

Effectiveness of an Educational Program on Nurses Knowledge toward Pre and Post Nursing Interventions Laparoscopic Cholecystectomy at Surgical Ward in AL-Imam AL-Hussein Teaching Hospital in Al Nasiriya City

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Abstract

Background: Laparoscopic cholecystectomy is the gold standard treatment for gallstones. Because of the numerous advantages of open surgery, such as limited incisions, short hospital stay, no drainage tube and stomach tube use, fewer analgesic and fewer complications.

Aims: This study aimed at determine the effectiveness of an educational program on nurses knowledge toward pre and post-operative nursing intervention for patient with laparoscopic cholecystectomy; and identify the relationship between study findings and selected variables (age, level of education, and years of experience).

Methods: A pre-experimental design one group (pre-post test) is conducted for the periods of December 26th 2020 to Jun 1st 2021. The study is carried out at the at AL-Imam AL-Hussein Teaching Hospital in AL- Nasiriya city. By non-probability purposive sample is selected from nurses who in surgical wards before and after implementing educational program, data were collected and analyzed through the application of descriptive and inferential statistics.

Results: Findings indicate that nurses age at mean 24.2, (54%) females, (52%), nursing diploma graduated (46.0%) have 1-5 years of experience and no participated in training sessions. Knowledge statistically significance differences between pre and post -test for study group at ($P < 0.05$). There were statistically significances differences between (level of educational, years of experience and number of years of work in surgical wards) and effectiveness of educational program among the two period (Pre and Post-Test).

Conclusion: More years of experience in training the staff nursing in surgical wards by local officials help raising professionals' nurses. Provide the health resources and exploiting young energies of nurses which indeed helps to develop their knowledge.

Key-wards: Effectiveness, Knowledge, Nursing Interventions, Laparoscopic Cholecystectomy.

Introduction

Cholecystectomy is gallbladder surgical removal. A common therapy for symptomatic gallstones and other gallbladder disorders is cholecystectomy [1]. Laparoscopic cholecystectomy is recommended

for the treatment of acute / chronic cholecystitis, symptomatic Cholelithiasis, biliary dyskinesia, calculus cholecystitis, pancreatitis of the gallstone and polyps / gallbladder mass [2]. Laparoscopic cholecystectomy (LC) is the most common abdominal surgery in the United States and has an annual

incidence of over 500,000 per year^[3]. Around 66,000 cholecystectomies are performed annually in the UK, costing the National Health Service around £110 million^[4]. Most of these cases, due to substantially lower morbidity and mortality rates relative to traditional open surgery, are now conducted laparoscopically. A national multicenter study recently reported that 96% of cases are conducted laparoscopically, establishing laparoscopic cholecystectomy as the central treatment of multiple benign gallbladder diseases^[5]. Biliary colic or acute cholecystitis is responsible for > 70% of the cholecystectomy indications^[6]. With an aging population, surgery requirements are projected to increase with associated growing frailty over the next decade^[7]. In parallel, the numbers of elderly patients are projected to present with gallstone disease, and 28 percent and 42 percent of male and female patients are assumed to account for patients aged 80-89 years^[8]. Developing nurses' knowledge and practices will help to prepare a planned nursing care for improving patients' health condition^[9]. Preoperative and postoperative care is important to reduce hospital stays and contain costs and enhance the healing without complication. Has resulted in patients undergoing cholecystectomy preadmission testing and preoperative preparation before admission to the hospital many facilities have a pre surgical services department to facilitate testing and to initiate the nursing assessment process, which may focus interventions laparoscopic cholecystectomy.

Methodology

A pre-experimental design one group (design of pretest and posttest) was performed on the effectiveness of an educational program on nurses' knowledge of nursing interventions pre and post laparoscopic cholecystectomy in the surgical ward. It was conducted with the application of the pre-test approach to the study group in assessing their knowledge, and then the post-test was applied to the study group three weeks after they were given the educational program. It was implemented in order to achieve the stated initial goals. The study started from (21th December, 2020 to 15th April, 2021).

A non-probability sample was randomly selected from the nurses working in the surgical wards of Al-Imam Al-Hussein Teaching Hospital in Dhi/Qar. The sample consists of (50) nurses. It consisted of one group, which is the study group, and this sample was all exposed to the educational program to evaluate their knowledge. Random sample allocation was performed to avoid selection bias and control for potential confusion.

The educational program was arranged into three sessions for the study group. Each session, divided into two groups of nurses, each group lasted about (30-45) minutes over the course of one lecture for the morning staff and one lecture for the evening staff.

The data collection process uses the self report and questionnaire and analyzed through the descriptive and inferential statistic.

Results

Table 1: Distribution of the study sample by their demographic characteristics

Basic Information	Groups	Frequency	Percent
Age groups	20-25 years	10	20.0
	26-30 years	20	40.0
	31-35 years	12	24.0
	36-40 years	5	10.0
	41 and more	3	6.0
	$\bar{x} \pm S.D.$	24.2 \pm 1.108	

Cont... Table 1: Distribution of the study sample by their demographic characteristics

Gender	Male	23	46.0
	Female	27	54.0
Education level	Middle school Nursing	17	34.0
	Nursing Institute	26	52.0
	College of Nursing	7	14.0
The number of years of Experience:	1- 5 years	13	26.0
	6-10 years	16	32.0
	11-15 years	11	22.0
	16-20 years	6	12.0
	More 21 years	4	8.0
Number of years of work in surgical wards:	1- 5 years	23	46.0
	6-10 years	15	30.0
	11-15 years	11	22.0
	16-20 years	1	2.0
Participation courses before and after the laparoscopic cholecystectomy	No	46	92.0
	Yes	4	8.0
Participation courses before and after the laparoscopic cholecystectomy	No	49	98.0
	Yes	1	2.0
The Number of Sessions	0	45	90.0
	1	5	10.0
Duration of the Course	None	45	90.0
	One Week	3	6.0
	Two week	2	4.0
The Course Place:	None	45	90.0
	Inside Iraq	5	10.0
	Outside Iraq	0	0.0

This table indicate the socio-demographic distribution of nurses in terms of frequencies and percentage.

Table 2: Effectiveness of Educational Program among the Two Period (Pre and Post-Test) for Nurse's Knowledge toward the Pre and Post Nursing Interventions Laparoscopic Cholecystectomy for Study Sample

Period	Mean \pm S.D.	N	T	P. value	Sig.
Pre-test	1.4761 \pm 0.15124	50	18.910	0.003	S
Post -test	1.8880 \pm 0.05975	50			

$\bar{x} \pm S.D.$ = Arithmetic Mean (\bar{x}) and Std. Dev. (S.D.), F = Fisher test, d.f. = degree of freedom, P = probability value. NS: Non Significant at $P \geq 0.05$, S : Significant at $P < 0.05$ t=t test, N=Number of sample.

Findings shows there is statistically significance differences between pre and post -test for study group at ($P < 0.05$) which mean effectiveness of educational program among the two period (Pre and Post-Test) for nurse's knowledge toward the Pre and Post nursing interventions laparoscopic cholecystectomy for study sample.

Table 3: Statistical Associations of the Study Group between the Demographic Variables of Nurses and Effectiveness of Educational Program among the Two Period (Pre and Post-Test)

No	Demographic Variables Nurse's Knowledge	Statistics				
		Mean \pm S.D.	F	d.f	P. value	Sig
1	Age	24.2 \pm 1.108	0.959	49	0.487	N.S
2	Gender	1.54 \pm 0.503	1.023	49	0.439	N.S
3	Educational Level	2.78 \pm 0.708	0.894	49	0.005	S
4	Years of Experience	2.44 \pm 1.232	1.343	49	0.002	S
5	Number of years of work in surgical wards	1.80 \pm 0.857	2.174	49	0.045	S
6	Participation in courses that laparoscopic cholecystectomy	1.88 \pm 0.05975	2.166	49	0.148	NS
7	Participation in Courses for laparoscopic cholecystectomy	1.8 \pm 0.05975	1.897	49	0.175	NS

$\bar{x} \pm S.D.$ = Arithmetic Mean (\bar{x}) and Std. Dev. (S.D.), F = Fisher test, d.f. = degree of freedom, P = probability value, , NS : Non Significant at $P \geq 0.05$, S : Significant at $P < 0.05$.

Findings show their no statistically significances differences between demographics variables (age, gender and participation in the Nursing intervention courses that laparoscopic cholecystectomy at the hospital. and participation in courses for nursing at the other hospital), while there is statistically significances differences between demographics variables (level of educational , Number of years of Experience and Number of years of work in surgical wards) and effectiveness of educational program among the two period (Pre and Post-Test) for nurse's knowledge toward the Pre and Post nursing interventions laparoscopic cholecystectomy for study sample, when analyzed by ANOVA.

Discussion

The study sample consists of (50) nurses working in the surgical wards of Al-Imam Al-Hussein Teaching Hospital.

According to Table 1), findings indicated that 20 (40.0%) of the nurses are in the age group (26-30) years with an average of (24.2) years. This result was supported by findings of study investigated performance among nurses regarding laparoscopic cholecystectomy patients. Their findings showed that nurses (20-30 years) are (52%) with mean age (31.4±2.8) ^[10]. Nurses in surgical wards need to be young.

With respect gender, cooperative in study the majority of study sample were female 27 (54.0%) of all study sample. This result disagree with findings of study has been assessed postoperative nurses' interventions in Baghdad Teaching Hospitals, which indicated that two-third of the nursing staff are male ^[11]. In fact, the surgical wards need to males nurses due to workload and covers all duties.

With regard to the educational qualifications of the studied sample, the current study indicated that almost half of them are from technical institutes and their percentage is 26 (52.0%) and less than half of them (6-10) years of experience 16 (32.0%). This

result agreed with study of Abdelgil et al. (2020), where it was found that less than half of the sample 24 (48%), have a technical institute of nursing, while less than half of them, 20 (40%), have an experience of 5 to less than 10 years in the hospital with the mean of (9.18±8.4) ^[12]. Hospitals insinuations were depends on nurses institute graduated due to the academic nurses were numbers are still small, unlike the institutions that graduate diplomas.

Regarding the number of years working in the surgical wards, the majority of the study sample ranges between (1-5 years) and represents 23 (46.0%) of the entire sample. This result is agreed with (Kadhim, 2014) that was conducted in Baghdad hospitals, which showed the results of the study sample in the surgical wards of (1-5) years, they represented 23 (46%). These results contrast with findings evaluated nurses' practices toward postoperative wound dressing in surgical wards. It reported that most of the nurses had 24 (43.6%) of (6-10) years of experience in surgical wards ^[13]. This results come because the diploma graduated immediately after graduation, they are appointed.

Regarding the question (participation in nursing intervention courses before and after laparoscopic cholecystectomy, which the hospital conducts periodically), the majority of the study sample had answers with (No participation) and represented 46 (92.0%) of all the study sample.

Regarding the question (participation in courses of nursing interventions before and after laparoscopic cholecystectomy, which are conducted by other hospitals), the majority of the study sample had answers with (No participation) and represented 49 (98.0%) of the entire study sample.

Regarding the question (number of training sessions), the majority of the study sample was 45 (90.0%) of all study sample individuals who did not have a share in any training sessions. While only 5 (10%) of the course participants answered.

To the question (duration of the course), the majority of the study sample had answers with (No participation) and represented 45 (90.0%) of all the study sample individuals. While those who answered (yes participation), of them 3 (6%) for one week and 2 (4%) for two weeks and therefore did not have sufficient time or the duration of the training session.

These results are consistent with findings of Kadhim (2014), who mentioned that there was significant relationship between sharing in training sessions which established (by the hospital or by other hospitals), duration of the training session, number of training sessions and which reported that the majority of the results answered (No) 47 (94%) of the study sample did not have the opportunity to participate in the training sessions related to nurse surgical interventions for patients with (LC) established by the hospital. All study samples answered (No) 50 (100%) did not have the opportunity to participate in training sessions related to nursing interventions for (LC) established by other hospitals. Regarding the topics of “number of training sessions”, the majority of the sample, 47 (94%), did not have a share in any training sessions, while only 3 (6%) answered that their participation was less than a week and therefore they did not have sufficient time or duration for the training session [11].

With regard to the question (place of the session), the majority of the study sample had their answers (inside Iraq) and they represented 45 (90.0%) of the total study. This study is supported by study investigated the effectiveness of the educational program in the knowledge of nurses in relation to nursing management before and after surgery. Demonstrated findings that all the courses held inside Iraq, in addition to the absence of any of the sample members who had a training course outside Iraq [14].

There is statistically significance differences between pre and post -test for study group at $P < 0.05$, which mean effectiveness of educational program among the two period (Pre and Post-Test) for

nurse's knowledge toward the Pre and Post nursing interventions laparoscopic cholecystectomy for study sample. These results are supported by Kreem and Hamza (2019) as it shows that the educational program related to nursing management before and after surgery with an increased knowledge of the study group, where the p-value is (0.001) [14].

Our show their no statistically significances differences between demographics variables (age and gender and participation in the Nursing intervention courses about laparoscopic cholecystectomy at the hospital and participation in courses for nursing at the other hospital) ,while there is statistically significances differences between demographics variables (level of educational, Number of years of Experience and Number of years of work in surgical wards) and effectiveness of educational program among the two period (Pre and Post-Test) for nurse's knowledge toward the Pre and Post nursing interventions laparoscopic cholecystectomy for study sample, when analyzed by ANOVA. These results are inconsistent with the study conducted by (ElSayed et al. 2021) on knowledge of nurses and practices related to the care of patients undergoing cholecystectomy, which was studied in Zagazig University Hospitals, which showed that the result of the study there is a statistically significant relationship between the total knowledge of nurses regarding patients who have undergone for cholecystectomy and age and training course [15]. However, this study is in agreement with the results of the current study, as it showed that there is a positive statistically significant correlation between knowledge degrees and years of experience. This explained that the increase in years of experience in surgical units enhances the knowledge of nurses as a result of the increase in the number of follow-up cases and dealing with them. Also, nurses with years of experience become more experienced and knowledgeable. The results of the current study also showed a statistically significant relationship between the nurses knowledge the level of nursing qualification.

It is also supported by a study ¹⁶, which found that years of experience in the field of surgery are statistically related between nurses' total knowledge of patients undergoing cholecystectomy and work in surgical wards ^[16].

Regarding participation in the training courses, the results of the current study are disagree with ¹⁷, who indicated that the nurses who participated in the surgical or perioperative training courses were exposed to their satisfaction with preoperative teaching ^[17].

This result also differs from the current study with (Arab et al. 2016) on the effects of training programs on the knowledge and attitudes of nurses after surgery, which stated that despite the increased knowledge of general surgery compared to other units, there is no statistically significant relationship between hospital units Increasing levels of knowledge and attitudes ^[18].

In general, the researcher suggests that to provide high-quality nursing interventions for patients with cholecystectomy before and after surgery in the surgical wards by nurses, the nurses' knowledge should be further developed through their participation in training courses inside and outside Iraq, and the continuing education of nurses who were working in the surgery wards and the increase in the number of nurses Professionals graduating from the College of Nursing in the surgical wards. In addition, the use of guidelines for nursing interventions to improve the efficiency of nurses in the care of patients with laparoscopic cholecystectomy to avoid complications after the operation.

Conclusion

More years of experience in training the staff nursing in surgical wards by local officials help raising professionals' nurses. Provide the health resources and exploiting young energies of nurses which indeed helps to develop their knowledge.

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Conflict of Interest: None to declare.

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