Evaluation of Nurses' practices provided to the Patients who undergo Open Heart Surgery in Sulaimani center of Heart Diseases (S.C.H.D)

تقويم عمل الممرضين العاملين في مركز أمراض القلب في مدينة السليمانية لمرضى عمليات القلب المفتوح

SOZ Othman Aziz/ Specialist Nurse/ Center of Heart Diseases in Sulaimani city

Dr. Samir Younis Lafi / Assistant professor/ Head of Adult Nursing Dept. / School of Nursing/ Medical Faculty/ University of Sulaimani.

الخلاصة:

الهدف: تهدف الدراسة الى التعرف على مستوى العناية المقدمة للمرضى اللذين ستجرى لهم عمليات القلب المفتوح، كذلك لإيجاد العلاقة بين عمل الممرضين وبعض خصائصهم الديموغرافية مثل(العمر، الجنس، ، المستوى الثقافي، الحالة الزوجية، والدخل الشهري، كذلك مدة الخدمة في الجراحة القلبية).

المنهجية: أجريت دراسة تقويمية في مركز أمراض القلب في مدينة السليمانية للمدة من الاول من تشرين الثاني2010 لغاية تشرين الأول2011

ولتحقيق اهداف الدراسة اختيرت عينة غرضيه غير احتمالية مكونة من (32) ممرض شملت جميع الممرضين في مركز القلب المفتوح. ولغرض جمع المعلومات صممت استمارة استبيانيه مكونة من جزئين، شمل الجزء الاول الاستمارة الاستبيانية والمكونة من المعلومات الديموغرافية ، وشمل الجزء الثاني على إستمارة رصد. ولصدق الاداة عرضت الاستمارةعلى (18) خبيرا. وبطريقة المقابلة الشخصية مع عينة البحث جمعت المعلومات مع استمارة الرصد. وقد اجريت دراسة استطلاعية وحدد الثبات باستخدام معامل بيرسون وكان (r = 0.89). وقد حللت المعلومات باستخدم التحليل الوصفي كذلك التحليل الاستنتاجي.

الاستنتاجات: ومن خلال التحليل بينت الدراسة ان هناك علاقة بين التحضيرات (الفيزياوية،العامة،الارشادات ما قبل العملية، التحضيرات النفسية، كذلك البيئة) مع العناية المقدمة قبل العملية. كذلك بينت الدراسة عدم وجود علاقة بين العناية المقدمة للمرضى قبل العملية وبعض الخصائص الديموغرافية مثل(العمر، الجنس، المستوى الثقافي، الحالة الزوجية). عدا وجود علاقة بين عدد سنين الخبرة والعناية المقدمة للمرضى.

التوصيات:أوصت الدراسة بتشجيع الممرضين لاكمال دراستهم العليا في مجال اختصاص تمريض القلبية، دعم الممرضين بزيادة الدخل الشهري، كذلك تنظيم برامج تدريبية للمرضين، بالاضافة الى تطبيق المعايير الدولية بتزويد المريض بإسم ورقم دخول.

Abstract:

Objectives: To identify the level of practices provided to the patients who undergo open heart surgery, and to find out the relationship between practices and some sociodemographic characteristics such as (age, gender, level of education, marital status, monthly income, and years of employment in heart surgery).

Methodology: An evaluative study has been conducted in Center of Heart Disease in Sulaimani city for the period extended from November of 2010 up to the end of October of 2011. To achieve the objectives of the study, a non-probability (purposive) sample of (32) nurses who are present all the nurses working in the center. For the purpose of data collection, an instrument was designed that contain two parts; the first one was include the questionnaire which contain the demographic data, and observational check list. A panel of (18) experts to check the validity, and the data were collected through the use of interview and observational check list. A pilot study was carried out to check the reliability of the check list which is estimated as (r = 0.89). Data were analyzed through descriptive and inferential statistics.

Conclusion: Statistical analyzed were revealed that there is significant association between (General physical preparation, pre operative teaching, psychological and environmental) and nurses practices, and there is no statistical association were found between level of practices profile of the nurses and some socio demographic attributes such as (age group; gender; marital status except statistical association was

found between years of employment and profile which mean years of experience have an impact nurses practices.

Recommendation: The study recommended that nurses should be encouraged to continue their higher study in cardiac nursing, supporting nurses by increasing their monthly salary, arranging special training programs, applied world standardization by giving the patient code or nick name.

Keywords: Nurses practices, Heart Surgery.

INTRODUCTION:

Cardiovascular disease (CVD) at present is the first cause for increasing mortality and morbidity rates in the world, and the leading cause of disability and deaths among the elderly population in the United States of America (USA) where as many as 40% of all octogenarians having symptomatic (CVD) [(1)]

Open heart surgery (OHS) is any surgery where the chest is opened and surgery is performed on the heart muscle, valves, arteries, or other heart related (such as the aorta). The term "open" means that the chest is "cut" open, a heart-lung machine (also called cardiopulmonary bypass) is usually used during open heart surgery, while the surgeon works on the heart, the machine helps provide oxygen-rich blood to the brain and other vital organs[(2)]

Cardiothoracic surgery involves the heart and other areas within the chest; a cardiothoracic or thoracic surgeon provides care for patients with diseases within cardiopulmonary system. This encompasses treating heart disease and abnormalities of the heart's vessels and valves [(3)]

Cardiac disease is classified in to: Acquired heart disease (AHD), this type of diseases includes, valvular disease, which include: Aortic valve (AV), mitral valve (MV), tricuspid valve (TV), pulmonary valve (PV), and Coronary arteries disease {Coronary arteries bypass graft (CABG)}. And congenital heart disease (CHD): This type of diseases includes: Tetra of Fallout (TOF). Atrial septal defect (ASD) and ventricular septal defect (VSD) [(4)]

The pre operative phase is that time during the surgical experience that begins with the patient decision to have surgery and ends with the transfer of the patient to the operating room surgery for treatment of injury [(5)]

Open heart surgery is an operation performed to treat several conditions (acquired heart disease, valvular disease, congenital heart malformation and heart failure) and to prevent complication [(6)]

Today, nurses assume much of the responsibility for preparing patients physically and psychologically for their hospitalization and ongoing care specifically. They play a pivotal role in teaching patients and their families about test and procedure preparation and follow-up care, drugs and other treatments, disease prevention, and lifestyle modification, through patient teaching. Nurses can help patients reduce stress and comply with prescribed therapy [(7)]

Open heart surgery started in last 60s in Iraq especially in Baghdad. The first OHS in Iraq perform by surgeon (Yousif Al-Noaman), (ASD) operation at 1963 and during 2009 – 2010, the average of all type of (OHS) perform about (368) operations at 2009,

about (321) operations at 2010 in Iraqi center of heart disease. In Ebn al Bittar was (600) operations during the year 2009, (720) operations in 2010, in Ebn Alnafeas was (79) operations during the year 2009, (127) operations during the year 2010, and in Nagaf started at 2011 that performed about (22) cases [8]

In Kurdistan, OHS started in March 2007 in Howler center of heart disease. During this year, perform about (750) cases ,and (3950) perform operation in 2008,2009,2010,and 2011 while Sulaimani center of heart disease was performed about (140) cases in 2010,and (265)cases during the year 2011 [9]

New cardiac unit has been recently opened in Sulaimani few months ago to start a study involving the nursing practice in dealing with such advanced and complicated surgery and the nurse plays a major role in providing nursing care to patient who undergo open heart surgery. This study will concentrate on evaluation and critical analysis of nursing service offered to such critical patients and trying to identify the main problems facing the nursing staff during their work and put the best approach to avoid such a problem.

METHODOLOGY:

An evaluative approach, quantitative design, and non-probability (purposive) sample, of (32) male and female nurses who worked at Sulaimani Center of Heart Disease, as (target population) whose criteria are involved male and female and in two categories which are nursing institute and college graduate. It was conducted during the period of November of 2010 up to the end of October of 2011. Sulaimani Center of Heart Disease, it has been established in 24th, April 2010 in Sulaimani. Written official permission has been obtained from the ministry of health (Kurdistan Region) Iraq / Directory of health / Sulaimani city, to carry out this study

Data were collected through two types of instruments (questionnaire and observational checklist); the researcher modified the study instrument to investigate the practices provided to the Patients who undergo Open Heart Surgery. It was based on extensive review of related literature
and studies. The study instruments compressed of a total of (59) items which were distributed through the followings:

Demographic information sheet:
This sheet consists of (8) items, which include: age, gender, level of education, marital status, monthly income, number of years of
Employment in nursing, number of years of employment in the open heart
Surgery and participating in training sessions in open heart surgery.

Observational Check list:
This part consists of (4) dimensions as following:
A- Preoperative nurse's practices concerning general and physical preparation for patient which include (19) items.
B- Preoperative nurses practices concerning teaching preparation for patient which include (14) items.

C- Preoperative nurses practices concerning psychological preparation for patient which include (8) items.
D- Preoperative nurses practices concerning environmental preparation for patient which include (10) items.

All items were measured on three levels of (Likert) and rating scale, The three point type Likert Scale is scored as (3) for Always, (2) for Sometimes and (1) for Never. (95%) confidence interval for population, and (P value= 0.05). [10]

The content validity of the instrument was established through penal of (18) experts. Reliability of the instrument was determined through the use of equivalence reliability, Inter- rater (Inter observer) approach, (r=0.89). Data were analyzed through the application of descriptive and inferential statistical analysis.

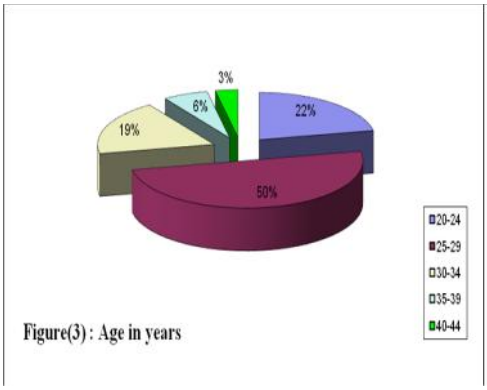
Data was collected, organized, and coded into computer files by using the statistical package of social science (SPSS).

Appropriate statistical means are used in the data analysis which includes the following:

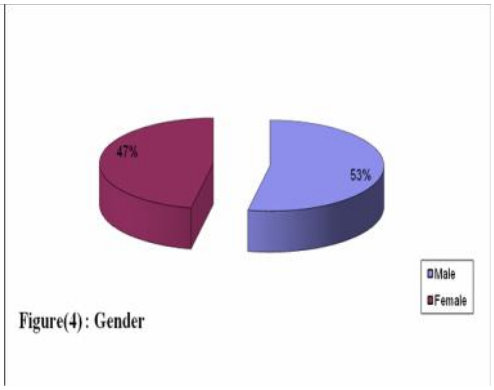
1- Descriptive data analysis: this approach is performed through the determination of:
   - Frequencies (f)
   - Percentage (%)
2- Inferential data analysis: this approach is performed through the determination of:
   - Cranach Alpha Correlation Coefficient
   - Chi - Square (X^2):
   - Mean of scores (M.S)

RESULTS:

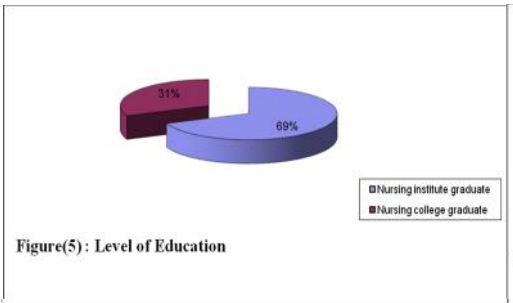
Part one: Distribution of the demographic data of the study sample.



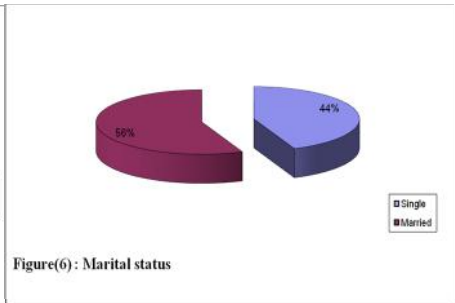
Figure(3) : Age in years



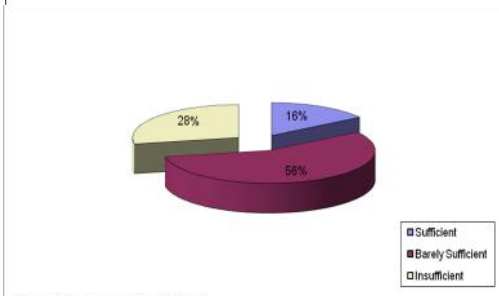
Figure(4) : Gender



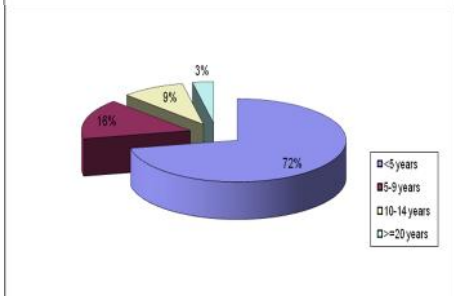
Figure(5) : Level of Education



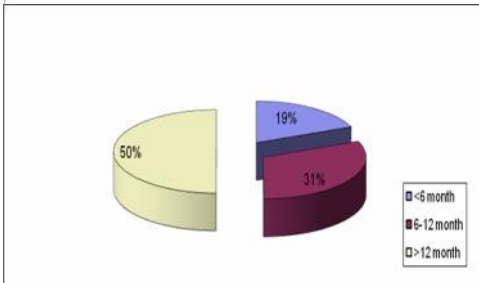
Figure(6) : Marital status



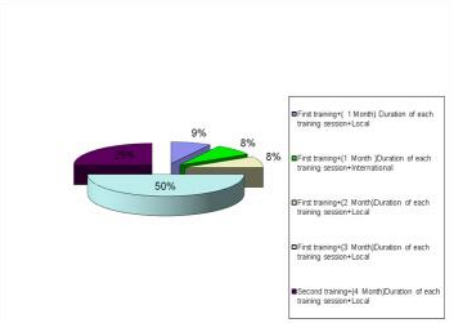
Figure(7) : Monthly Income



Figure(8) : Number of year of employment in nursing



Figure(9):Number of month of employment in the open heart surgery



Figure(10): Participating in training sessions in open heart surgery

Part two: pre operative practices:

Table (1): Means of scores and severity for items of the preoperative nurses practices concerning general and physical preparation for patient:

No.	Items Scales	Always(3)		Sometimes (2)		Never(1)		M.S	Severity
		F	%	F	%	F	%		
1	Ward administration chart	32	100	0	0.0	0	0.0	3.0	H
2	Give patient nick name or code	0	0.0	0	0.0	32	100	1.0	L
3	Checking Vital Signs (V.S)	32	100	0	0.0	0	0.0	3.0	H
4	Check patient drugs allergy	10	31.2	15	46.9	7	21.9	2.09	M
5	Check patient food allergy	2	6.2	5	15.6	25	78.1	1.28	L
6	Check laboratory test	32	100	0	0.0	0	0.0	3.0	H
7	Check blood group and rhesus factor(R.H)	32	100	0	0.0	0	0.0	3.0	H
8	Check the x-ray report	32	100	0	0.0	0	0.0	3.0	H
9	Checking for dental status in(valve surgery)	32	100	0	0.0	0	0.0	3.0	H
10	Instruct the patient to quit smoking at least2weekes before surgery	26	81.2	4	12.5	2	6.2	2.75	H
11	Withhold food and fluids at night of surgery.8.H. preparation	32	100	0	0.0	0	0.0	3.0	H
12	Withhold drugs as doctor order	32	100	0	0.0	0	0.0	3.0	H
13	Empty bowel and bladder immediately before going to theater	31	96.9	1	3.1	0	0.0	2.97	H
14	Shaving the area of operation immediately pre operative	32	100	0	0.0	0	0.0	3.0	H
15	Bathing the patient before surgery with antiseptic solution	31	96.9	1	3.1	0	0.0	2.97	H
16	Administration pre anesthetic medication as;medazolam,diazepam	27	84.4	4	12.5	1	3.1	2.81	H
17	Inform family to prepare blood if need	32	100	0	0.0	0	0.0	3.0	H
18	Check the cardiac catheterization report	30	93.8	2	6.2	0	0.0	2.94	H
19	Notify surgeon or responsible doctor if any problem occurs	32	100	0	0.0	0	0.0	3.0	H
	Total	**509**	**1563.6**	**32**	**96.80**	**67**	**209.30**	**51.81**	

This table indicates that the mean of scores is high in all items except items (2and 5) which is low while moderate in items (4).

Table (2): Mean of scores and severity for items of the preoperative nurse's practices concerning teaching preparation for patient:

No.	Scales / Items	Always(3)		Sometimes (2)		Never(1)		M.S	Severity
		F	%	F	%	F	%		
1	Teach patient post operative breathing exercises by take a deep breath in(through her-his nose, if possible)to fill the bottom of her-his lungs	7	21.9	13	40.6	12	37.5	1.84	M
2	Teach the patient how to relax her-his shoulders and upper chest	8	25.0	15	46.9	9	28.1	1.97	M
3	Instruct the patient to hold her-his breath for three seconds	3	9.4	0	0.0	29	90.6	1.19	L
4	Sigh out slowly through her-his mouth	2	6.2	1	3.1	29	90.6	1.16	L
5	Teach the patient how to make effective cough	6	18.8	10	31.2	16	50.0	1.69	M
6	Make the patient bend her-his knees up if lying or lean forwards if sitting	5	15.6	9	28.1	18	56.2	1.59	L
7	Told the patient to support her-his wound firmly with her-his hands, pillow or rolled up towel and cough strongly to clear any sputum or secretion	20	62.5	9	28.1	3	9.4	2.53	H
8	Educate patient about early ambulation	13	40.6	12	37.5	7	21.9	2.19	H
9	Explain to the patient her-his condition in intensive care unit(ICU){explain the use of drainage urinary catheters, chest tube, Naso gastric tube(N.G)	18	56.2	11	34.4	3	9.4	2.47	H
10	Do the nurses following deep breathing exercises while the patient lying, or sitting as upright as possible in bed or in a chair?	6	18.8	8	25.0	18	56.2	1.62	L
11	Instruct patient to avoid sexual activities 3month usually.	7	21.9	8	25.0	17	53.1	1.69	L
12	Explain surgical procedure.	32	100	0	0.0	0	0.0	3.0	H
13	Tell the patient length of time of the surgery approximately.	32	100	0	0.0	0	0.0	3.0	H
14	Tell the patient length of time to see family approximately.	31	96.9	1	3.1	0	0.0	2.97	H
	Total	**190**		**97**		**161**			

This table indicates that the mean of scores is high in items (7, 8, 9, 12, 13, and 14) and moderate in items (1, 2, and 5) while low in the remaining items.

Table (3): Means of scores and severity for items of the preoperative nurses practices concerning psychological preparation for patient:

No.	Scales Items	Always(3)		Sometimes(2)		Never(1)		M.S	Severity
		F	%	F	%	F	%		
1	Nurse is introducing himself to the patient.	25	78.1	4	12.5	3	9.4	2.69	H
2	Explain the operation to the patient.	28	87.5	2	6.2	2	6.2	2.81	H
3	Ensure the patient about operation result.	30	93.8	2	6.2	0	0.0	2.94	H
4	Psychological (group therapy) meeting another similar patient.	26	81.2	2	6.2	4	12.5	2.69	H
5	Help her/his family to support patient.	32	100	0	0.0	0	0.0	3.0	H
6	Deliver the patient and her/his family to operation theater and take them from intensive care unit.	32	100	0	0.0	0	0.0	3.0	H
7	Build a trusting relationship with the patient.	30	93.8	2	6.2	0	0.0	2.94	H
8	Explain the outcome of cardiac surgery for other patient.	22	68.8	3	9.4	7	21.9	2.47	H
	Total	**225**	**703.20**	**15**	**46.70**	**16**	**50.00**	**22.54**	

This table indicates that the mean of scores is high in all items.

Table (4): Mean of scores and severity for items of the preoperative nurses practices concerning ward environmental preparation.

No.	Scales Items	Always(3)		Sometimes(2)		Never(1)		M.S	Severity
		F	%	F	%	F	%		
1	Keep surgical ward quiet	30	93.8	2	6.2	0	0.0	2.94	H
2	Keep surgical ward clean	28	87.5	3	9.4	1	3.1	2.84	H
3	Availability of sterile equipments	32	100	0	0.0	0	0.0	3.0	H
4	Availability of drugs in surgical wards	32	100	0	0.0	0	0.0	3.0	H
5	Keep patient safety in the hospital (wheal chair, bed side role)	32	100	0	0.0	0	0.0	3.0	H
6	Availability of cardio pulmonary resuscitation, (C.P.R) trolley in the ward such as (defibrillator-ventilation), suction machine and oxygen	32	100	0	0.0	0	0.0	3.0	H
7	Orientation to the patient room	30	93.8	2	6.2	0	0.0	2.94	H
8	Orientation to the environment and hospital policy	29	90.6	2	6.2	1	3.1	2.88	H
9	Temperature probes in place and calibrated	32	100	0	0.0	0	0.0	3.0	H
10	Emergency lighting availability	30	93.8	2	6.2	0	0.0	2.94	H
	Total	**307**	**868.90**	**11**	**34.20**	**2**	**6.20**	**29.54**	

This table indicates that the mean of scores is high in all items.

Part Three: Association between some sociodemographic characteristics regards to the nurses practices preoperatively

Table (5): Associations between age of the sample and preoperative practices.

Scales / Age	Always	Sometimes	Never	Total
	F	F	F	
20-24	266	29	62	357
25-29	608	86	122	816
30-34	237	27	42	306
35-39	80	9	13	102
40-44	40	4	7	51
Total	1231	155	246	1632
χ^2obs=4.516 df=8 χ^2 crit=15.507 $p \leq 0.05$				

This table indicates that there is no significant association between age and preoperative practices.

Table (6): Associations between gender of the sample and preoperative practices.

Gender / Scales	Always	Sometimes	Never	Total
	F	F	F	
Male	651	88	128	867
Female	580	67	118	765
Total	1231	155	246	1632
χ^2obs=0.976 df=2 χ^2 crit= 5.991 $p \leq 0.05$				

This table indicates that there is no significant association between gender and preoperative practices.

Table (7): Associations between level of education of the sample and preoperative practices.

Scales / Level of Education	Always	Sometimes	Never	Total
	F	F	F	
Nursing institute graduated	854	106	162	1122
Nursing college graduated	377	49	84	510
Total	1231	155	246	1632
χ^2obs=1.193 df=2 χ^2 crit= 5.991 $p \leq 0.05$				

This table indicates that there is no significant association between level of education and preoperative practices.

Table (8): Associations between marital status of the sample and preoperative practices.

Scales / Marital Status	Always	Sometimes	Never	Total
	F	F	F	
Single	542	70	102	714
Married	689	85	144	918
Total	1231	155	246	1632
χ^2obs=0.687 df=2 χ^2 crit=5.991 $p \leq 0.05$				

This table indicates that there is no significant association between marital status and preoperative practices.

Table (9): **Associations between monthly income of the sample and preoperative practices.**

Scales / Monthly Income	Always	Sometimes	Never	Total
	F	F	F	
Sufficient	196	25	34	255
Barely sufficient	694	86	138	918
Insufficient	341	44	74	459
Total	1231	155	246	1632
χ^2obs=1.045 df=4 χ^2 crit=9.488 $p \leq 0.05$				

This table indicates that there is no significant association between monthly income and preoperative practices.

Table (10): Associations between personal of employment in months in open heart surgery of the sample and preoperative practices.

Scales / Years of Employment In open heart surgery	Always	Sometimes	Never	Total
	F	F	F	
Less than 6 month	214	45	47	306
6 – 12 month	392	31	87	510
More than12-18month	625	79	112	816
Total	1231	155	246	1632
χ^2obs= 18.891 df= 4 χ^2 crit= 9.488 $p \leq 0.05$				

This table indicates that there is significant association between years of employment in open heart surgery and preoperative practices.

DISCUSSION:

Throughout the course of data analysis, the findings of the present study indicated that the majority of the sample were (25-29) years old who were counted for (50%) of the sample (Fig 3).

This finding was supported by Azer, (2011), who indicated that, more than one third of the total studied nurses were in the age group of (18 – 29) years old in study [11]

In relation to gender, the majority of the study samples were male (53%), (Fig 4).

A study carried out by Abd-Elwahb, (2011), come along with the present study, he found that approximately half of study sample were male [12]

Regarding their educational status, the majority of the sample was institute graduates and they were counted of (69%) (Fig 5).The finding of this study reveals that the majority of the study samples (72%) were employment in nursing filed with (less than 5) years (Fig 8). In relation to employment in open heart surgery the findings show that (50%) of the sample have (More than 12 and less than 18 month) (Fig 9).

This results was disagree with (Alaa Eldeen, 2009) who declared that most literatures agree that nurses in this field should have more than five year experience to be competent to give quality care for their patients [13]

The department of open heart surgery is new; the staffs working in this department are newly college graduated, also the selection of institute staff according to their activities and skills. On the other hand (50%) of the sample were participated more than three months in the local training (Fig 10). Leddy, (2006) emphasized that nurses should have continuous learning and follow up, besides they should have certain chances for developing their professional experiences [14]

Regarding general and physical preparation, the present findings indicate that ward administration chart has a high mean of score (Table 1).

Nurse is responsible for providing preoperative nursing care for patients which includes assessing general preparation such as chart and medical, surgical history taking, and needs for physical preparing patients for operation [15]

The present findings indicate that all the study sample of nurses did not use nick name or code. The researcher believes that the present findings disagree with all international

literatures concluded that in developed countries or the international hospital standards emphasizes that patient must be given a nick name or a code on admission to the health agencies, so this finding is probably related to the lack of the standard of nursing care or practicing protocols in our health agencies.

Regarding teaching preparation (Table 2). Physical activity for cardiac patient should be positively encouraged as effective cough and muscles exercises such as shoulders and jaw because this may reduce many complications as lung and muscles problem, blood pressure, cholesterol level, and body weight. Patients should be encouraged to exercise at least four times a week, but preferably daily for a period of 30 minutes [16]

Regarding psychological preparation, the present findings indicate that nurse introducing himself to the patient have a high mean of score (Table 3).The present findings are supported by Rogers, (2004) who declared that nurses must be known the introducing himself and knowledgeable about the factors that lead to decrees errors [17]

Concerning the ward environment preparation (Table 4), surgical ward should be quiet apart from especial music, and the ward instruments, and sheets all should be clean and decontaminated [18]

The result shows that there is a significant association between employment in open heart surgery and preoperative practices, (Table 10). There is a statistically significant relationship between nurse's employment and preoperative practices [19]

The researcher believes that the patient's education can increase the patients' awareness toward the surgery and the importance of follow up program. The patient education is an essential component of nursing practice. There is a continuous development and emphasize on the leadership role of nurses in the ward and arena over the last century.

On the basis of the results obtained from the present study, and the data got from the sample taken from the (S.C.H.D), the researcher may generalize that the same relationship can be found in Kurdistan among the study variables. On the other hand the researcher believes that open heart surgery may be the effect of fears, anxiety, costs of the operations and hospitalization of the patients.

CONCLUSION:

The study has confirmed that most of the sample were institute graduated hence their level of education is low and were in middle adult age. The majority of the study sample was married in barley sufficient income, while the findings of the study sample showed that they have less than five years employment in nursing field, have no experience in open heart surgery, and has no participation in training sessions in open heart surgery. On the other hand the study findings showed that there is significant statistical relationship between number of month's employment in open heart surgery and their nursing practices. Regarding preoperative nurses practices concerning psychological and environmental preparation, all the study sample have a highly mean of score.

RECOMMENDATIONS:

The study recommended that nurses should be encouraged to continue their higher study in cardiac nursing, supporting nurses by increasing their monthly salary, arranging special training programs, and applied world standardization by giving the patient code or nick name.

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