

Effectiveness of Educational Program on Nurses' Practices toward Cardiac Rehabilitation for Patients with Heart Attack

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

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الخلاصة

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

منهجية البحث : أجريت دراسة شبه تجريبية في- مستشفى الشيخ زايد و مستشفى الصدر العام و مستشفى الكرخ العام و مستشفى الكرامة ومدينة الإمامين الكاظمين الطبية (ع) و مستشفى بغداد التعليمي للفترة من اليوم الأول من ايلول 2013 الى العاشر من ايلول 2014 تم بناء البرنامج وأداة الدراسة من قبل الباحث لغرض تحقيق أهداف الدراسة تم اختيار عينة عشوائية تكونت من (80) ممرض وممرضة قسمت العينة الى 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 ممارسات الملاك التمريضي استعمل الباحث استمارة رصد للممارسات التمريضية المتعلقة بالتقويم الصحي للقلب و تقويم الم الصدر وتقويم الصدمة القلبية وتقويم النشاطات الحيوية اليومية وتقويم التثقيف الصحي وتكونت من (60) 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) الكفاية النسبية واختبار مربع كاي واختبار فيشر وذلك لإيجاد الفروق المعنوية بين مجموعة الدراسة والمجموعة الضابطة.

النتائج : أشارت نتائج الدراسة بوجود فروقات ذات دلالة إحصائية عالية لمجموعة الدراسة بين الاختبار القلبي والاختبار البعدي في الجوانب الرئيسية التي لها علاقة بفقرات الممارسات التمريضية

الاستنتاج : ضعف في ممارسات الممرضين العاملين في وحدات الرعاية التاجية حول التأهيل القلبي في المرحلة الأولى لمرضى النوبة القلبية

التوصيات: العمل على تأهيل الممرضين من خلال إدراج منهاج تدريبي متواصل من خلال شعبة التعليم المستمر في المستشفيات وتكون نتائجه معتمدة لغرض الترفيع والعلو

Abstract:

Objective: The study aimsto evaluate the effectiveness of nursing education program on the nurses practice toward cardiac rehabilitation phase one for Patients with Heart Attack.

Methodology: A quasi-experimental design study was carried out at the AL-ShaiqZiad; AL-Sader; Al-Karkh; AL-Karama; Imameinkadhimein medical city and Baghdad hospital in Baghdad city from September 1st 2013 to September 10th 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 nursing educational program through the observation check list includes(60)items concern Practice related health assessment of the heart, assessment chest pain, evaluated Cardiogenic shock, evaluated activity daily living and Health education. 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, Percents, 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 they were highly significant deference between pre and post test in the study group in over all main domains related to nurses' practice.

Conclusion: Deficit practices' nurses in the coronary care unit toward cardiac rehabilitation phase one for patients with heart attack.

Recommendation: Cardiac rehabilitation program should be included continuous training for all nursing staff and curricula structured for cardiac rehabilitation.

Keyword: nursing; education; cardiac; rehabilitation

INTRODUCTION:

Though education has an essential role in patients' rehabilitation, however its' value is under-recognized in daily clinically practice owing to many reasons such as non availability of spare time and staff personnel or to the fact that more emphasis is put on the treatment of the disease. ⁽¹⁾

Every year about 715,000 Americans have a heart attack. Of these, 525,000 are a first heart attack and 190,000 happen in people who have already had a heart attack. ⁽²⁾

On the other hand, education of health professionals is a prerequisite of an effective treatment. Apart from theory knowledge, they need to improve their skills regarding knowledge transmission, ability to help patients express their feelings thus following educational programmes^(3,4). Furthermore, health professionals, fail to recognize psychological distress due to their lack of education on the typical and atypical symptoms⁽⁵⁾. The objective of our study is to evaluate the effectiveness of nursing education program on the nurses practice toward cardiac rehabilitation phase one for Patients with Heart Attack

METHODOLOGY:

A descriptive design study was carried out from September 1st 2013 to September 10th 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. Nurses that should have at least one year of experience or more. The education levels of the sample were nurse's who graduate from Nursing College; Nursing Institute; Secondary Nursing; and School Nurses who work in the morning and night shift. Nurses who work in the CCU unit Nurses who score less than 60% in pre test.

The educational program was design to provide nurses scale related to health assessment of the heart as subjective and objective data; assessment of chest pain; evaluated Cardiogenic shock; evaluated daily activity living; Evaluated health education.

The study instrument was observation checklist of nurses' practice develop by researcher for the purposive of the study it was consent of two parts: self administration sheet related to demographic nurses and observation checklist for nurses practice regarding cardiac rehabilitation program phase one.

Questionnaire sheet related to nurses' practices carried out during the morning and afternoon shift. An observation check list for nurses practice was consist of (60) item

divided in to five parts: **part one** deals the health assessment of the heart as subjective and objective data, it composed of (13) items .**Part two** deals the assessment chest. It composed of (11) items, **part three** consist the evaluated of Cardiogenic shock) which composed of 11 items, **Part Four** deals the: evaluated of daily activity which. It composed of (13) items, **part five**: Evaluated health education. It composed of (12) items.

These items were rated according to the Liker scale always (3), sometimes (2), never (1). The levels of scale which were scored as a total of three episodes of events were observed for each respondent; practices as mean of data collection (3) or (2) correct practices out of three episodes was rated as always. (1) Correct practices out of (3) episodes were rated as sometimes and uncorrected practices were rated as never. The data of present study were analysis through application of statistical approaches. Descriptive statistical approach that include (Frequencies, Percents, 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.	%	Cu m. %	No .	%	Cum. %	
Age Groups	20 – 29	10	25	25	15	37. 5	37.5	$\chi^2= 3.830$ 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	
Education (of Nursing)	College	13	32.5	32.5	14	35	35	$\chi^2= 2.412$ 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 male 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. Statistically, there are no significant difference among gender, level of education, when analyzed by Chi-Square test.

Table (3) comparison Between Pre and post Practices For the study and control groups

Score	Groups	N	Mean	Std. Dev.	Std. Error Mean	t-test	P-value ^(*)
Pre test Practice Score	Control	40	1.628	0.106	0.017	-0.29	0.770 NS
	Study	40	1.634	0.086	0.014		
Post test Practice Score	Control	40	1.632	0.135	0.021	-40.156	P=0.000 HS
	Study	40	2.662	0.090	0.014		

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

Table (3) revealed that there are no significant differences for pre test between case and control groups, but there is highly significant of post test on practice between study and control groups.

Table (4): Statistical Differences between post practical test and Demographic data for case and control groups

Parameter's estimates	Unstandardized Coefficients		Standardized Coefficients	t-test	P- value ^(*)
	B*	S.E.	B**		
S.O.V. ^(**)					
Intercept	0.289	0.256	-	1.129	0.263
Knowledge Score – pre	0.255	0.132	0.046	1.923	0.059
Age	0.000	0.005	0.003	0.049	0.961
Gender	-0.029	0.027	-0.027	-1.080	0.284
Education Level	-0.056	0.027	-0.052	-2.040	0.045
Year's no. of experience	0.017	0.018	0.024	0.913	0.364
Expert years. in CCU	0.002	0.006	0.025	0.285	0.776
Location of expertise	-0.011	0.010	-0.071	-1.019	0.312
Groups	1.047	0.027	0.992	38.800	0.000
Dependent Variable: Practice Score – Post Period					

^(*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; 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 dependent variable post-test practice found the overall ANCOVA model to be significant (p= .000) for the study group but unrelated to any of the five demographic variables.

DISCUSSION:

Analysis of nurse's demographic characteristics ensures equivalence in both groups and there are no significant differences between study and control group. The study reveals that the majority of nurses in the study group (80) who were randomly allocated to either a control group (n= 40) or 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 ⁽⁶⁾ 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 nurses for the control group 27 (67.5%) are male and 13(32.5%) were female.

Researcher ⁽⁶⁾ 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) Bailey 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⁽⁷⁾. The researcher conformed that the majority of the nurses in CCU who graduate from university and institute showed poor theoretical knowledge and demonstrated willingness and motivation for courses on basic life

This study showed that there is highly significant and significant differences between pre - post tests of study group of this items related to significant (table 3).

Another Researcher reported that the majority of the study sample nurses play a key role in assisting patients to identify their lifestyle habits that require modifications, ultimately improving their quality of life and decreasing hospital readmissions. Education focusing on self care activities, diet, rest and exercise enables patients to retain a sense of control in their lives. The researcher confirms that to increase the understanding, competence and confidence of nurses by developing their skills in a way that will enable them to engage effectively with patients in responding to their needs.⁽⁸⁾

The results revealed that the study and control groups were comparable practice with regard to various demographic characteristics

As a result of the data analysis, there is no association between the nurses practice of the study group with there age related to main domain in CCU. pre post tests. This result means that the educational program was not effective for all age groups. This findings agrees with study of ⁽⁹⁾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' practice in pre and post test in relation to their age.

Through the course of the data analysis,it has been noted that there was no significant relation between nurses' practices of the study group with their years of experiences related to main domain in CCU pre post tests. Another Researcher found that no significant

differences between practice of nurses with different years of experience. The researcher confirm that the nurses don't have sufficient practice of cardiac rehabilitation. Patient education programme for cardiac patients is an essential part of the quality of nursing staff working in cardiac unit only if the nurses acquire practice regarding cardiac rehabilitation they can improve the practice of patient with heart attack⁽¹⁰⁾.

The results in (table4) revealed that there is no significant association between the level of education with nurses' practices in the study group to the level of education ⁽¹¹⁾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 'practice in pre and post test in relation to their educational level.

CONCLUSIONS:

The most nurses at the CCU were male due to heavy duty. The majority of the nurses in CCU were graduated from university and institute and 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

Cardiac rehabilitation educational program should be included in all nursing schools and curricula structured cardiac rehabilitation training program to training courses with continues educator unit and use results in up to dating.

REFERENCES

1. Amin A, Jones A, Nugent K, Rumsfeld J, Spertus J: The prevalence of unrecognized depression in patients with acute coronary artery disease. **Am Heart J.** 2006; Vol.152; No.5: P.P928-934.
2. Roger VL, Go AS, Lloyd-Jones DM, et al: Heart disease and stroke statistics—2012 update: a report from the American Heart Association. **Circulation j** 2012; Vol. 125; No.1:202–220. Cynthia, 2006;
3. Nolan J, Nolan M, Booth A. Developing the nurse's role in patient education: rehabilitation as a case example. **Int J. Nurs Stud.** 2001; Vol.38; No .2:P.P.163-173.
4. Cao Y, Davidson PM, DiGiacomo M. Cardiovascular disease in China: an urgent need to enhance the nursing role to improve health outcomes. **J ClinNurs.** 2009; Vol.18; No.5:P.P.687-93.
5. Polikandrioti M, Ntokou M. Needs of hospitalized patients. **Health science journal.** 2011; Vol.5; No.1:P.P.15-22.
6. Eshahand Bond : Cardiac rehabilitation programme for coronary heart disease patients: an integrative literature review. **Int J NursPract.** 2009; Vol.15; No.3:P.P.131-139.

7. Hussain M, Lyneham J. Cardio-pulmonary resuscitation knowledge among nurses who work in Bahrain. **International Journal of Nursing Practice**, 2009; Vol.15;No. 4: P.P.294-302
8. Bailey, patients and nurses' perceptions of the cardiac patient's learning needs 2004
9. Svendsen, Education focusing on self care activities, diet, rest and exercise enables patients to retain a sense of control in their lives. **Canadian Journal of Cardiovascular Nursing** . 2003; Vol.13; No. 2: P.P 30-34.
10. Moule P., Albarran J.: Automated external defibrillation as a part of basic life supportimplicationfor educationand practice. **Resuscitation**, 2002; Vol.54; No.3: P.P.223-230.
11. AlKandary Perceived competence in cardio-pulmonary resuscitation, knowledge and practice among qualified nurses in Kuwait. **Bull Alex Fac Med**, 2007; No.43: P.P.2.