

Effectiveness of an Instructional Program Regarding Care of Patient with Craniotomy Among Staff Nurses Working at Teaching Neurosurgical Hospital in Baghdad City

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ABSTRACT

Background: It has long been accepted practice for patients recovering after a craniotomy to be monitored in an intensive care unit (ICU), where they can get the specialized care of nurses and the intrusive physiological monitoring that requires significant resources in 1974, burr holes were used to do the first craniotomy to get to CPA tumors.

Objectives: The objectives of this research are (1) to evaluate the impact of an instructional program on nurses' post-discharge care of patients who have undergone craniotomy, and (2) to identify the characteristics of the nurses who are more likely to engage in practices that improve patient outcomes following craniotomy.

Methodology: The research employed a quasi-experimental study design, and it included participation from 60 nurses who worked in the neurosurgery ward of teaching hospitals in Baghdad. Tool of data collection: part (1): Questionnaire tool it includes demographic data, Part (2) of the questionnaire is a check list of the nurses' practices for patients who have had a craniotomy.

Results: After application of the nursing instructional program, the outcomes for the study patients were favorable, 50% or more of the nurses in the sample were satisfied with the nursing care they provided, and the practice of all nurses caring for the research subjects became satisfactory.

Conclusions: The study found that most patients did better after the nursing instructional program was used. There were statistically significant differences between how nurses practiced and how skilled they were before and after the nursing instructional program was used.

Keywords: Effectiveness instructional program, Nurses, Practice, Patient, Craniotomy, Discharge

INTRODUCTION

It has long been accepted practice for patients recovering after a craniotomy to be monitored in an intensive care unit (ICU), where they can get the specialized care of nurses and the intrusive physiological monitoring that requires significant resources in 1974, burr holes were used to do the first craniotomy to get to CPA tumors. A craniotomy is a type of surgery in which a bone flap is taken from the top of the patient's head in order to gain access to the patient's brain more directly. Following the completion of the surgical procedure, the bone flap will be reattached to its prior position. Craniectomy is a surgical treatment that involves the removal of a portion of the patient's skull bone¹.

METHODOLOGY

The Study Design: To evaluate the efficacy of a conditioning program, researchers used a quasi-experimental method on nurse's practice for patient with craniotomy after discharge. **Study Sample:** The overall quantity of nurses that are employed in the neurological ward. in

Baghdad Teaching Hospitals was divided on purpose into two groups: thirty nurses were subjected to the nursing instructional program as the study group, and thirty nurses were not exposed to the program as the control group.

Inclusion Criteria: Nurses that work in a neurological ward, have a least of a year of job experience, be morning shift workers, have a pre-test score of less than 60 percent, and be ready to take part in the study.

Exclusion Criteria: When selecting a sample for a pilot project, it is possible that nurses who decline to take the post-test or who are transferred out of the clinical unit or hospital before taking the post-test will be included in the sample.

Instrument: In order to achieve the study's objectives, the researcher designed a questionnaire consisting of two parts: Part I: A questionnaire regarding the demographic data of the nurses that can be self-administered by the participants. Part II: An observational checklist

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for nurses' post-craniotomy patient care. The researcher used an observational check list to evaluate the nurse's assessment of patients following craniotomy after discharge. The nurses' practices checklist has 24 yes/no items. Always (3), occasionally (2), and never (1) were the Likert's scale ratings for these products (1). To determine the scale's levels, each responder witnessed three events and scored three correct practices as always, 2-1 correct practices as often, and faulty practices as never. Validity: Validity is one of the most aspects of research. Type 2 errors are less likely to happen when valid measures are used. To keep the validity of the instrument, the questionnaire was given to a group of thirteen experts in the field. Reliability: The researcher has done reliability studies on six registered nurses, evaluated co-observer reliability for the instrument's claimed internal consistency, and calculated the correlation coefficient for each determination. At the level of statistical significance, the correlation coefficient for (24) items

were $r = 0.81$, which was satisfactory (r equal to or greater than 0.70). Statistic method: descriptive method (frequency, percentage, and mean of scores. Inferential method : (One Way ANOVA)²⁻⁵.

RESULTS

Tables 1-6

DISCUSSION

The findings show the majority of the study in both the study group and the control group (63.3%) of participants in the study group were female while participants in the control group were (70%) The results who noticed that the (56%) of nurses in sample study were female⁶. Most

Table 1: Distribution of the study sample (study and control) according to their demographic characteristics

Demographic Data	Groups	Study Group		Control Group	
		Freq.	%	Freq.	%
Age / Years	18-22	3	10.0	3	10.0
	23-27	9	30.0	14	46.7
	28-32	5	16.7	2	6.7
	33-37	5	16.7	5	16.7
	38-42	3	10.0	4	13.3
	43 or more	5	16.7	2	6.7
	Total	30	100.0	30	100.0
Gender	Male	11	36.7	9	30.0
	Female	19	63.3	21	70.0
	Total	30	100.0	30	100.0
Educational level	secondary nursing school graduate	8	26.7	10	33.3
	Bachelor degree	4	13.3	0	0
	Diploma degree	18	60.0	20	66.7
	Post graduated	0	0	0	0
Total	30	100.0	30	100.0	
Number of years of employment in hospitals	1-5	10	33.3	12	40.0
	6-10	12	40.0	12	40.0
	11-15	2	6.7	3	10.0
	16-20	2	6.7	0	0
	21-25	1	3.3	3	10.0
	26 or more	3	10.0	0	0
Total	30	100.0	30	100.0	
Number of years of experiences in in neurosurgical ward	1-5	16	53.3	14	46.7
	6-10	8	26.7	15	50.0
	11-15	2	6.7	1	3.3
	16-20	2	6.7	0	0
	21-25	0	0	0	0
	26 or more	2	6.7	0	0
Total	30	100.0	30	100.0	
Have you attended any educational training program regarding care of patient with craniotomy	Yes	2	6.7	1	3.3
	No	28	93.3	29	96.7
	Total	30	100.0	30	100.0
Training session intra or exit Iraq	No	28	93.3	29	96.7
	Intra Iraq	2	6.7	1	3.3
Total	30	100.0	30	100.0	
Number of training course	No	28	93.3	29	96.7
	One	2	6.7	1	3.3
	Total	30	100.0	30	100.0

Participants' pre- and post-test scores differed significantly from the mean, with a p-value less than 0.01. The nurses' knowledge improved compared to their pre-study scores on the same tests.

Table 2: Statistical analysis of the study population based on the degree to which their pre- and post-test scores regarding to nurses' practice for patient with craniotomy after discharge

	Rating	Pre-test				Post-test			
		Freq.	%	M.S.	S.D	Freq.	%	M.S	S.D
Overall Evaluation for study group	Never	30	100	1.3560	.12263	0	0	2.2861	.44430
	Sometime	0	0			19	63.3		
	Always	0	0			11	36.7		
t-value (-10.474), d.f. (29), p-value (.000)									

In this study, the researchers found there was no indication of a statistically significant difference (p 0.05) between the means of the control group's answers before and after the test. So, the results show that the nurses didn't change what they did between the pre- and post-tests.

Table 3: Significant difference between pre-test and post-test scores for the control group in nurses' practice for patient with craniotomy after discharge

	Rating	Pre-test				Post-test			
		Freq.	%	M.S.	S.D	Freq.	%	M.S	S.D
Overall Evaluation for control group	Never	27	90.0	1.3232	.06627	28	93.3	1.3903	.08855
	Sometime	2	6.7			2	6.7		
	Always	1	3.3			0	0		
t-value (.461), d.f. (29), p-value (.653)									

The study found no statistically significant differences between the study group's (mean score: 1.3560) and control group's nurses' work (mean of score 1.3232)

Table 4: There was a statistically significant gap between the study group and the control group in terms of the pre-test score for patients who had undergone craniotomies after they were discharged from the hospital

	Rating	Pre-test case				pre-test control			
		Freq.	%	M.S.	S.D	Freq.	%	M.S	S.D
Overall Evaluation of assessment domain	Never	30	100	1.3560	.12263	27	90.0	1.3232	.06627
	Sometime	0	0			2	6.7		
	Always	0	0			1	3.3		
t-value (1.263), d.f. (58), p-value (.022)									

The findings reveal that the posttest scores of the study group (mean of score.44430) and those of the control group differ statistically significantly (mean of score 1.3903) (table 4).

Table 5: Differences in post-test performance that are statistically significant between the study group and the control group of patients with craniotomy after discharge practice score

	Rating	Post-test case				Post-test control			
		Freq.	%	M.S.	S.D	Freq.	%	M.S	S.D
Overall Evaluation of assessment domain	Never	0	0	2.2861	.44430	28	93.3	1.3903	.08855
	Sometime	19	63.3			2	6.7		
	Always	11	36.7						
t-value (10.591), d.f. (58), p-value (.000)									

According to the findings of the study, there is no correlation between the practices of nurses and their ages, levels of education, lengths of service, or years of experience working in neurological wards.

of the study participants were ages between 23-27 years old. These findings agreed with study carried out in Baghdad city on nurses who worked in oncology wards in Baghdad, more than half of the nurses in their sample were in their (20-30) years⁷. The majority of the sample was degree holders. According to the study on sterile practices in the intensive care units of the City Hospitals of Al-Najaf and Al-Ashraff found that 60 nurses (50%) had a diploma, 50 (42%) had a bachelor's, and 10 (8%) had a masters⁸. Most of them (40%) were nurses for 1–5 years, and most of the control group had neurological ward experience. According to the study of training improves nurses' brain injury treatment. Most nurses had 4+ years of experience⁹. Finally, most nurses in the study group (93.3%) and control group (96.7%) have no neurological ward training. Similar to the study who evaluate Al-hilla city's teaching hospital nurses' unconscious adult patient treatment skills Only 21.7% of nurses have trained in an intensive care unit, and only 1.7% are based abroad, the other 20% are based in the country¹⁰.

According to Research, the outcomes and responses of the study's sample participants to the pre-test administered to the study's control groups are shown. The study group's pre-discharge pre-test procedures for individuals who have undergone craniotomies are insufficient, the result of the study who conducted the "Effectiveness of an Educational Program on Spinal Cord Injured Patients Practice toward Clean Intermittent Catheterization" study, found statistically significant variations between the pre- and post-test means of the study group. Before the program, the average performance of intermittent catheterization was 1.19, indicating that the participants could not use it. After the program, the average performance of intermittent catheterization was 2.81, indicating that the participants had learned enough to use it¹¹. The study carid out on the effect of an educational program on nurses' knowledge and practices regarding neurogenic bladder rehabilitation for spinal cord injured patients found that the nurses' practices for both the study group and the control group

Table 6: Differences in Means (ANOVA) of post-discharge nursing analyses of patients who have undergone craniotomy by some demographic variables

Demographic data		Sum of Squares	df	Mean Square	F	Sig.
Gender	Between Groups	2.005	5	.401	2.240	.050
	Within Groups	4.295	24	.179		
	Total	6.300	29			
Age	Between Groups	13.717	5	2.743	1.285	.303
	Within Groups	51.250	24	2.135		
	Total	64.967	29			
Education level	Between Groups	3.629	5	.726	2.652	.015
	Within Groups	9.838	24	.410		
	Total	13.467	29			
The number of years spend working in hospitals	Between Groups	9.740	5	1.948	1.449	.243
	Within Groups	32.260	24	1.344		
	Total	42.000	29			
Neurosurgical experience years	Between Groups	1.756	5	.351	1.108	.382
	Within Groups	7.610	24	.317		
	Total	9.367	29			
have you attended any educational training program regarding care of patient with craniotomy	Between Groups	.058	5	.012	.304	.906
	Within Groups	.909	24	.038		
	Total	.967	29			
training session intra or exit Iraq	Between Groups	.058	5	.012	.304	.906
	Within Groups	.909	24	.038		
	Total	.967	29			
Number of training course	Between Groups	.058	5	.012	.304	.906
	Within Groups	.909	24	.038		
	Total	.967	29			

prior to the implementation of the educational program were poor in terms of the standard precautions during catheterization procedures, the daily nursing care in acute phase, and the nurses' knowledge of neurogenic bladder rehabilitation (clamping, tappi, etc.). The researchers determined that the instructional program effected the nurses' knowledge and practices¹²⁻¹⁴.

The findings indicated that the replies from the study group's post-test were derived from the findings of the study sample. The findings of the research project indicate that the study group does more for patients who have undergone a craniotomy after they are discharged from the hospital than the control group does for the same thing when it comes to the post-test. This was determined by comparing the performance of both groups. A p-value of less than 0.001 was discovered to be associated with the majority of the significantly different items found on the checklist. Indicating the relevance, an increase in the practice levels of the nursing staff comprising the study group was noticed after it was put through its paces, proving the effectiveness of implementing the proposed program and demonstrating the usefulness of the instructional technique that was investigated. After the prescribed instructional program has been implemented, the level of practice that the nurses had achieved was far higher than it had been in the years that came before. It was revealed that the nurses' practices improved after participating in the educational program, which was linked to the patients' ability to understand after a craniotomy among the nurses who participated in the study group. It has been hypothesized that neurosurgical wards have ongoing training for their staff. the study who finds complications (i.e., wound infection and wound dehiscence) were more prevalent in the craniectomy group (10% for wound infection and 5% for wound dehiscence in the craniectomy group versus 6.7% for wound infection and 0% for wound dehiscence in the craniotomy group^{15,16}. According to the findings of the research who finds there is

a shift in the patients' practices that is extremely significant between the pre and post measurements. This demonstrates that the intervention program was successful in increasing the patients' ability to provide for their own self-care after undergoing craniotomy surgery. This was demonstrated by the fact that they were able to do so. The researcher believes that this is due to the involvement of patients and their motivation to implement methods of self-care in order to limit the risk of complications after surgery¹⁷⁻²⁶.

There is a statistically significant relationship there are statistically significant despite the fact that there are differences between nurses' practice and age, service, and Total Number of service years at (post-test) instructional program follow-up (p 0.05), there are no differences between nurses' practice and education level or gender at (post-test) instructional program follow-up (p > 0.05). There were no statistically significant connections found between the behaviors of nurses and demographic factors such as age, gender, marital status, or the amount of time spent working in intensive care units, as determined by the contingency coefficients. The result of study who did a study called "The organisms and factors affecting outcomes of EVD catheter-related ventriculitis," found that there was no statistically significant difference between nurses' total practices and their characteristics^{27,28}.

CONCLUSIONS

The study found that most patients did better after the nursing instructional program was used. There were statistically significant differences between how nurses practiced and how skilled they were before and after the nursing instructional program was used.

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acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

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