

Effectiveness of Psycho-Educational Program on Psychological Outcomes among Patients Undergoing Cardiac Surgery in Khartoum-2017

Ishraga M. A. Elbashier^{1*} and Kamil M. Ali²

¹Assistant professor of Surgical Nursing, Faculty of Medical Technical Sciences, Department of Nursing, University of Alzaiem Alazhari, Sudan.

²Associate Professor of Psychiatric, University of Khartoum. Faculty of Medicine, Department of Public Health, Sudan.

*Correspondence:

Ishraga M. A. Elbashier, Assistant Professor of Surgical Nursing, Faculty of Medical Technical Sciences, University of Alzaiem Alazhari, Sudan.

Received: 02 January 2019; Accepted: 20 January 2019

Citation: Ishraga M. A. Elbashier, Kamil M. Ali. Effectiveness of Psycho-Educational Program on Psychological Outcomes among Patients Undergoing Cardiac Surgery in Khartoum-2017. Nur Primary Care. 2019; 3(1): 1-5.

ABSTRACT

Background: The presence of anxiety and depression before cardiac surgery leads to poor surgical outcomes. This study conducted to assess the effectiveness of psycho-educational programme on anxiety and depression among patients undergoing cardiac surgery in cardiac centers Khartoum state.

Methods: Nonrandomized control trial, conducted in the three cardiac hospitals in Khartoum state, Fifty seven eligible and consented patients were included, 30 patients are allocated to intervention group in one hospital, and 27 in other two hospital as control group. Psychological support and teaching through a 15-20 minutes counseling and education sessions was given to the intervention group before surgery using information in a booklet focused on managing patients undergoing cardiac surgery. Anxiety and depression pre and post intervention was measured using Hospital Anxiety and Depression Scale to assess level of anxiety and depression pre and post intervention for both interventional and control groups. The follow-up assessment takes place at seventh day after operation. For the comparison of mean scores between the groups, the data were analyzed using chi-square, independent T-test and paired T-test.

Results: The mean scores obtained in both anxiety and depression dimensions were significantly different between the intervention and control groups.

Conclusion: psycho-educational program provided for patients undergoing cardiac surgery decreases the level of their anxiety and depression after cardiac surgery.

Relevance to Clinical Practice: The most significant finding was the importance of psycho-education sessions given to meet the needs of the cardiac surgical patients and their families, which suggest that through counseling and education sessions before surgery with contents made up of information in a booklet focused on managing patients undergoing cardiac surgery can be effective in self-care after heart surgery and nurses can use this booklet containing preparatory information to improve health outcomes and reduce anxiety and depression in patients having cardiac surgery.

Keywords

Cardiac surgery, Anxiety, Depression, Psycho-education, Nursing.

Introduction

A holistic approach to cardiovascular surgical nursing has been developed in order to improve the care of patients' pre and after operation [1]. Patients undergoing cardiac surgery are often fearful, anxious and under stress during their preoperative period

[2], which have adverse effects on recovery from surgery leading psychological problems which desire counseling and preoperative information [3].

Psycho-education or psycho-educational interventions contain a broad range of activities that combine education and other activities such as counseling and supportive interventions. Psycho-educational interventions may be delivered individually

or in groups and may be tailored or standardized. This type of intervention generally includes providing patients with information about treatments, symptoms, resources, and services; training to provide care and respond to disease-related problems; and problem-solving strategies for coping with the disease. Interventions may include the use of booklets, videos, audiotapes, and computers, and formats may be interactive among healthcare professionals and patients and caregivers, self-directed via other materials, or delivered online or telephonically.

Studies using psycho-educational interventions tend to vary substantially in specific content, format, frequency, and timing of the interventions. For this reason, limited ability exists to currently examine the relative effectiveness of different formats and delivery methods [4].

Tailoring psycho-educational intervention with standardized frame work is essential and effective [3]. Since stress reduction has positive effect in improving health outcome [5], using of Rosemarie Rizzo Parse nursing theory (1981) human becoming school of thought as guidance for Psycho-educational intervention as a part of nursing care package can be effective as shown in a deferent randomized clinical trial around the world. Rosemarie Rizzo Parse is a professor of nursing, Consultant and Visiting Scholar at the New York University College of Nursing, her theory framework for practice shows the interaction between nurse and client, it is a client nurse dynamics theory classified at grand level, in care plan it addresses emotional and psychological needs of client using human connections which includes joy, sorrow, laughter, compassion, empathy, monitor the client's experiences moment to moment, prevent further injury by attending to their physical, psychological and spiritual needs and teach the client to be the leader of their health needs, maintain equilibrium in mind, body and spirit is needed in order for a client to experience optimum health [6].

The main goal is to show qualities of life through client's perspective, and emerges through the nurse-person process. Parse defines the nursing practice as a science and art [7], it is innovative and creative. Nurses' responsibility is in the guiding of individuals and their families as the client is the authority figure and primary decision maker. The nurse bears witness to the client's own living of value priorities [8].

Unfortunately, the use of psycho-education intervention in routine nursing practice for patients undergoing cardiac surgery in Sudan is not introduced yet. An actual preoperative information and counseling giving in current nursing practice is limited, with relatively little interaction between nurses and cardiac patients, and information rarely supported by written information. A lack of communication and interaction between nurses and patients in Sudanese hospitals is a key of concern. Using special international nursing model or framework for guiding practice is not yet introduced in nursing practice among Sudanese patients, so the development and evaluation of new cardiac surgery specific teaching resources and counseling interventions is needed.

The Study Objective and Design

A Nonrandomized control trial design used to study the effectiveness of psycho-educational program on anxiety and depression among patients undergoing cardiac surgery in major cardiac centers Khartoum state Sudan which including: 1) Ahmed Gassim Center (AGC); 2) Alshaab Teaching Hospital (STH) and 3) Sudan Heart Institute (SHI).

Target population is adult patients over 18 years old, undergoing elective cardiac surgery in these centers.

Inclusion criteria

Patients who planned for cardiac surgery, and who agreed to participate in the entire program.

Exclusion criteria

- Patients who do not understand the study instructions.
- Patients who are under 18 years of age.
- Patients who are diagnosed with a psychiatric disease.
- Patients reduced ability to follow the planned program due to, for example, substance abuse problems, pregnancy.
- Patient who has the surgery for second time.

Sample size and Sampling technique

All patients undergoing cardiac surgery on the waiting list for surgery at the time of the study meeting inclusion criteria. The study ended when 57 eligible and consented patients were recruited, giving an uptake rate of 63.3% from total number of cardiac surgeries in the three centers. 30 patients are allocated to intervention group in one hospital, and 27 in other two hospitals as control group.

Instruments and data collection tools

Hospital Anxiety and Depression Scale (HADS) are used to assess level of anxiety and depression before and after Psycho-educational program intervention on patients undergoing cardiac surgery.

Pilot study

In pretest of 10 nonpatients sample found that all categories of questionnaire were easy to be responded by the patients and analyzers, a Cronbach's alpha coefficient as estimate of internal consistency was 0.81.

Data collection methods and study procedure

After gaining approval for the study, two hospitals were assigned for control group and one hospital for intervention group. Verbal informed consent provided for the participants who could voluntarily participated in the study for both groups, enough verbal explanation was given describing the study, relatives invited during the process of informed consent when necessary. The researcher immediately answered any questions from the patient or their relative. The researcher emphasized that the participants were free to refuse the study or withdraw at any time. Baseline data were collected and an interviewing questionnaire to assess level of anxiety and depression pre- intervention was conducted

for both interventional and control groups. After this, the program started for intervention group. The patients stratified according to sex, age, level of education, the treating heart center and type of operation for both groups, the follow-up assessment took place at seventh day after operation, for level of anxiety and depression measurement.

Psycho-educational intervention

The program is focusing on psychological support and teaching through a 15-20 minute counseling and education sessions. The content is made up of information in a booklet- based education focused on managing patients undergoing cardiac surgery, included pertinent instructional information throughout the patients' journey from the preoperative phase until discharge, and symptom management technique and life style change needed after discharge (Table 1).

Session Number	Information covered
Session No.1	Welcome the participant and their family members. Distribute the booklet and allow a few minutes to read it through. Start to talk through the sections of the leaflet. About heart, anatomy and diseases
Session No.2	A) Explain the process from admission, preoperative care, Visit from the medical and anesthetic team; c) Preparations a night before the surgery (gastrointestinal tract & skin); d) Preparations in the morning of the surgery (removing jewelry or prostheses, having shower and mouth care, donning a hospital gown, and giving medications); e) Transporting to operation room, administration of anesthesia. Operation time, postoperative recovery, transfer to HDU.
Session No.3	Introduce ICU environment and explain about a) Uncomfortable feelings; b) Equipment used such as cardiac monitors, different catheters, chest tubes, and ventilator; c) Communications with clinical staff within patients' limitations; d) Advice regarding pain management and early mobilization, diet, deep breathing, coughing and leg exercises; e) visit
Session No.4	a) Discharge, rehabilitation and medication after discharge, lifestyle change, and general check-up; b) Contact details.
Session No.5	Answer any questions about the information provided. Encourage to reread the booklet afterwards and to ask for clarification or seek further information about any of the content of the booklet when necessary. Remind the participant to put the booklet back in the envelope after use and not to pass it to others. Inform the follow-up measure will be taken on the postoperative 7th day. Thanks for attending. Express best wishes for the forthcoming surgery.

Table 1: Components of the preoperative education intervention.

Nursing care for counseling technique is inspired by Rosemarie Rizzo Parse's Human Becoming Practice Methodologies 3 dimensions (6) that are interpreted as: 1, discuss and give meaning to the past, present and future 2, explore and discuss events and possibilities and 3, move along with envisioned possibilities (Table 2).

Session Counseling	Guidance Creteria
Session No.1	What happened since you were here last time? How have you been?
Session No.1	Discuss the events leading up to the surgery. Experiences before and during admission.
Session No.2	Address present thoughts and questions
Session No.2	Were there any episodes from the disease?
Session No.3	How did you find the disease affect your life? Are there any activities you avoid? Are there any places you avoid? Are there objects you avoid?
Session No. 3	How did you think the surgical operation can affect your life? Are there any activities you will avoid? Are there any places you will avoid? Are there objects you may avoid after surgery?
Session No.4	Discuss family, how do they tackle, changing patterns in the family?
Session No.4	Discuss joy, sorrow, laughter situations
Session No.5	Changing view on the body?
Session No.5	Driving
Session No.5	Sexuality, is this affected?

Table 2: Inspiration Guide for Nursing Consultations distributed through 5 session of counseling.

The nurse researcher would be true present in the process through discussions, silent immersion and reflection. 5 session consultations along with booklet-based teaching had taken place in a quiet setting at the in surgical ward nursing office, while all participants received usual care that provided by nurses a singed in the surgical word.

Statistical analysis

The data is analyzed using Statistical Package for Social Science (SPSS) calculating relative and absolute frequencies, mean values and their standard deviation. Variables were analyzed using multivariate repeated measurement and t tests, and demographic data analyzed using frequencies and chi-square test. A p level of 0.05 considered as statistically significant.

Ethical considerations

The study approved by the Ethics Committee of board of higher studies, medical and health studies board, Khartoum University. Patients asked to participate in the study after receiving oral information, and had given time to reflect on their participation in the study before giving the informed consent. All data treated in confidence and patients assured anonymity.

Results

Table No 3 shows patient's characteristics.

Effect on psychological health outcomes

The participants allocated to the preoperative psycho-education group showed a highly significant reduction in anxiety and depression level after pre-operative psycho-education intervention, so the mean scores obtained in both anxiety and depression dimensions were significantly different between the intervention and control groups. (P value 0.00), as shown in table 4.

Characteristics		Intervention (n=30) Total (%)	Control (n=27) Total (%)
Hospital	Ahmed Gassim	30 (100%)	-
	Alshaab Hospital	-	10 (37)
	Sudan Heart Center	-	17 (63)
Level of education	School	15 (50)	15 (55.6)
	University	4 (13.3)	5 (18.5)
	Higher studies	3 (10.0)	2 (7.4)
	Illiterate	8 (26.7)	5 (18.5%)
Age	18-35	16 (53.3)	9 (33.3)
	36-45	6 (20.0)	4 (14.8)
	46-60	5 (16.7)	6 (22.2)
	60-65	3 (10.0)	8 (25.6)
Gender	Male	13 (43.3)	13 (48.1)
	Female	17 (56.7)	14 (51.9)
Diabetes mellitus	present	3 (10.0)	6 (22.2)
	not present	27 (90.0)	21 (77.8)
Previous MI.	present	9 (30.0)	7 (25.9)
	not present	21 (70.0)	20 (74.1)
Hypertension	present	8 (26.7)	4 (14.8)
	not present	22 (73.3)	23 (85.2)
NYHA	Class1	17 (56.7)	21 (77.8)
	Class2	8 (26.7)	5 (18.5)
	Class3	4 (13.3)	1 (3.7)
	Class4	1 (3.3)	0 (0.0)

Table 3: Patient's characteristics.

NYHA: New York Heart Association, (sd): Stander Deviation, PV: Significance (2- tailed).

Group		N	Mean	Std. Deviation	Std. Error Mean	P.V
Anxiety	Control	27	7.52	3.965	.763	0.00
	Intervention	30	1.53	2.080	.380	
Depression	Control	27	7.59	5.250	1.010	.000
	Intervention	30	2.50	2.921	.533	

Table 4: Shows the mean and SD. And p value .of anxiety and depression score among control and intervention group. The mean scores obtained in both anxiety and depression dimensions were significantly different between the intervention and control groups (P value 0.00).

Discussion

The preoperative psycho-education intervention guided by human becoming school of thought appears to be beneficial for those Sudanese patients undergoing cardiac surgery in relation to their psychological health. This finding is consistent with a randomized controlled trial studying the effects and meaning of a comprehensive rehabilitation programme for ICD recipients -done by Selina K Berg, Jesper H Svendsen 2011 University of Copenhagen, Institute of Surgery and Medicine, Copenhagen, Denmark, conducting a psycho- education rehabilitation program guided by human becoming school of thought for 196 patients showed a significant improvement in psychological health [10].

As literature reviewed found that clinical trials of a preoperative health education program done in deferent countries observed significant improvements in psychological health.

In Sudan the relative lack of routine information giving in hospitals has led to Sudanese patients' eagerness and desire to receive information. It could explain the importance of a structured preoperative education intervention guided by nursing theory in this study had a greater impact on psychological health than similar interventions delivered to cardiac surgery patients in western countries. Perhaps this due to eagerness of patients to such type of intervention guided by human becoming framework for practice using personal connection between nurse and client, addressing emotional and psychological needs of client using the human connections which includes joy, sorrow, laughter, compassion, empathy.

Conclusion

The study has demonstrated that the preoperative psycho-education intervention is effective in reducing anxiety and depression among Sudanese cardiac patients. It supports the importance of preoperative psycho-education for the improvement of patients' health outcomes.

Recommendation

The most significant finding was the importance of psycho-education sessions given to meet the needs of the cardiac surgical patients and their families, which suggest that through counseling and education sessions guided by human becoming school of thought before surgery with contents made up of information in a booklet focused on managing patients undergoing cardiac surgery can be effective in self-care after heart surgery and nurses can use this booklet containing preparatory information to improve health outcomes by reducing anxiety and depression, among Sudanese cardiac patients. Based upon existing evidence and international practice, preoperative psycho-education should be incorporated into routine practice to prepare Sudanese cardiac patients for surgery. Improving preoperative education in future may be achievable through changes in nurses' attitudes, values, knowledge and skills. It requires time and commitment, as well as support from individual, professional and organizational levels.

Acknowledgement

We are grateful to all who helped us to produce this study, in particular the staff of Khartoum University. We thank a lot the patients participated in the study for their cooperation. Staffs of Cardiac centers in Ahmed Gassim cardiac center, Alshaap teaching Hospital and heart institute center deserve special mention as they contribute with great help.

References

1. Cathie E GP, Barbara MD. Cardiovascular Nursing-Holistic Practice. 13 ed. Baltimore USA Mosby- year book. 2011.
2. Alison Child JS, Russell I Tipson, Paul Sigel, et al. Meeting the Psychological needs of Cardiac Patients An Integrated

-
- Stepped-care Approach within a Cardiac Rehabilitation Setting. *British Journal of Cardiology*. 2010; 17: 175-179.
3. Guo P, East L, Arthur A. A preoperative education intervention to reduce anxiety and improve recovery among Chinese cardiac patients a randomized controlled trial. *Int J Nurs Stud*. 2012; 49: 129-137.
 4. Tom Van Daele DH, Chantal Van Audenhove, Omer Van den Bergh. Stress reduction through psychoeducation a meta-analytic review. *Health Educ Behav*. 2012; 39: 474-485.
 5. Gertchen A, Brenes PD. Anxiety Depression and Quality of life in primary care Patients. *Jurnal of Clinical Psychiatry*. 2007; 9: 437-443.
 6. Parse RR. *Nursing Theories a companion to nursing theories and models Human Becoming Theory* Rosemarie Rizzo Parse. 2011. Available from: <http://www.discoveryinternational-online.com/site/ontology.html>
 7. Gail J, Mitchell RP. *Parse's Human Becoming Theory* case study 2000.
 8. William K. Cody RPF, Debra A. et al. *Parse's Human Becoming School of Thought*. *Nursing Science Quarterly*. 2010; 17: 33-35.
 9. Bäuml J, Froböse T, Kraemer S, et al. Psychoeducation A Basic Psychotherapeutic Intervention for Patients With Schizophrenia and Their Families. *Schizophrenia Bulletin*. 2006; 32: S1-S9.
 10. Selina K Berg, Jesper H Svendsen, Ann-Dorthe Zwisler, et al. A randomised clinical trial studying the effects and meaning of a comprehensive rehabilitation programme for ICD recipients -design intervention and population. *BMC Cardiovascular Disorders*. 2011; 17: 11-33.