

Nurse's Practices toward Nursing Intervention of Diagnostic Procedures at Neuro Surgical Hospitals in Baghdad City

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Abstract

The study aims to evaluate nurses' practices toward nursing intervention of diagnostic procedures at Neuro Surgical Hospitals, and to find-out the relationship between Nurses' practices with their Socio-demographic characteristic of age, gender, and education level. A quantitative research approach has been used for this study design starting from December 7th, 2017 to September 2nd, 2019. A purposive sample was adopted including (50) male and female nurses as participants. They were working at Neuro surgical Hospitals. The study Instrument was composed of two Parts: The First Part is concerned with the socio-demographic characteristics, and the second Part includes Nurses' Practices. Content validity of the instrument was established through a panel of (11) experts. Results have been analyzed through the use of SPSS "Statistical Package for Social Sciences" model 24.0 by using descriptive and inferential statistical methods. Findings of the present study revealed that most of the samples were within the age of (35-44) years who were accounted (34%). The age group of (25-34 years) represent (32%). 24 percent of the study sample were (45-54) years old, and only five nurses were within the age group of (18-24) years old.

Key word: Nurses, practice, diagnostic procedures, neurosurgical.

Introduction

Patients with various neurological dysfunctions can perform several diagnostic studies to detect health problems, such as EEG, EMG, MRI, and CT scan. Nurses have several roles to deliver healthcare services for neurological patients, including educating patients about the aims, to be expectations, and the side effects preceding testing. Moreover, other healthcare conditions required special considerations before performing neurological exams, including women using contraception breast-feeding women. Nurses should note results, disease progression, and patients' response to therapy ^(1,2,3).

Material and Method

A quantitative research approach has been used for this study. The quasi-experimental design (pre-test and post-test) was conducted on nurses who work at neurosurgical hospitals towards selected educational program. It was conducted with application of pre-test and post-test approach to evaluate nurses' practices

regarding impact of educational program upon nursing intervention of diagnostic procedures, in addition to the application of education program. It was carried out in order to achieve the initial stated objectives. The study started from December 7th, 2017 to September 2nd, 2019. Participants were verbally informed about the aims of the study and had been asked to participate voluntarily. They also had been informed that they could refuse to answer a certain question or withdraw from the study at any time. Emphasis was placed on creating a suitable environment during interview using good communication skills with participants.

The researcher constructed the questionnaire thorough reviewing of previous literature and related studies. The study instrument comprised of two parts; Socio-Demographic Data which was comprised of six items relative to the gender, age, educational status, years of experience, training of program, and number of training courses; and Nurses' practices Form which was comprised of (35) items that concerned with nurses' practices to evaluate nursing intervention of diagnostic Procedures at neurosurgical hospitals. Content validity for the early

developed program and the study instruments were determined using panel of (11) experts. A preliminary copy of the program and questionnaire was designed and presented to (11) experts for the determination of its validity. They were (8) faculty members from College of Nursing – University of Baghdad, (3) faculty members from Neuro Surgical Hospitals in Baghdad city. A purposive sample of (10) nurses was selected from diagnostic procedure units of working in neuro surgical hospitals to achieve the purpose of pilot study. It was applied on the nurses who had the same criteria of the original study sample and started from December 9th, 2018 to December 23th, 2018 to determine the internal consistency of questionnaire related practices of nurses concerning nursing intervention of diagnostic procedure at neuro surgical hospital. The researcher determines the internal consistency by using test – retest through the

computation of Pearson correlation coefficient of the scale which was $r= 0.88$ for nurse’s practices ⁽⁴⁾. Data were collected through direct interview with the study sample by using a constructed questionnaire. Nurses were observed while they were working in their units to provide care concerning nursing intervention by using concealed observational technique. Data were collected from February 4th,2019 to April 3rd,2019. The data were analyzed by using SPSS (Statistical Package for Social Sciences) version 24.0 application of the statistical analysis system. The descriptive data analysis includes Frequency (f), Percentage (%), Mean, and Standard Deviation. The inferential data analysis includes Pearson Correlation Coefficient, t-test, and ANOVA Table test with significance of p value ≤ 0.05 .

Results

Table (1): Distribution of Nurses by their Demographic Characteristics

No.	Demographic Characteristics of Nurses	Results	
1	Gender	F	%
	Male	24	48%
	Female	26	52%
	Total	50	100%
2	Age	F	%
	18-24	5	10%
	25-34	16	32%
	35-44	17	34%
	45-54	12	24%
	Total	50	100%
3	Educational Attainment	F	%
	Nursing College Graduate	6	12%
	Institute Graduate	13	26%
	Nursing Secondary School Graduate	13	26%
	Nursing Primary School Graduate	18	36%
	Total	50	100%
4	Years of Experience	F	%
	1-5 years	9	18%
	6-10 years	10	20%
	11-15 years	15	30%
	16-20 years	12	24%
	21 and more	4	8%
	Total	50	100%

Cont ... Table (1): Distribution of Nurses by their Demographic Characteristics

5	Training session	F	%
	Yes	13	26%
	No	37	74%
	Total	50	100%
6	Numbers of session	F	%
	No session	37	74%
	1 session	7	14%
	2 session	4	8%
	3 and more	2	4%
	Total	50	100%

It is clear from the table (1) of demographic characteristics for nurses, that the majority of the study sample are females (52%) and the remaining are male. According to their age group, the majority of the sample within the age group of (35-44) years who are accounted (34%). The age group of (25-34) years accounted for (32%). Twelve's of the study sample are (45-54) years old who are accounted (24%), and only five nurses are within the age group of (18-24) year who are accounted (10%). Relative to their education level, equal number are graduate from medical institute and

nursing secondary school who are accounted (26%). college (12%) graduate and (36%) primary school graduate (Table 1). According to the subject's years of experiences, 30% have (11-15) years of experiences, 24% have (16-20) years of experiences, 20% have (6-10) years of experiences, 18% have (5-10) years of experiences, while the remaining 8% have (21 and more) years of experiences. Concerning training session, the majority of nurses have no training session who are accounted (74%). The remaining have training session who are accounted 26% and have one session only.

Table (2): Comparison between Nurses' Practice (pre-post) test Related to Nursing Intervention of Electromyography

GRAND mean of scores for nurses practice related toEMG items	EMG n=11			
	pre		post	
	MS	Ass.	MS	Ass.
1-With medication that the patient avoids, some medications that affect the nervous system can alter the results of nerve planning, such as muscle relaxants and medications used to treat mental illness.	2.1	S	2.7	A
2-Foods that contain caffeine, such as tea and coffee, should be avoided before the test.	1.6	S	2.6	A
3-Wear loose clothing, allowing the test to be carried out easily, or the patient may be given a comfortable dress for wearing in the hospital.	2.3	S	2.9	A
4-Avoid smoking for three hours before the test.	1.8	S	2.7	A
5-That the patients tell the doctor the problems of bleeding or the use of blood thinners such as warfarin, or heparin.	2.2	S	2.8	A
6-The patient should tell the doctor if there is an ECG or if he is drinking alcohol.	2.1	S	2.7	A
7-Stop using skin lotions like skin moisturizers.	1.7	S	2.6	A
Total	2.1	S	2.9	A

Ass.=Asymptomatic significant; A.=Always (2.5 - 3); S.=Sometimes (1.50 – 2.5); N.=Never (1. – 1.50).

This table presents that there are significant differences in the mean of study sample between the pre and post-test procedure, revealing a significant improvement in nurses’ practices regarding EMG.

Table (3): Comparison between Nurses’ Practice (pre-post) test Related to Nursing Intervention of Magnetic Resonance Imaging

GRAND mean of scores for nurses practice related to MRI items	MRI n=14			
	Pre		post	
	MS	Ass.	MS	Ass,
1-To reassure the patient that this procedure is painless.	2.3	S	2.9	A
2-The patient is advised to remove all metal parts and jewelry.	2.1	S	2.9	A
3-Inform the patient when testing that there is noise from radio frequency waves.	2.2	S	2.8	A
4-The nurse will continue to examine the kidney function after giving the patient the dye.	2.2	S	2.9	A
5-Make sure the patient is sensitive to the dye.	2.3	S	2.8	A
6-Encourage the patient to drink fluids after the examination and take the dye.	2.3	S	2.8	A
7-Inform the patient not to eat from (4-6) hours prior to the MRI examination.	1.9	S	2.7	A
Total	2.1	S	2.9	A

Ass.=Asymptomatic significant; A.=Always (2.5 - 3); S.=Sometimes (1.50 – 2.5); N.=Never (1. – 1.50).

This table presents a significant difference in the mean of the study sample between the pre and post test procedures, which reflects that there is a significant improvement in nurses’ practices regarding MRI.

Table (4): Comparison between Nurses’ Practice (pre-post) test Related to Nursing Intervention of Computerized Tomography

GRAND mean of scores for nurses practice related to CT scan items	CT n=13			
	pre		post	
	MS	Ass.	MS	Ass.
1-Explain method and tools briefly to the patient.	2.2	S	2.8	A
2-To reassure the patient that this procedure is painless.	2.1	S	2.8	A
3-The patient is told that the CT is with a dye.	2.2	S	2.8	A
4-Patient news that the dye is given intravenously.	2.2	S	2.8	A
5-The pathogen explains to the patient the precautions of dyeing, such as sensitivity to dye.	2.2	S	2.8	A
6-Tells the patient to remove all jewelry and pins of hair and neck.	2.2	S	2.8	A

Cont... Table (4): Comparison between Nurses’ Practice (pre-post) test Related to Nursing Intervention of Computerized Tomography

7-The nurse informs the patient that he should not eat breakfast before giving the dye.	2.2	S	2.8	A
8-The nurse keeps the patient calm.	2.1	S	2.8	A
9-The nurse is sure of the test and the sensitivity test before the examination.	2.8	A	2.9	A
10-He performs kidney function tests (urea and creatinine) prior to the examination	2.1	S	2.9	A
11-Ensure that the patient is not taken for food before 4-8 hours by mouth.	2.1	S	2.8	A
12-Note any symptoms that appear on the patient such as nausea, itching, rash, allergies, headache.	2.5	S	2.8	A
13-Encourage the patient to take large amounts of fluids to get rid of the dye after the examination.	2.1	S	2.8	A
Total	2.2	S	2.8	A

Ass.=Asymptomatic significant; A.=Always (2.5 - 3); S.=Sometimes (1.50 – 2.5); N.=Never (1. – 1.50).

This table presents that there are significant differences in the mean of the study sample between the pre and post test procedures, revealing a significant improvement in nurses’ practices regarding CT.

Table (5): Comparison between Nurses’ Practice (pre-post) test Related to Nursing Intervention of Electroencephylography

GRAND mean of scores for nurses practice related to EEG items	EEG n=12			
	Pre		post	
	MS	Ass.	MS	Ass.
1-The nurse reassures the patient That the move was painless.	2.2	S	2.8	A
2-Explain method and tools briefly to the patient.	1.9	S	2.8	A
3-Direct the patient to abstain from coffee, tea and chocolate to exclude dietary stimulants.	2	S	2.4	S
4-Urges the patient to go to sleep late.	1.8	S	2.6	A
5-Do not take naps before doing the examination.	1.8	S	2.8	A
6-The nurse will check the cleanliness of the hair.	2.2	S	2.8	A
7-Teach the patient not to use fat, oils or stabilizers on hair.	2.3	S	2.8	A
8-Urges the patient to wash his hair after the examination.	2.1	S	2.8	A
Total	2.3	S	2.8	A

Ass.=Asymptomatic significant; A.=Always (2.5 - 3); S.=Sometimes (1.50 – 2.5); N.=Never (1. – 1.50).

Results in table (1) presented that the sample of the study were (24) males whom accounted for (48) percent, and the remaining were females with (52) percent of the study sample. A highest proportion of the study sample (34) percent, were within age group (35 – 44) years old, and the remaining (32) percent were within age group (25 – 34), (24) percent within age group (45 – 54), and (10) percent within age group (18 – 24) respectively. Number of employees with a diploma in nursing reached (13) with (26) percent; while, 12 percent of the study sample have bachelor's degree in nursing. Moreover, nurses who have secondary certificates were accounted for (26) percent. Those who have Primary certificates were accounted for (2) percent, and those with other certificates were accounted for (34) percent. The number of employees with years of experience (1-5) reached (9) a percentage (18%), while those with years of experience (6-10) reached (10) a percentage (20%), who had years of experience (11-15) and reached (15) a percentage (30%), and for the years of experience (16-20) reached (12) and by percentage (24%), and the last with years of experience (21 and more) reached (4) and by percentage (8%). The number of employees who took part in training session was (13) and percentage (26%), while those who did not take part in any training session reached (37) a percentage (74%). The staff who participated in training session were divided into those who participated in one session reached (7) and percentage (14%), while those who participated in two sessions reached (4) percentage (8%) , and the last with those who participated in three sessions reached (2) percentage (4%). Iannotti (2015) established a study in 12 neurocritical units on registered nurses and found that (54.54) percent of the study sample were within age group of (22 – 33) years old, and (36.36) percent were within age group of (34- 44) years old ⁵. Moreover, Iannotti (2015) reported that (90.91) percent of the study sample have (0 – 10) years of experience in neurocritical units ⁵. Table (2) presents that there are significant differences in the mean of study sample between the pre and posttest procedure, revealing a significant improvement in nurses', practices regarding EMG. Table (3) presents a significant difference in the mean of study sample between the pre and posttest procedure, which reflects that there is a significant improvement in nurses', practices regarding MRI. Table (4) presents that there are significant differences in the mean of study sample between the pre and posttest

procedure, revealing a significant improvement in nurses', practices regarding CT scan. Table (5) presents that there are significant differences in the mean of study sample between the pre and posttest procedure, which reveals that there is a significant improvement in nurses', practices regarding EEG. The Mean knowledge related to all domain of the study for the study group participants has increased significantly in the post-test stage. In contrast, there is a minor difference in the Mean knowledge for the control group participants between pretest and post-test stage. Shehab, Ibrahim, and Abd-Elkader (2018) indicated a positive impact of an Educational Program on Nurses' Knowledge and practice Regarding Care of neurocritical ill patients at Intensive Care Unit at Suez Canal University Hospital ⁶. The authors of this study reported a positive impact of an educational program on the total score of nurses at various concepts (p value = .001) ⁴. Elf, Carlsson, Rivas, Widnersson, and Nyholm (2019) declared that nurses play a significant role in providing care for patients undergoing EEG, which might impact the health status of patients with neurological disturbances or illnesses ⁷.

Conclusions

Nurses' practices in general were poor before the implementation of an educational program in pre-test, which included their practices during the procedures. There were significant improvement in Nurses practices after the implementation of an educational program in post-test. The findings of this study indicate that the educational program for nurses was effective after the exposure to such a program, (their practice toward nursing intervention of Diagnostic procedures). Emphasis should be put on the managers of hospitals, and nursing affairs managers to monitor and follow-up, support and supervise nurses while they are working in their units. Giving the nurses of the patients' knowledge and practices for good preparing before and after any procedure in the neurological hospitals. Emphasis is necessary on hospital managers and administrators on nursing to reward and incentive nursing staffs that are efficient and loyal in their work and to reward the good ones and punish the careless in their duties.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the College of Nursing and all experiments were carried out in accordance with approved guidelines.

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