

Assessment of the Nurse's knowledge in Pre and Post Applying Education Program up on Postoperative Wound Care at Al-Diwaniya Teaching Hospital

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Abstract:-

Background:- Postoperative wound care is the primary and important aspect of the progression of surgical wound healing stages, as well as the primary prevention of wound infection.

Objective: - The study aims to assess nurse's knowledge- pre and post -operative wound care and to find out the relationship between demographic characteristics with the knowledge nurses.

Methodology A quasi-experimental design study has been carried out in adopted through the period from 1st of March 2020 to the 1st of September - 2020. The sample of the study included (50) nurses working in surgical ward of Al Diwaniya Teaching Hospital. In order to assess the nurses' knowledge about pre and post-operative wound care. The instrument depended in the study composed of two parts: Part one- included (6) items which focus on demographic characteristics of the nurse such as (Age, Gender, Years of experience, Educational level, Hospital, Number of Training sessions). Part two: included (38) items concerns general knowledge about pre and post-operative wound care. Content validity of the questionnaire was determined by presenting the questionnaire to a panel of (11) experts and the reliability of the study was determined by applying the tool to (10) nurses in Al Diwaniya Teaching Hospital, while Person's Correlation Coefficient was ($r = 0.931$ **).The data was collected using self-administered questionnaire and it was entered, cleaned and analysed using SPSS version 23.

Results:- The findings of the study reveals that, more than half of the nurses (54 %) at the age between 20 -28 years old. Concerning to gender results of study showed half of the study sample (50%) were female and (50%) of study sample were male. Most of them (60%) were single and reminder was married. Regarding to their educational status, majority (50%) of the nurses was secondary nursing school degree holders, (28%) of the nurses had up to diploma nursing holder and (22%) of the nurses were BSc degree holders. As regard their years of experience it was found that nearly three quarter of the nurses (72%) were 5 to 10 years. The majority of studied nurses (86%) had participated in training course. Twenty six (52%) of the nurses had high level of knowledge regarding postoperative wound care, following by (30%) of total participants had moderate knowledge, finally few number of study participants (18%) were had poor knowledge. The finding of study demonstrated there is no significant association between nurse's knowledge and sociodemographic variables.

Conclusions:- highly effectiveness of education program in nurses' knowledge regarding postoperative wound care. The findings of the study found the association between nurse's level of knowledge and demographic characteristic was not statistically significant.

Recommendations:- The study recommended the hospital administrators and professionals need to conduct continuous nursing education and training programs to enhance nurses' knowledge regarding postoperative wound care.

Keyword:- Assessment, Nurses, Postoperative, Knowledge, Wound Care ,preoperative

INTRODUCTION:

Worldwide, an estimated 4511 operations per 100,000 population occur annually, equating to 1 surgical procedure each year for every 22 people. Surgical wounds are the most common wounds managed in acute care settings and are associated with a variety of complications such as bleeding and dehiscence. However surgical site infections are the most common complication—and they are also the most preventable hospital acquired infection ⁽¹⁾. Wound care is an important realm of nurses' clinical responsibilities. Provision of wound care demands thorough knowledge and competence, and the care should be based on the evidence available and up-to-date knowledge. With sufficient knowledge, both quality of care and patient safety can be improved; and when evidence-based interventions are implemented in clinical practice, it is possible to reduce the costs of care ^(2,3). Nurses play an important role in the prevention of surgical site infections and the healing of wounds through the dressing. Postoperative wound infection can arise from day one, but usually occurs between the fifth- and tenth-days following surgery, due to inadequate surgical wound care dressing ^(4, 5,6). The aim of the study was adopted to identify the level of Knowledge about postoperative wound care among nurses and to examine the relationship between demographic characteristics of the nurses and their Knowledge with regard to wound care.

METHODOLOGY:

This study used a quasi-experimental design study to assess nurses knowledge regarding pre and postoperative wound care who working in the general surgical department in Al-Diwaniya teaching hospital. The study was carried out from ^{1st} of March 2020 to the 1st of September - 2020. A non – probability purposive sample of (50) nurses (male and female), who were working in surgical wards, who met the sample criteria were included in the study. A set of structured questionnaires by reviewing different literatures, previous study, personal experience, interest in work field and interview with nurses and physicians, and modified by the researcher was used in this study. It was developed in English and was translated in to Arabic and then the data was collected using self-administered questionnaire from the study subjects. It was designed to include part I: socioeconomic variables consists of (6) items such as age, gender, marital status, educational level, years of experience in surgical wards and training course. Part II: will have (38) questions that examine the level of nurses' knowledge regarding pre and postoperative wound care. The correct response for each item receives a score of “2” and “1” for incorrect response. The pilot study was done on ten nurses from “surgical ward” to ensure validity and reliability of the instrument. Necessary correction and modification was made after reviewing by a panel of (11) the experts and the research instrument was finalized on the basis of the Test- retest reliability was determined through a computation of Pearson Correlations for the

scales. Coefficients for the (38) items of postoperative wound care were ($r= 0.931^{**}$). The data were coded numerically and entered into statistical software (SPSS version 23) for analysis.

RESULTS:

Table (1) Table 1: Socio-Demographic Characteristics of Respondents (50) Nurse

Demographic data	Groups	Study		Control		Significance
		F	%	F	%	
Age/Years	<= 28	12	48	15	60	Chi-square= 1.619 ^a df= 3 P.value=0.655 non-significant
	29 - 36	4	16	4	16	
	37 - 44	8	32	6	24	
	53+	1	4	-	-	
	Total	25	100	25	100	
		Mean.std.=31.04±9.64		Mean.std.=28.28± 7.20		
Gender	Male	13	52	12	48	Fisher's exact test= 1.000
	Female	12	48	13	52	
	Total	25	100	25	100	
Marital Status	Single	9	36	10	40	Chi-square = 1.186 ^a df= 2 P. value=0.553 non-significant
	Married	16	64	14	56	
	Devo	-	-	1	4	
	Total	25	100	25	100	
Level of Education	Secondary nursing school	15	60	10	40	Chi-square = 2.234 ^a df= 2 P. value=0.327 non-significant
	Institute degree	5	20	9	36	
	College	5	20	6	24	
	Total	25	100	25	100.0	
Total Years of Experience in surgical Wards	<=10	18	72	18	72	Chi-square= 1.077 ^a df= 2 P. value= 0.584 non-significant
	11- 20	6	24	7	28	
	21.00+	1	4	-	-	
	Total	25	100	25	100	
		Mean.std.= 7.96±7.20		Mean.std.=6.04±6.8		

Numbers of Training Courses in Iraq	.0	4	16	3	12	Chi-square= 7.077 df= 5 P. value= 0.215 non-significant
	1	8	32	13	52	
	2	6	24	7	28	
	3.	5	20	1	4	
	4	2	8	1	4	
	Total	25	100	25	100	
Numbers of Training Courses Outside Iraq		Total		0.00	0.00	

This table shows that the age of the study sample was less than (28) years (48%) and control sample (60%) the males more than half of the study sample (52%) and control sample (48%). the most of them married (64%) for study sample and (56%) for control sample. most of them study sample graduate from primary school nursing (60%) and (40%) for control sample had majority total service (10) years (72) percentage and the same in the surgical wards and have training courses in Iraq (1 to 4) training courses. On the other hand, this table pointed to there is statistically **non-significant** difference between the study and control group in all demographical characteristics.

Table (4-13): Comparing mean between Pre and Post-operative wound care .

Variables	Group	Mean	Sd.	T-test	df.	P. value	Significance
Total knowledge	Pre	53.6000	7.05927	-9.417	24	.000	NS
	Post	69.8800	4.44710	-9.417	24	.000	NS
Total practice	Pre	76.6800	8.05564	-24.623	24	.000	NS
	Post	105.4400	4.38824	-24.623	24	.000	NS

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Sd: Standard deviation, df: degree of freedom, P. value: Probability value, Sig: significance, N.S: non-significant

This table shows there are statistically **high significance** differences between pre and post application of the educational program for the study group.

Table (4-15): The association between Nurses' Knowledge and practice Variables and Demographic Data:

Demographic Data	Test	Degree Of freedom	P.value	Significance
Age	Chi-square=2.355	df=3	P.value=0.502	NS.
Gender	Fisher test = 0.220	-----	-----	NS
Marital status	Fisher test = 1.00	----	-----	NS
Level of Education	Chi-square=3.261	df=2	P.value= 0.69	NS
Experience in surgical Wards	Chi-square=0.845	df=2	P.value=0.65	NS
Numbers of Training Courses in Iraq	Chi-square= 3.940	df=4	P.value=0.414	NS

This table indicates that non significant association between nurses' knowledge and demographic characteristics . in the same time not valid Chi-square to practice because all items in high degree .

DISCUSSION:

Throughout the course of the data analysis of the current study, the findings showed that more than half (52%) of the respondents were in the age group 20-28 years. Related gender the study sample demonstrated equal in distribution between men and female, Fifteen percent of the respondents were female and the rest of them were male. 60% of the respondents were single followed by 38% were married, and remaining were widowed. About 50% of the respondents had secondary nursing school level of education, followed by who had diploma in nursing (28%), and B.Sc. in nursing (22%). The majority (72%) of the respondents had 1 year and above years of service experience and the rest had more than 11-20 years' service experience (26%). The majority of studied nurses (86%) had participated in training sessions related to postoperative wound care. These findings are in line with study done by other researcher who reported Almost all nurses had worked for ≥ 5 years whereas 16.3% of nurses had < 5 years of work experience. Nurses with secondary, college, and university education accounted for 55.8%, 25.6%, and 16.3%, respectively. Besides, 29 out of 43 (67.4%) nurses used to attend training courses or workshops on wound care. However, no nurse described training courses or workshops in detail ⁽⁷⁾. These findings agreed with findings obtained from other study, who stated that, the that, more than half of the nurses at the age between 25 -30 years old ⁽⁸⁾. This finding were in accordance with results of study declared by Hameed who illustrated that that around one half of nurses were aged between 20 to 30 years old ⁽⁹⁾. Concerning sex, it was found that the majority of studied nurses were females. From the researcher point of view, this could be explained in light of the known fact that the majority of females in Egypt and the nature of nursing profession is a job for females, this findings supported by Sabouret al., ⁽¹⁰⁾ who mentioned that the majority of the nurses are females. The result also comes in agree with Mohamed et al., ⁽⁹⁾ whose study results revealed that all participants were females. As regards to their qualifications the present study revealed that, more than half of the nurses had secondary school holder in nursing while only (15% and 8.3%) respectively were bachelor degree and bachelor degree plus higher education in nursing, this result is disagree with Mohamed et al., ⁽⁹⁾ who found that ,around one half of the sample had nursing diploma while only 10% were bachelor degree in nursing. this means that majority of nurses dealing with wound and in contact with patient are diploma nurses. This finding in disagree with Ibrahim ⁽¹¹⁾ and Brouwers et al., ⁽¹²⁾ whose study results mentioned that around half of the nurses were holding bachelor degree. In relation to nurses' years of experience, the result of the current study showed that, more than half of the nurses were from 1-10 years. The result comes in congruent with Sheta et al., ⁽⁸⁾ who noted in their study that, the majority of nurses had experience from 5-10 years. These findings agreed with study done by other researcher who reported that that majority of the study samples (60%) were females, most of them were age group between (18- 27) years old, a high percentage of them were institute graduate (38%), majority of them (74%) were married, (38%) were for (1-5) years were employment in nursing, Majority of them (34%) were employee (1-5) years in surgical wards, and finally most of nurses (70%) have training session ⁽¹³⁾. Thirty eight questions utilized to explore nurses' knowledge concerning postoperative wound care. Majority of study sample (52%) had good level of knowledge toward postoperative wound care followed by (30%) of them have moderate knowledge and few number of study sample (18%) were had poor level of knowledge. this findings in the same line with study conducted by other researcher who stated that nurses' age from 20 to less than 30 had the highest mean scores of knowledge and performance. nurses who hold bachelor degree in nursing had the highest, mean scores of

knowledge and performance. nurses who were head nurses in nursing had the highest, mean scores of knowledge and performance ⁽¹⁴⁾. These findings with a study conducted in Khartoum state showed that the majority of nurses (83.1%) had poor knowledge in the initial assessment of wound, compared with 64.8% in the low knowledge regarding type of dressing. Nurses' dressing skills were satisfactory in two steps; preparation and wound cleaning, but they were poor in the documentation. Seventy five percent (75%) of nurses were satisfactory in the preparation of dry dressing, and 58.3% in applying dry dressing ⁽¹⁵⁾. This result is accordance with outcome of study showing more than half of nurses had good knowledge. However, the average knowledge score of all nurses was low (64%) ⁽¹⁶⁾. Many studies disagree with current findings, who stated that the nurses in this studied demonstrated a significant knowledge deficit in wound management ^(17, 18, 19). There are no significant association between socio-demographic variables with nurses' knowledge concerning pre and postoperative wound care at p value < 0.05. This finding was in good agreement with results obtained from other study who reported that correlation between age and clinical experience of nurses with quality of their documents chi-square test was used, there was no meaningful statistical correlation between qualities of nurses' documents with their age ($\chi^2 = 1.34$, DF = 2, p = 0.51 ^(20, 21)). Our findings are similar to study done by other researcher who stated that there is no significant association between nurse's documentation for nursing care score and the demographic characteristics (age, gender, level of education, years of experience in surgical ward and years of employed in hospital) ⁽²²⁾.

CONCLUSIONS:

highly effectiveness of education program in nurses' knowledge regarding postoperative wound care. The findings of the study found the association between nurse's level of knowledge and demographic characteristic was not statistically significant.

RECOMMENDATION:

Based on the conclusions, the study recommended the following:-

1. An educational program and continuous education are necessary to improve the nurses' ability dealing with postoperative wound care.
2. Further study with replication of the current study on a larger sample is recommended to achieve wider utilization of the designed educational program for better quality of care.

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