes for Cardiac Surgery

Table 2. Anxiety outcome of patients who have undergone cardiac surgery

No.	Response	Anxiety		Mild		Moderate		Severe		MS	SD	RS%	Severity
		F	%	F	%	F	%	F	%				
1	I feel more nervous and anxious than usual.	1	2.0	15	30.0	34	68.0	2.66	.52	88.66	Severe		
2	I feel afraid for no reason at all.	2	4.0	25	50.0	23	64	2.42	.57	80.66	Moderate		
3	I get upset easily or feel panicky.	2	4.0	9	18.0	39	78.0	2.74	.53	91.33	Severe		
4	I feel like I am falling apart and going to pieces.	2	4.0	27	54.0	21	42.0	2.38	.57	79.33	Moderate		
5	I feel that not every thing is all right and bad thing will happen.	3	6.0	22	44.0	25	50.0	2.44	.61	81.33	Moderate		
6	My arms and legs shake and tremble.	3	6.0	22	44.0	25	50.0	2.44	.61	81.33	Moderate		
7	I am bothered by headaches neck and back pain.	3	6.0	11	22.0	36	72.0	2.66	.59	88.66	Severe		
8	I feel weak and get tired easily.	0	0.0	9	18.0	41	82.0	2.82	.39	94.00	Severe		
9	I not feel calm and cannot sit still easily.	2	4.0	24	48.0	24	48.0	2.44	.58	81.33	Moderate		
10	I can feel my heart beating fast.	1	2.0	15	30.0	34	68.0	2.66	.52	88.66	Severe		
11	I am bothered by dizzy spells.	4	8.0	18	36.0	28	56.0	2.48	.65	82.66	Moderate		
12	I have fainting spells or feel like it.	24	48.0	19	38.0	7	14.0	1.66	.72	55.33	Mild		
13	I cannot breathe in and out easily.	6	12.0	17	34.0	27	54.0	2.42	.70	80.66	Moderate		
14	I get feeling of numbness and tingling in my fingers and toes.	2	4.0	15	30.0	33	66.0	2.62	.57	87.33	Severe		
15	I am bothered by stomachs or indigestion.	5	10.0	17	34.0	28	56.0	2.46	.68	82.00	Moderate		
16	My face gets hot and blushes.	1	2.0	19	38.0	30	60.0	2.58	.54	86.00	Severe		
17	I can not feel asleep easily and get a good nights.	1	2.0	11	22.0	38	76.0	2.74	.49	91.33	Severe		
18	I have nightmares.	4	8.0	18	36.0	28	56.0	4.48	.65	149.3	Severe		
Total								2.50	.303	83.51	Severe		

F= frequency, MS= mean of scores, RS=relative sufficiency, SD= standard deviation, %=percentage

Table (2) shows the mean of score (MS) and the relative sufficiency (RS) of the sample in the area of anxiety outcomes. They have severe level of anxiety including (9) items No.(1,3,7,8,10,14,16, 17, and 18) RS: range from (94.0–86.00%), moderate level of the anxiety including 8 items No. (2,4,5,6,9,11,13, and 15) RS: range from (82.66–79.33)% and mild level of anxiety including (1) item No. (12) RS: (55.3). The result of psychological outcomes in regard to anxiety, reached the severe level RS:(83.51%), and the item no. (8) (I feel weak and get tired easily) was the more severe level of anxiety, RS: (94.0%).

Table 3. Depression outcome of patients who have undergone cardiac surgery.

No.	Depression	Response		Mild		Moderate		Severe		MS	SD	RS	Severity
		F	%	F	%	F	%						
1	I feel down hearted, blue, and sad.	0	0.0	15	30.0	35	70.0	2.70	.46	90.00			Severe
2	Morning is when I feel not the best.	0	0.0	26	52.0	24	48.0	2.48	.50	82.66			Moderate
3	I have crying spells or feel like it.	19	38.0	12	24.0	19	38.0	2.00	.88	66.66			Mild
4	I have trouble sleeping through the night.	2	4.0	9	18.0	39	87.0	2.74	.53	91.33			Severe
5	I eat as much as I used to.	5	10.0	22	44.0	23	46.0	2.36	.66	78.66			Moderate
6	I notice that I am losing weight.	2	4.0	19	38	29	58.0	2.54	.58	84.66			Severe
7	I have trouble with constipation.	3	6.0	22	44.0	25	50.0	2.44	.61	81.33			Moderate
8	My heart beats faster than usual.	3	6.0	11	22.0	36	72.0	2.66	.59	88.66			Severe
9	I get tired for no reason.	0	0.0	8	16.0	42	84.0	2.48	.37	94.66			Severe
10	My mind is not as clear as it used to be.	0	0.0	11	22.0	39	78.0	2.78	.42	92.66			Severe
11	I find it not easy to do the things I used to do.	1	2.0	5	10.0	44	88.0	2.86	.40	95.33			Severe
12	I am restless and can not keep still.	0	0.0	13	26	37	47.0	2.74	.44	91.33			Severe
13	I feel not hopeful about the future.	4	8.0	25	50.0	21	42.0	2.34	.63	78.00			Moderate
14	I am more irritable than usual.	1	2.0	13	26.0	36	72.0	2.70	.51	90.00			Severe
15	I find not easy to make decision.	2	4.0	21	42.0	27	54	2.50	.58	83.33			Moderate
16	My life is not pretty full.	5	10.0	37	74.0	8	16.0	2.06	.51	68.66			Moderate
Total								2.54	.239	84.87			Severe

F= frequency, MS= mean of scores, RS=relative sufficiency, SD= standard deviation, %=percentage

Table (3) shows the mean of score (MS), and the relative sufficiency (RS) of the sample in the area of Depression outcomes. They ranged from severe level of depression including 9 items NO. 1, 4, 6, 8, 9, 10, 11, 12, and 14 RS: range from 95.33-84.60 %, moderate level of depression includes (6) items of 2, 5, 7, 13, 15, and 16 RS: range from (83.33-78.55) % to mild level of depression including (1) items No. (3) RS :> 66.67 %.

The result of this area of psychological outcome in regards to depression reached the severe level RS: (84.87%) and the item NO.11 (I find it not easy to do the things I used to do) severity level RS: (95.33%).

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Table 4. Anger outcomes of patients who have undergone cardiac surgery

No.	Response Anger	Mild		Moderate		Severe		MS	SD	RS%	Severity
		F	%	F	%	F	%				
1	I feel anger.	0	0.0	10	20.0	40	80.0	2.80	.40	93.33	Severe
2	When I think about my future, feel angry.	0	0.0	20	40.0	30	60.0	2.60	.49	86.66	Severe
3	It makes me angry that I feel like such a failure.	8	16.0	30	60.0	12	24.0	2.08	.63	69.33	Moderate
4	I feel that others are trying to annoy me.	2	4.0	19	38.0	29	58.0	2.54	.58	84.66	Severe
5	I shout at others more now than I used to.	1	2.0	17	34.0	32	64.0	2.62	.53	87.33	Severe
6	My ability to think clearly is affected by my feeling of anger.	0	0.0	13	26.0	37	74.0	2.74	.44	91.33	Severe
Total								2.56	.295	85.44	Severe

F= frequency, MS= mean of scores, RS=relative sufficiency, SD= standard deviation, %=percentage

Table (4) shows the mean of score (MS), and the relative sufficiency (RS) of the sample in the area of anger.

They ranged from severe level of anger, including (5) items of (1, 2, 4, 5, and 6) RS: range from 93.33-84.60% to moderate level including 1 item no. (3) RS: range from (69.33%).

The result of this area of psychological outcome in regard to anger reached the severity level RS: 85.44%, and the item No.1 (I feel anger) had the more severe level of anger, RS: (93.33%).

Table 5. Social outcomes of patients who have undergone cardiac surgery

List	Response Social	Mild		Moderate		Severe		MS	SD	RS%	Severity
		F	%	F	%	F	%				
1	My family not tries to help me.	11	22.0	30	60.0	9	18.0	1.96	.64	65.33	Mild
2	I can not talk about my problems with my family.	5	10.0	30	60.0	15	30.0	2.20	.61	73.33	Moderate
3	My family is not willing to help me make decision.	11	22.0	29	58.0	10	20.0	1.98	.65	66.00	Mild
4	Change in my family relationship.	6	12.0	22	44.0	22	44.0	2.32	.68	77.33	Moderate
5	I have no interest in particular social activities.	2	4.0	14	28.0	34	68.0	2.64	.56	88.00	Severe
6	I suffer from change of daily activities.	1	2.0	7	14.0	42	84.0	2.82	.44	94.00	Severe
7	Unable to continue in my work.	0	0.0	8	16.0	42	84.0	2.84	.37	94.66	Severe
8	I feel lonely.	1	2.0	6	12.0	43	86.0	2.84	.42	94.66	Severe
Total								2.47	.255	82.61	Severe

F=frequency; MS=mean of scores; RS=relative sufficiency; SD=standard deviation, %= percentage

Table (5) shows the mean of score (MS), and the relative sufficiency (RS) of the sample in the area of social outcome, they ranged from severe level including 4 items No.5, 6,

7, and 8, RS: ranged from (94.66-88.0%), moderate level included 2 items No.2 and 4, RS: ranged from (77.33-73.33%) to mild level including 2 items No. 1, and 3, RS: ranged from (66.00-65.33%).

The result in the area of social problems reached the moderate level RS:(82.61%), and the item No. 7, 8 (Unable to continue in my work, I feel lonely) had the most severe level RS: (94.66%).

Psychosocial Outcomes for Cardiac Surgery

Table 6. The relationship between the demographic characteristic of the sample and the psychosocial outcomes

Psychosocial Outcomes	Anxiety						Depression						Anger						Social							
	Moderate			Severe			Moderate			Severe			Moderate			Severe			Moderate			Severe				
	F	%	Total	F	%	Total	F	%	Total	F	%	Total	F	%	Total	F	%	Total	F	%	Total	F	%	Total		
Gender	Sig.0.027																									
Male	7	14.0	21	5	10.0	21	6	12.0	21	6	32.0	21	6	12.0	21	8	16.0	21	8	16.0	21	8	13	26.0	21	
Female	14	28.0	29	12	24.0	29	14	28.0	29	17	34.0	29	14	28.0	29	14	22.0	29	14	22.0	29	15	15	30.0	29	
Total	21	42.0	50	17	34.0	50	20	40.0	50	33	66.0	50	20	40.0	50	22	44.0	50	22	44.0	50	28	56.0	50	50	
CS																										
Psychosocial Outcomes	Sig.0.592																									
Age	NS.0.592																									
20-30	2	4.0	6	1	2.0	6	1	2.0	6	5	10.0	6	1	2.0	6	2	4.0	6	2	4.0	6	4	8.0	6	6	6
30-40	2	4.0	9	3	6.0	9	4	8.0	9	6	12.0	9	4	8.0	9	4	8.0	9	4	8.0	9	5	10.0	9	9	9
40-50	8	16.0	19	6	12.0	19	6	12.0	19	13	26.0	19	8	16.0	19	7	14.0	19	7	14.0	19	12	24.0	19	19	19
50-60	7	14.0	13	6	12.0	13	6	12.0	13	7	14.0	13	6	12.0	13	8	16.0	13	8	16.0	13	5	10.0	13	13	13
60-70	2	4.0	3	1	2.0	3	1	2.0	3	2	4.0	3	1	2.0	3	1	2.0	3	1	2.0	3	2	4.0	3	3	3
Total	21	42.0	50	17	34.0	50	20	40.0	50	33	66.0	50	20	40.0	50	22	44.0	50	22	44.0	50	28	56.0	50	50	50
CS																										

Table 6. (continued)

Psychosocial Outcomes	Anxiety						Depression						Anger						Social					
	Moderate			Severe			Moderate			Severe			Moderate			Severe			Moderate			Severe		
	F	%		F	%		F	%		F	%		F	%		F	%		F	%		F	%	
	Total						Total						Total						Total					
illiterate	2	4.0	0	0	0	0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0
Read and d writ primary	2	4.0	3	6.0	5	13.0	2	4.0	3	6.0	5	13.0	1	2.0	4	8.0	4	8.0	3	6.0	2	4.0	2	4.0
intermediate	5	10.0	8	16.0	13	32.0	4	8.0	9	18.0	13	32.0	5	10.0	8	16.0	8	16.0	5	10.0	8	16.0	8	16.0
secondary	2	4.0	5	10.0	7	17.5	4	8.0	3	6.0	7	17.5	4	8.0	3	6.0	7	17.5	4	8.0	3	6.0	7	17.5
institution	4	8.0	4	8.0	8	20.0	3	6.0	5	10.0	8	20.0	3	6.0	5	10.0	8	20.0	3	6.0	5	10.0	8	20.0
graduated	3	6.0	5	10.0	8	20.0	3	6.0	5	10.0	8	20.0	2	4.0	6	12.0	6	12.0	4	8.0	4	8.0	4	8.0
Postgraduate	2	4.0	4	8.0	6	15.0	0	0	6	12.0	6	15.0	4	8.0	2	4.0	4	8.0	2	4.0	2	4.0	5	10.0
Total	1	2.0	0	0	1	2.0	0	0	1	2.0	1	2.0	0	0	1	2.0	0	0	1	2.0	0	0	1	2.0
CS	21	42.0	29	58.0	50	98.0	17	34	33	66.0	50	98.0	20	40.0	30	60.0	22	44.0	28	56.0	22	44.0	28	56.0

CS=Comparative significance, F= frequency, %= Percentage; NS=non significant; Sig.= significant

Table (6), indicates that there is a significant relationship between gender and whole domains (anxiety, depression, anger, and social) at (p-value <0.05). Also, indicates that there was non-significant relationship between age and whole domains, and there was non-significant relationship between educational level and whole domains.

Discussion

The data of table (1) indicates that 58% of the samples was female; and 42% was male at mean of age (42.0) years. Women, traditionally, have more different social roles. They have more responsibilities in home management and family care than men; therefore, women may feel greatest disruption when they can not resume their roles upon returning home after surgery, also the alteration in her body image^(4,5), and this fact may explain why the differences in recovery were more marked among this sample.

Studies⁽⁶⁾ showed that age between (47-60) years were the most age group⁽⁶⁾. Also, this result agrees with the studies of^(7,8) who found that older peoples are more vulnerable to postoperative emotional distress. It is apparent from the table (1) that (26%) of patients was at primary level. This result is similar to⁽⁸⁾ who found that 60% of the participants was at primary level.

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Regarding to occupation, table (1) showed that (28%) was housewife, and (28%) was employed. This result is congruent with the findings of ⁽⁹⁾ who found that the majority of the sample was employed, while the housewives have responsibility in their families.

Moreover, 57% of patients after heart surgery experience high level of anxiety ⁽¹⁰⁾. Also ⁽¹¹⁾ found that patients experience high level of anxiety 3 months after heart surgery; he reported that tiredness was most frequent symptom, followed by leg pain, changes in appetite, sleeping difficulty, disturbances in bowel functioning, pain in shoulder, and back neck muscles ⁽¹¹⁾.

Studies found that subjects most frequently reported fatigue, shortness of breath, poor appetite, and sleeping difficulty, and these symptoms are reported in anxiety ⁽¹²⁾.

On the other hand, studies were explained that cardiac surgery occurring in early middle-age may be less expected and more problematic for patients in terms of family and career responsibilities and, thus, elicit more anxiety ⁽¹³⁾.

The study of ⁽¹⁴⁾ revealed that 35% at 40-50 years of age or older reported severe level of depression after 4 months cardiac valve surgery.

High levels of depression scores were associated with surgery and women reporting higher depression symptom as four times as men more likely to describe them in the lowest category of function capacity. Therefore, they do not feel any satisfaction with life have more complains about their health, disregard positive effects of surgery and less frequently return to work ⁽¹⁵⁾.

This research assess the influence of anger after cardiac surgery on patients expressing of anger, it reached also the severe level. Cardiac surgery results in anger and disappointment. ⁽¹⁶⁾

⁽¹⁷⁾ High level of anger and hostility were associated with patients after cardiac surgery.

A study also found that difficulties in dealing with anger are common among patients who have undergone cardiac surgery and precede clinical events. ⁽¹⁸⁾

The study stated that psychological stress, anger, hostility, isolation or lack of social support is some of the psycho-social variables which have been linked to increase morbidity and mortality of cardiac surgical patients. Anger and hostility are also risk factors for cardiovascular disease, including ischemic heart disease and cerebral vascular attacks. ⁽¹⁹⁾

Attention should be paid to modifying all risk factors which lead to anger after cardiac surgery. ^(20, 21)

This study stated that anger and frustration are caused by very real and inescapable problem in lives, and anger become quickly irrational, so cardiac patients need to learn to become assertive (rather than aggressive) and this consider counseling to learn how to handle it ⁽²²⁾.

Nurse can provide social functional support in terms of education and knowledge. Anticipatory guidance regarding the disease and recovery process can alleviate both patient and family stress. However, it is important to assess the patients' need in this area and during the course of caring for the cardiac patient evaluate the patients' sources of social support, as well as, the presence of high levels of negative emotional state.

The result of table (5) revealed that this area reached the moderate level in social outcome problems.

A study ⁽²³⁾ also gave evidence that one's perception of an available support is better predictor of health outcomes. ⁽²³⁾

Lack of social support from others is one of the most causes to increase level of social dysfunctions. ⁽²⁴⁾

The cardiac rehabilitation helps to reduce cardiac risk factors in patients after cardiac surgery, by increasing functional capacity and improving quality of life in both physical and emotional domains. ⁽²⁵⁾

These results of the current study regarding the social outcome are more in female because it is due to the changes and stresses in social life of women's that they return to household tasks

sooner than men and this result also may be due to the different degree in perception of stressors among women and men, and may be that patients had experienced social problem of suffering from being unable to performs regular daily activities.

The findings of this study revealed in the Table (6) that psychosocial outcomes of patients significant correlated with gender at p-value (0.027) and woman were exposed more to psychosocial outcomes, and negatively correlated with other variables.

Sex had a significant relationship with psychosocial outcomes, woman (40-55) years had more psychosocial problem than men. Adverse psychological symptoms, namely anxiety and depression, are reported more often by women than men and may increase as the disease progresses socioeconomic and family. ⁽²⁶⁾

A study showed that there was no significant relationship between depression, anger, and anxiety over time with demographic characteristic (gender) ^(27, 28).

Recommendations

1. The nurse can help the patients by using the tools of the present study to recognize the patients psychosocial outcomes.
2. Nurses should provide families with information concerning issues associated with psychological complicated recovery.
3. An educational intervention should be administered to the patients following a cardiac surgery to alleviate psychological distress and social problems.
4. Establish a counselor unit at cardiac surgical hospital to reduce the risk factor in those patients and improving quality of life in emotional domains.
5. Establishment cardiac psychological rehabilitation units, which help to reduce psychological risk factors in patient with cardiac surgery.
6. Further studies with larger samples are needed to confirm the findings of this study.

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