Effectiveness of Educational Program on Nurses Knowledge Toward Rehabilitation for Patients with Cardiac Heart Attack

تأثير البرنامج التثقيفي على معارف الملاك التمريضي حول التأهيل القلبي لمرضى النوبة القلبية

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الخلاصة

هدف الدراسة :تهدف الدراسة إلى تأثير البرنامج التثقيفي التمريضي على معارف الملاك التمريضي حول التأهيل القلبي في المرحلة الأولى. لمرضى النوبة القلبية.

طريقة البحث: أجريت دراسة شبه تجريبية في- مستشفى الشيخ زايد و مستشفى الصدر العام ومستشفى الكرخ العام و مستشفى الكرامة ومدينة الإمامين الكاظمين الطبية و مستشفى بغداد التعليمي للفترة من اليوم الأول من ايلول2013 إلى العاشر من ايلول2014 تم بناء البرنامج من قبل الباحث لغرض الدراسة تم اختيار عينة عشوائية تكونت من (80) ممرض وممرضة قسمت العينة إلى مجموعتين مجموعة الدراسة المنفذ عليها البرنامج التعليمي وتكونت من(40) ممرض وممرضة ومجموعة ضابطة تكونت من (40) ممرض وممرضة لم تتلقى البرنامج.

ولقياس تأثير البرنامج التعليمي على معارف الملاك التمريضي استعمل الباحث استمارة رصد للمعارف التمريضية المتعلقة بالتشريح و فسلجة القلب و أمراض القلب وعوامل الخطورة و تشخيص المرض و الأدوية والعلاجات و نشاط المريض اليومي و الحالة التغذوية للمريض(33) فقرة وتم تحديد ثبات أداة القياس من خلال الاختبار وإعادة الاختبار وحددت مصداقية الأداة من خلال عرضها على مجموعة من الخبراء وتم استخدام (الإحصاء الوصفي) التكرارات والنسب المئوية والوزن المرجح والوسط الحسابي والانحراف المعياري و(الإحصاء الاستدلالي) ا الكفاية النسبية واختبار مربع كاي واختبار فيشر وذلك لإيجاد الاختلاف بين مجموعة الدراسة والمجموعة الضابطة

النتائج : أظهرت النتائج بان البرنامج التعليمي له تأثير ايجابي على معارف الملاك التمريضي حول التأهيل القلبي في المرحلة الأولى .لمرضى النوبة القلبية.

الاستنتاج : استنتجت الدراسة ان الكادر التمريضي الذين يعملون في وحدات الرعاية التاجية يمتلكون مستوى واطئ من المعارف المتعلقة بتأهيل مرضى النوبة القلبية في المرحلة الأولى.

التوصيات: أوصت الدراسة بتطبيق البرنامج التثقيفي المعد في هذه الدراسة على جميع الملاك التمريضي في وحدات الرعاية التاجية في القطر

Abstract:

Objective: The study aims to evaluate the effectiveness of nursing education program on the nurses knowledge toward cardiac rehabilitation phase one for patients with heart attack

Methodology: A quasi-experimental design study was carried out at AL-Shaiq Ziad*;* AL-Sader*;* Al-Karkh ;*AL*-Karama; Imamein kadhimein medical city and Baghdad hospital in Baghdad city from1st September 2013 to 10 September 2014. The program and instrument were constructed and developed by the researcher for the purpose of the study were: Random sample comprised of (80) nurses was divided in to two groups, study group consisted of (40) nurses exposed to the nursing educational program and control group consisted of (40) nurses were not exposed to the program. The measurement of the effectiveness of educational program through the nurses knowledge includes(33)items concern knowledge related Heart Anatomy; Coronary artery disease and risk factors; diagnostic procedures; medication and treatment; activities of daily living; nutritional status to patients; life style; nursing care **.** Reliability of instrument was determined through the use of test and retest and the instrument validity was determined through a panel of experts .

The analysis of data was use descriptive statistic (Frequencies, Percentage, and Cumulative Percentages , Mean of Score , Standard Deviation and Inferential statistical (Contingency Coefficients, Chi-Square test, Fisher to present the differences between the study and control groups.

Results: The results of the study showed that the effectiveness of educational program regarding nurses knowledge toward cardiac rehabilitation phase one for patients with heart attack.

Conclusions: The study concluded that the nurses working in Coronary Care Unit having the minimum level of information toward cardiac rehabilitation phase one for patients with cardiac attack.

Recommendations: The study recommended that all nurses in the coronary care unit should be involved in the application of educational program was developed in this study.

Keyword : nursing; education; cardiac; rehabilitation

INTRODUCTION :

In a study conducted by the following authors. [1] it was determined that Myocardial infarction MI is an acute manifestation of coronary heart disease CHD . Patients who have had an encounter with MI have to cope with consequences of the disease.

This latter finding underscores a rather alarming situation An acute myocardial infarction is the main cause of premature death and substantially accounts for morbidity especially in the developed world. Recently, it is shown that there are nine common potentially modifiable risk factors which are; low consumption of fruits and vegetables, smoking, abdominal obesity, diabetes, physical inactivity, no alcohol consumption, hypertension, psychological factors, Apolipoproteins[2]

Some studies [3,4,5] have revealed the value of nursing practice in secondary prevention and disease management. Cardiac rehabilitation programs including nursing education exert a beneficial effect on patients' quality of life, exercise capacity, lipid profile, body mass index, body weight, blood pressure, resting heart rate, survival rate, mortality rate and decreased myocardial infarction risk factors. Given the fact that the role of nurses in providing education is multidimensional[6]demonstrated that this role may be categorized in three different levels: a) technical level needed to carry out diagnostic tests and based on cooperation with cardiologists, b) a second level at which nurses provide information to patients and in-hospital counseling so as to help them combat the disease and be actively involved in the medical treatment, and c) providing psychological support both to the patient and the family during acute illnesses about the treatment. The objective of our study is to evaluate the effectiveness of nursing education program on the nurses knowledge toward cardiac rehabilitation phase one for patients with heart attack

METHODOLOGY:

A descriptive study was carried out from1st September 2013 to 10 September 2014. Random sample comprised of (80) nurses was divided in to two groups, study group consisted of (40) nurses exposed to the nursing educational program and control group consisted of (40) nurses were not exposed to the program.

The selection of present sample beside on special criteria which includes nurses who are working at the CCU., male and female nurses, nurses that should have at least one year of experience or more, The education level of nurses are, Nursing college, Nursing Institute, Secondary Nursing School, Nurses who work in the morning and night shift, Nurses who work in the CCU unit ,Nurses who score less than 60% in pretest .

The educational program was design to provide nurses knowledge ;heart anatomy; coronary artery disease and risk factors, diagnostic procedures, medication and treatment, activities of daily living, nutritional status to patients, life style, nursing care. The study instrument was nurses knowledge develop by researcher for the purposive of the study it was consist of two part : self-administration sheet related to demographic nurses and nurses knowledge regarding (cardiac rehabilitation program phase one).

Questionnaire sheet related to nurses' knowledge carried out during the morning and afternoon shift. nurses knowledge was consist of (33) item divided in to eight part.

part one deals the heart anatomy. It composed of (5) items. Part two deals the coronary artery disease and risk factors. It composed of (9) items, Third part consist the diagnostic procedures which composed of (1) items, fourth part: medication and treatment.it composed of (5) items, fifth part: activities of daily living. It composed of (3) items. Sixth part: nutritional status to patients. it composed of (2) items. Seven part: life style. It composed of (3) items. eight part nursing care. It composed of (5) items.

The data of present study were analysis through application of statistical approaches. descriptive statistical approach that include (Frequencies, Percentage, and Cumulative Percentages, Mean of Score, Standard Deviation) and Inferential statistical approach (Contingency Coefficients, Chi-Square test, Fisher, ACNOVA). Results determines as highly significant at ($P < 0.001$) significant at ($P < 0.005$) and non-significant ($P > 0.05$)

RESULTS :

Table(1): Distribution of The Study Sample (Study and Control Groups) According to Demographical Characteristics .

Variable	Groups	Study			Control			C.S. (*) P-value
		No.	%	Cum. %	No.	%	Cum. %	
Age Groups	20 – 29years	10	25	25	15	37.5	37.5	χ^2= 3.830 P=0.202 NS
	30 – 39	16	40	65	17	42.5	80	
	40 – 49	12	30	95	8	20	100	
	50 – 59	2	5	100	0	0	100	
	Mean SD	32.38± 6.13			35.87± 8.17			
Gender	Male	22	55	55	27	67.5	67.5	P=0.268 NS
	Female	18	45	100	13	32.5	100	
educational level	College	13	32.5	32.5	14	35	35	χ^2= 2.412 P=0.299 NS
	Institute	20	50	82.5	14	35	70	
	S. School	7	17.5	100	12	30	100	

C.S = Comparative Significant ; NS= Non Significant at P>0.05; χ^2 = Chi – Square ; No = Number ; % = Percentage Cum = cumulative percentage ; S= Secondary school

Table (1) displays the frequency counts for selected variables . As stated above , the two educational groups (control versus study) were equal in size . Age of the nurses ranged from 20 to 59 years there were somewhat more males nurse (55%) than female nurse (45%) in the study group and (67.5%) were males and (32.5%) female in the control group . The most common educational attainment was from an institute (50%) in the study group and (35%) institute and college in the control group , these findings would suggest that the randomization process provide an acceptable level of equality between the groups .

Table(2): Comparison between Case and Control groups concerning Knowledge Domains at Pre Period Time

Score	Groups	No.	MS	Std. Dev.	Std. Error Mean	t-test	P-value(*)
Knowledge of Anatomy of the Heart	Control	40	1.480	0.202	0.032	1.78	0.079 NS
	Study	40	1.390	0.248	0.039		
Knowledge of Coronary artery disease and risk factors	Control	40	1.408	0.108	0.017	0.9	0.370 NS
	Study	40	1.380	0.161	0.025		
Knowledge of Diagnostic Procedures	Control	40	1.175	0.385	0.061	-1.55	0.124 NS
	Study	40	1.325	0.474	0.075		
Knowledge of Medication and treatment	Control	40	1.325	0.117	0.019	-2.69	0.009 HS
	Study	40	1.425	0.204	0.032		
Knowledge of Activities of Daily Living	Control	40	1.292	0.229	0.036	-0.59	0.559 NS
	Study	40	1.325	0.277	0.044		
Knowledge of Nutritional Status to Patients	Control	40	1.338	0.308	0.049	0.52	0.604 NS
	Study	40	1.300	0.336	0.053		
Knowledge of Life Style	Control	40	1.325	0.277	0.044	-0.57	0.572 NS
	Study	40	1.118	0.113	0.018		

(*)HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05 , No. = Number , Std.Dev. = Standard Deviation, Std. Error Mean = Stander Error Mean

Table (2) showed that there is no significant in (knowledge of anatomy of the heart ; knowledge of coronary artery disease and risk factors; knowledge of diagnostic procedures ; knowledge of activities of daily living ; knowledge of nutritional status to patients and knowledge of life style)

Table (3) comparison of Pre and post Knowledge between study sample (study and control groups) .

Score	Groups	N	Mean	Std. Dev.	Std. Error Mean	t-test	P-value(*)
Pre test Knowledge Score	Control	40	1.336	0.102	0.016	-0.43	0.669 NS
	Study	40	1.348	0.138	0.022		
Post test Knowledge Score	Control	40	1.376	0.087	0.014	-26.063	P=0.000 HS
	Study	40	1.805	0.057	0.009		

(*) HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05 , No. = Number , Std.Dev. = Standard Deviation, Std. Error Mean = Stander Error Mean

Table (3) revealed that there is no significant differences of pretest on knowledge between study and control groups but there is highly significant of posttest on knowledge between study and control groups .

Table(4): Statistical Differences between Post-test Knowledge and Demographic Characteristics For study group

Parameter's estimates	Unstandardized Coefficients		Standardized Coefficients	t-test	P- value(*)
S.O.V. (**)	B*	S.E.	B**		
Intercept	1.010	0.127	-	7.932	0.000
Knowledge Score – pre	0.011	0.076	0.006	0.145	0.885
Age	-0.002	0.003	-0.069	-0.659	0.512
Gender	-0.006	0.018	-0.014	-0.346	0.731
Education Level	-0.017	0.013	-0.055	-1.297	0.199
Year's no. of experience	0.006	0.004	0.207	1.518	0.133
Expert yrs. in CCU	-0.005	0.007	-0.083	-0.765	0.447
Location of expertise	-0.009	0.018	-0.020	-0.507	0.614
Groups	0.434	0.018	0.959	24.005	0.000
Dependent Variable: Knowledge Score - Post Period					

(*) HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05, B= standard parameter estimate with intercept, SE= standard error , B= standard parameter estimate without intercept
(**) S.O.V. (Sources of Variations).

Table 4 shows that there were no significant differences between the post program knowledge and the nurses demographic characteristics at (p= .000) for the control group but unrelated to any of five demographic variables.

DISCUSSION :

Analysis of nurses demographic characteristics ensure equivalence in both groups and there are no significant difference between study and control group . This result of the study is accepted in the quesi- experimental study. Their study reveals that the majority of nurses in the study group (80) who were randomly allocated to either a control group (n= 40) or an study group (n=40) . This study revealed that the majority of the study sample with age ranged from 20-59 years with the mean age of the nurses was (32.38± 6.13) years for the study group and (35.87± 8.17) years for the control group. Supported of this study [5]reported that majority of the study sample with age ranged from 20-50 years .The researcher conformed that the majority of the study sample was younger than 30 years was range from 20- 59 years .

In this study group 22(55%) are males and 18(45%) are females and the majority of nurses in the control group 27 (67.5%) are male and 13(32.5%) were female .
Researcher [5] was in contrast with the present study and stated that the majority of the nurses were female. The researcher conformed that the most nurses at the CCU were male due to heavy duty.

Relative to their educational status , most of the nurses in the study group 20 (50%) and in the control group 14(35%) are nursing institute and in the control group 14(35%) are college. This study has revealed that the majority of the nurses in the study group 20(50%) and control group 14(35%) are institute educational of nursing .(table 1) [6]reported that majority of the study sample (66.7%) of the nurses had a Bachelor of Science in Nursing degree and (33.3%) had an Associate of Science or Associate of Arts Degree in Nursing. (88.9%) of the nurses claimed that they had experience teaching cardiac patients .The researcher conformed that the majority of the nurses in CCU university and institute nurses

showed poor theoretical knowledge and demonstrated willingness and motivation for courses on basic life.

As a result of the data analysis ,there is no association between the nurses knowledge of the study group with their age related to main domain in CCU. pre posttests (table3).

This result means that the educational program was not effective for all age groups. This findings agrees with study of [7]supported this result and mentioned that there was significant negative correlation between age and total basic life support practice score .The researcher confirms that the negative correlation between nurses 'knowledge and performance pre and post the program in relation to their age. Years of experience Through the course of the data analysis ,it has been noted that there was no significant relation between nurses' knowledge of the study group with their years of experiences related to main domain in CCU pre posttests. In another study[8], it was found that found that no significant differences between knowledge of nurses with different years of experience. The researcher confirm that the nurses don't have sufficient knowledge and practice of cardiac rehabilitation. Patient education programmed for cardiac patients is an essential part of the quality of nursing staff working in cardiac unit only if the nurses acquire knowledge regarding cardiac rehabilitation they can improve the knowledge of patient with cardiac problems.

The results of (table4) revealed that there is no significant association between the level of education with nurses' knowledge in the study group to theLevel of Education[9]state that construct reported that effective patient education will be provided when nurses have enhanced their patient teaching skills. a lack of teaching skills and a lack of utilizing teaching skills will impact on nurses abilities to provide effective patient education. The researcher confirms that the negative correlation between nurses 'knowledge pre and post the program in relation to their educational level.

CONCLUSIONS:

The majority of the study sample was younger than 30 years was range from 20- 59 years . Most nurses at the CCU were male due to heavy duty. The majority of the nurses in CCU (Were graduated from) university and institute nurses showed poor theoretical knowledge and demonstrated willingness and motivation for courses on basic life. The nurses had extremely limited Practice about the resumption of cardiac rehabilitation after heart attack. The nurses don't have sufficient practice of cardiac rehabilitation. The negative correlation between nurses 'practice and performance pre and post the program in relation to their educational level.

RECOMMENDATIONS :

Repetitive periodic cardiac rehabilitation training courses to ensure that nurses are competent, up to date and confident responders in the event of a cardiac attack .

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