

Nurses' Burnout Effects on Pre-operative Nursing Care for Patients at Cardiac Catheterization Centers in Middle Euphrates Governorates

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Abstract- Study aims: To assess nurses' burnout by using the Maslach Burnout Inventory Scale (MBI), and to find out a relationship between nurses' burnout levels and their preoperative nursing care, also, to find out a relationship between nurses' burnout and their socio-demographic characteristics of age, gender, level of education and years of experience.

Methodology: A descriptive cross-sectional study design is used to assess the nurses' burnout, and to evaluate the nurses' practices in pre-operative for patients undergoing cardiac catheterization. A purposive non probability sample of 48 nurses, who working at cardiac intermediate care units is selected. The study sample is distributed throughout 4 Governorates, including Babylon, AL-Najaf, Diwaniyah, and Kerbala. The reliability of the instrument of data collection, which is determined through a pilot study, and the validity are achieved through a panel of (17) experts in different fields. The first part includes from the socio-demographic characteristics of the nurses, while the second part depends on the Maslach burnout inventory scale as a questionnaire, which consists of three domains; these are emotional exhaustion, personal accomplishment, and depersonalization. These domains are under (34) items. part three is an observational tool (checklist), which is composed of two domains; nurses' practice, concerning pre-cardiac catheterization intervention; this domains consists of (27) items, while the second domain includes (13) items, which present the teaching of the patients that nurses must be do. Data are collected through the use of questionnaire(structured interview technique), and observational tool (checklist), and analyzed through the application of descriptive statistical data analysis approach that includes, frequencies, percentages, mean of scores, and graphical presentation of data by Bar-chare, and inferential statistical data analysis approach that include Chi-squared test and ANOVA test.

Results: The study results indicate that the nurses are moderately burned out at the emotional exhaustion and the depersonalization sub-domain, while at the personal accomplishment sub-domain, the results indicate that the nurses are burned out at mild level. Concerning nurses' practice, results indicate that the nurses practice has moderately affected.

Conclusion: The study conclude that the nurses' sample has revealed moderate level of burnout in cardiac catheterization centers in middle Euphrates governorates. And the level of nurses' burnout has an effect on nurses' practice in these centers. Also, nurses' socio-demographic characteristics have not influenced their level of burnout.

Recommendation: The study recommends that suitable strategies can be chosen to decrease the burnout level by providing course training for nurses. And farther research can be conducted to determine the factors associated with nurses' burnout to prevent it.

Index Terms- Burnout, Pre-operative Nursing Care, Cardiac Catheterization.

I. INTRODUCTION

Nurses' burnout is considered to be one of the most critical problems in the 21st century health care. There has been much research on burnout in nurses, presumably because of the intense nature of their contact with patients or clients ^{(1) (2)}. Nurses are commonly exposed to stress due to work overcharge. If exposure to stress factors is perceived by the worker as dissatisfaction without efficient and sufficient coping strategies, Burnout sets in. While stress can present both positive and negative aspects, Burnout always has a negative character ^{(3) (4)}. Cardiac catheterization is a generic term that refers to a variety of procedures that are used to identify coronary artery disease, abnormalities of heart muscle (infarction or cardiomyopathy), abnormalities of the heart's valves and congenital heart abnormalities ⁽⁵⁾. Cardiac surgery is considered to be a major event for patients, their families, and hospitals. Delays in surgery cause emotional distress for the patient and their family and are costly to the hospital. For these reasons, it is beneficial for all organizations that provide cardiac surgery to review their processes that prepare the patient for operation. Investing time to detail the patient flow processes involved in the pre-operative preparation will assist in eliminating process gaps and identify opportunities to improve organizational communication, patient care and satisfaction ⁽⁶⁾. Nursing care in cardiac catheterization guidelines are provided in four categories mapping recommendations to the patient journey: pre procedural nursing practice, peri-procedural nursing practice, post-cardiac catheterization nursing practice and post- cardiac catheterization secondary prevention practice ⁽⁷⁾. Pre-procedural preparing the patient for the cardiac catheterization procedure is an important part of nursing care ,particularly providing information and support ⁽⁸⁾.

II. OBJECTIVES

- 1.To assess nurses' burnout by using the Maslach Burnout Inventory Scale (MBI).
- 2.To find out the relationship between nurses' burnout levels and their preoperative nursing care.

Methodology

Design of Study: A descriptive cross-sectional study design is used to assess the nurses' burnout, and to evaluate the nurses' practices in pre-operative for patients undergoing cardiac catheterization, from the period of (October 18th 2015 to May10th 2016).

Setting of the Study: The study was conducted at four cardiac catheterization centers. These centers include(cardiac catheterization center in Hilla, AL- Diwaniyah, Kerbala and Al-Najaf Al-Ashraf Cities).

Sample of the Study: A non- probability purposive sample of (48) nurses who performed pre-catheterization practice. These nurses were (11) with Baccalaureate degree, (25) with diploma degree, (12) with school of nursing degree. Those nurses selected according to certain criteria which include: both genders male and female, both working shift, at least one year of experience in cardiac intermediate care unit.

Study Instrument: An assessment and evaluation tool used in the present study to assess the nurses' burnout and to evaluate their practices. The study instrument adopted and developed by the researcher with the aid of scientific and related literatures, as well as the appropriate modifications, which were conducted to achieve the study objectives. The final copy consists of the following parts:

Part I: Socio-demographic data. This part consists of (7) items which are (gender, age, level of education, marital status, years of experience, years of experience in cardiac units and training session in cardiac care).

Part II: This part includes the nurses' burnout, as followed by Maslach burnout interview after modification (Maslach,

2003). This part involves (34) items, distributed into three sub-domains, which are:

- A. Emotional exhaustion: This dimension includes (10) items.
- B. Personal accomplishment: This dimension includes(14)items.
- C. Depersonalization: This dimension includes(10) items.

Part III: The third part of the study instrument includes the pre-cardiac catheterization nurses' practices. These practices evaluated through the use checklist approach and consist of (40) items concerning practice that should be provided to patient in cardiac intermediate care unit, and which are divided into (2) sections include:

Section 1: General intervention of the nurse before the procedure. This section includes (27)items.

Section 2: Patients' teaching. This section includes (13) items.

III. STATISTICAL ANALYSIS

The statistical data analysis approach by using (SPSS-ver.20) is used in order to analyze and evaluate the data of the study. A descriptive statistical data analysis approach used to describe the study variables : Frequencies and Percentages. Inferential statistical data analysis approach: used by application of the Chi-square test this test is used for determining the association between nurses socio-demographic data and nurses burnout and nursing practice. Also, ANOVA test for equality of means of several independent Groups. Testing the significant association. For this study the significant P-value ≤ 0.05 .

IV. RESULTS OF THE STUDY

Table (1): Distribution of the (48) Study Sample by their Demographic Data

Demographic Data	Rating	Frequency	Percent
Province	Diwanya	12	25
	Najaf	12	25
	Karbala	12	25
	Babylon	12	25
	Total	48	100
Gender	Male	30	62.5
	Female	18	37.5
	Total	48	100
Age / years	20-29	28	58.3
	30-39	15	31.2
	40-49	4	8.3
	50-59	1	2.1
	Total	48	100
Levels of education	Secondary nursing school	12	25
	Institute	25	52.1

	College	11	22.9
	Total	48	100
Marital status	Single	5	10.4
	Married	43	89.6
	Total	48	100
Years of Experience	1 - 7	32	66.7
	8 - 14	10	20.8
	15 - 21	2	4.2
	22+	4	8.3
	Total	48	100
Years of Experience in cardiac center	1 - 5	44	91.7
	6+	4	8.3
	Total	48	100
Training sessions in Iraq	Non	17	35.4
	1	23	47.9
	2	7	14.6
	4	1	2.1
	Total	48	100
Duration of training sessions inside of Iraq / days	non	17	35.4
	5 - 32	30	62.5
	33+	1	2.1
	Total	48	100
Training sessions outside of Iraq	0	48	100
	Total	48	100
Duration of Training sessions outside of Iraq / days	0	48	100
	Total	48	100

This table shows that there is an equal sample size selected from four provinces (25%), and the higher percentage is for male (62.5%). Regarding the study sample age, the study results indicate that (58.3%) of the study sample are within the first age group (20-29) years old. In addition, the study results indicate that (52.1%) are institute graduates, (89.6%) are married,

(66.7%) have 1-7 years of experience in different areas of practices, (91.7%) have 1-5 years of experience in cardiac units, (47.9%) have participated in one training session inside of Iraq, (62.5%) have participated in a training sessions for 5-32 days, and (0.0%) have participated in a training sessions outside of Iraq.

Table (2): Distribution of the Study Sample by their overall responses to the burnout items

Items	Rating	Frequency	Percent	M.S	Assessment
Emotional Exhaustion	High Burnout	0	0.0	2.20	Moderate
	Moderate Burnout	48	79.2		
	Mild Burnout	10	20.8		
	Total	48	100		
Personal Accomplishment	High Burnout	24	6.2	2.42*	Mild
	Moderate Burnout	21	43.8		
	Mild Burnout	3	50.0		
	Total	48	100		
Depersonalization	Mild Burnout	12	25	1.75	Moderate
	Moderate Burnout	36	75		
	Total	48	100		
Overall Nurses' Burnout	Mild Burnout	15	31.3	1.68	Moderate
	Moderate Burnout	33	68.7		

	Total	48	100		
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Cut off point (0.66), mild (mean of score 1-1.66), moderate (mean of score 1.67-2.33), high (mean of score 2.34 and more).
* (the mean of score is reversed due to the items directions).

Based on statistical cut off point (0.66), this table shows that the nurses are moderately burned out (mean of score 1.67-2.33) at the emotional exhaustion and the depersonalization sub domain, while at the personal accomplishment sub domain, the

results indicate that they are burned out at mild level (mean of score 1-1.66). Furthermore, the study results indicate that the overall assessment for the nurses' burnout is moderate burnout.

Table (3):Distribution of the (48) Study Sample by their overall Evaluative for Pre-Operative Nursing Care

	Rating	Frequency	Percent	M .S	Assessment
Overall Evaluative for Pre-Operative Nursing Care	inadequate	2	4.2	1.89	Partially adequate
	Partially adequate	39	81.3		
	adequate	7	14.6		
	Total	48	100,0		

Cut off point (0.66), in-adequacy (mean of score 1-1.66), partially adequate (mean of score 1.67-2.33), Adequate (mean of score 2.34 and more).

This table shows that the overall evaluation for the Pre-Operative Nursing Care is partially adequate (81.3%).

Table (4):Association between the Nurses' Burnout and Evaluation of Nursing Care

Main Domains	Chi-Square	D.F.	P-Value	Significance
Overall of Nurses' Burnout / overall nurses practices	38.80	4	0.001	HS

This table shows that there is a high significant association between the nurses' burnout and the Pre-Operative Nursing Care.

V. DISCUSSION OF THE STUDY RESULTS

Part I: Discussion of the Study Sample Demographic Data

The study results indicate that there is an equal sample size selected from four provinces, and the majority of the nurses are males. Regarding to the study sample age, the study results indicate that the majority of the study sample are within the first age group (20-29) years old. In addition, the study results indicate that institute graduated is the dominant level of education for the study sample. In addition, the study results indicate that more of the study sample are married, have 1-7 years of experience in different areas of practices, have 1-5 years of experience in cardiac units, participate in one training session inside of Iraq, participate in a training sessions for 5-32 days, and there is no participation in a training sessions outside of Iraq. These study results may come because that the equal sample size selected from different provinces is from the researcher opinion , while for the study sample age group, this result come because that the majority of the nurses they dealing directly with the patients are from those with this age group because the action with the patients require a high physical activity and the nurses who are advanced age fail to dealing with the patients. In addition, the participation in a training sessions outside of Iraq is

diminished due to the political and economic limitation and this is controlled by the policy of the minister of health of Iraq. A study of Rashedi and others (2014) have studied the burnout among nurses in Iran and they find that the majority of the nurses are married⁽⁹⁾. In addition, a study of Chitura and Chitura (2014) have found that the majority of respondents at the hospitals (56.5%) were in the age range 20 – 30 years old. And their study indicate that 73.9% of the respondents were five years in the unit, with only 26% having above five years⁽¹⁰⁾. In Iraq studied the prevalence of nurses burnout in Rania District hospitals at Sulemani governorate this study find that the majority of the study sample are institute graduated⁽¹¹⁾.

Part II: Discussion of the Nurses' Burnout

Based on statistical cut off point (0.66), the study results indicate that the nurses are moderately burned at the emotional exhaustion and the depersonalization sub domain, while at the personal accomplishment sub domain, the results indicate that the nurses are burned at mild level. Furthermore, the study results indicate that the overall assessment for the nurses' burnout is moderate. These results come because that the shortage of nurses staff in the hospitals make the available nurses to perform a large number of duties as well as make them burned. The present

study results agree with the analytical and correlational study of Lorenz and others (2010) have investigated the existence of Burnout based on a sample of 149 nurses of a university tertiary hospital from October to December 2008 and correlate Burnout with stressors in the hospital work environment. The Maslach Burnout Inventory, the Nurses' Stress Inventory and a questionnaire to characterize the subjects were applied, and they find that the nurses are burned at moderate levels at the emotional exhaustion, personal accomplishment, and depersonalization. Also the overall assessment is moderate⁽¹²⁾.

Part III: Discussion of the Nurses' Practices

The study results indicate that the overall evaluation to the Pre-Cardiac Catheterization Nursing Intervention, and Pre-Cardiac Catheterization Nursing Care regarding Teaching the Patients partially adequate. Furthermore, the partially adequate nursing care is the dominant assessment at the present study. These results may come because that the variation in the levels of the nurses who are working at the hospitals is the cause of the variation in the quality and affectivity of the nurses care. In a study of Mea 'ad (2006) has evaluated of nurses practice toward patients who undergo percutaneous coronary intervention in Iraq, the data analyses indicated that the mean of scores of the nurses responses for most of the items in determination of intervention of pre percutaneous coronary intervention were moderate⁽¹³⁾.

Part IV: Discussion of the Relationship Between the Nurses Burnout and their Practices

The study results indicate that there is a high significant association between the nurses' burnout and the Pre-Operative Nursing Care. This result may come because that the nurse is a human and include a biopsychosocial dimensions so when the psychological status is affected the physical performance will be affected and this due to the philosophy of nursing which dealing with the nurses and even with the patients as a holistic. The present study results agree with Lorenz and others (2010) they find that the burnout that expressed by the health care workers will affect on their activities and duties performance⁽¹²⁾.

VI. CONCLUSIONS

There is find a moderate level of burnout in cardiac catheterization centers in middle Euphrates governorates, and lead to affects nurses' practice, who are working in the cardiac catheterization centers in middle Euphrates provinces, and that the practice level is moderate.

VII. RECOMMENDATIONS

The study recommends that suitable strategies can be chosen to decrease the burnout level by providing course training for nurses. And farther research can be conducted to determine the factors associated with nurses' burnout to prevent it.

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