

The Relationship between Nurses' Practices about Assessment of Neonatal Neurological Status with their Level of Education

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Abstract:

Objective: to evaluate nurses' practices regarding assessment of neonatal neurological status after the interventional program (Post-test-1 and Post-test-2) in the holy of Karbala and to determine the relationship between nurses' practices with their educational level. **Method and Materials:** a quasi-experimental study design was utilized, with a pre-, post-test 1 and post-test 2 method for the studied group, it was carried out for a period of "9th January 2022 to 7th September, 2022". A non-probability, purposive sample of (30) nurses was recruited from nurses working at Neonatal Intensive Care Unit in Karbala Paediatric teaching hospital in the holy of Karbala City. The instrument is used to evaluate nurses' practice which includes (47) items. **Results:** The results of nurses' practices show a significant association, at a p-value, between nurses' practices regarding neurological assessment and their level of education during post-test 2. (0.023). While there is no correlation between nurses' practices regarding neurological assessment and their degree of education during the pre-test and post-test 1, there is one. **Conclusion:** The study concluded that most nurses' practices were scored at good level after application the interventional program, during the period of post-test 1 and 2. The research found a significant correlation between post-test 2 nurses' practices of neurological assessment and their educational level.

Keywords: Intervention program, nurses' practices, Neonatal Neurological Examination, NICU

Introduction:

A crucial component in evaluating a neonate's neurological function is the neonatal neurological examination. Neonatal care professionals need to be able to conduct systematic, detailed neurological examinations on newborns, as well as have the understanding and aptitude to distinguish between normal and abnormal findings. Although child neurology as a separate and integrated medical specialty had its beginnings in the early 1800s, it wasn't until a century later that it really took off. Actually, infancy as we know it today did not exist before the end of the sixteenth century, and studies on children within the fields of science and medicine were rare. From the perspectives of body behaviour, growth, and interaction with others, mainstream society also viewed children as "little adults." Paediatric emerged as a separate branch of medicine as a result of the social reform, child welfare, and hygiene activities of the nineteenth century. As a result of these adjustments and the quick advance of scientific and medical knowledge in the early twentieth century, the premature and mature infant—the most vulnerable of all human beings—became the focus of attention. Neonatal neurologist emerged as treatments for such

extremely unwell newborns became around, sparking interest in their growth and potential for neurological damage and long-term neurological development issues [1].

Despite in optimum world every newborn would undergo a thorough neurological investigation, in reality this is frequently challenging, and in medical centres with a high volume of deliveries and ongoing staffing issues, newborns only receive a general medical examination that evaluates tone, alertness, and the Moro response. Conversely, comprehensive examinations are carried out as part of studies that attempt to track the growth of particular developmental features (such as behaviour or reflexes) and/or to assess patterns of neurological abnormalities in relation to brain injuries. Yet, the majority of these exams take a lot of duration, require the right training, and aren't necessarily suited for routine exams. Naturally, the setting and the purpose of the examination should influence the type of assessment chosen [2].

Method and Materials:

For the examined group, pre-, post-test 1 and post-test 2 methods were used in a quasi-experimental study design. The study was conducted from "9th

January 2022 to 7th September 2022." To gather precise and complete data, the research is being conducted at the Karbala Paediatric Teaching Hospital. The number of nurses in the "purposeful" non-probability sample was 30. A pre-test, interventional program, and post-test were all given to the group. (1and 2).

The checklist is one tool that can be used to collect information that helps the study produce the

outcomes anticipated. The knowledge dependability coefficient for the present study is (0.88). The preliminary study was carried out to ascertain the study's consistency and reliability, clarity and effectiveness, which were confirmed, and the standard time needed to collect data for each subject, which can be estimated during the interview procedures, as well as to identify any potential difficulties.

RESULTS

Table 1

Distribution of Nurses according to their Sociodemographic Characteristics

No.	Characteristics	Frequency	Percentage	
1	Age group Mean and standard deviation (30.77±7.13)	20-25	7	23.3
		26-30	9	30.0
		31-35	7	23.3
		36-40	4	13.3
		41-45	2	6.7
		46-50	1	3.3
		Total	30	100.0
2	Gender	Male	8	26.7
		Female	22	73.3
		Total	30	100.0
3	Level of education	Nursing school	9	30.0
		Nursing institute	12	40.0
		Nursing college	9	30.0
		Total	30	100.0

Table 2

Overall Assessment of Nurses' Practices about neurological Examination in (pre-post periods)

Levels of practice	Pre-test				Post-test I				Post-test II			
	F	%	M	SD	F	%	M	SD	f	%	M	SD
Poor	29	96.7	8.77	3.29	0	0	37.43	8.83	0	0	35.57	10.54
Fair	1	3.3			8	26.7			11	36.7		
Good	0	0			22	73.3			19	63.3		
Total	30	100			30	100			30	100		

Table 3

Association between Nurses' Practices with their Level of Education (Pre-test, Post-test 1, and Post-test 2)

Variables	Practice											
	Pre-test (n=30)				Post-test 1 (n=30)				Post-test 2 (n=30)			
	Poor	Fair	Good	Total	Poor	Fair	Good	Total	Poor	Fair	Good	Total

Education level	Nursing school	9	0	-	9	-	4	5	9	-	5	4	9
	Nursing institute	11	1	-	12	-	4	8	12	-	6	6	12
	Nursing college	9	0	-	9	-	0	9	9	-	0	9	9
	Total	29	1	-	30	-	8	22	30	-	11	19	30
<i>Chi square</i>		<i>Chi=1.55 P-value=.46</i>				<i>Chi=5 P-value=.082</i>				<i>Chi=7.5 P-value=.023</i>			
		<i>Sig: N.S</i>				<i>Sig: N.S</i>				<i>Sig: S</i>			

P-value: probability value, Sig: Significance, N.S: Not Significant, S: Significant, H.S: High significant

Discussion of the Study Results

Part 1: Socio-demographic Characteristics of the Study Sample

According to Table 1, participant ages, nurses in the study group had a mean age of 30.77, with the majority of nurses in the group being between the ages of 26 and 30. Another research was carried out by Noor and Hassan. (2021) At the intensive care unit, a pre-experimental approach (one group: pre- and post-test) was used to evaluate the effect of an interventional program on nurses' practices. According to the findings, (37%) of the research sample was between the ages of (26 and 30) [3]. Additionally, these agreements with Hattab and Ahmed (2022) According to a pre-experimental one group design, the majority of the research sample (33.3%) consisted of individuals between the ages of (24 – 29) [4].

In terms of gender, female nurses outnumbered male nurses in the study sample (73.3% were female). The results of Hawi and Khudhair (2021), who used a (pre-test/post-test I, post-test II) quasi-experimental design in their study, are consistent with this. researchers discovered that female nurses outnumbered male nurses [5]. In the current study, participating in the education program was more probable for female nurses than for male nurses. Neamah conducted studies along these lines. (2019) A descriptive study was carried out to evaluate the standard of nursing care given to preterm infants in the neonatal intensive care unit. Researchers found that 100% of the study sample was made up of females [6].

Additionally, the study discovered that women made up 65.5% of the study population, which is in line with research by Tuoma and Khalifa. (2021), a descriptive study to assess the effectiveness of nursing care given to children under the age of five [7].

The study's results showed that, among all nurses, nurses who attended nursing institutes had the highest percentage of educational levels (40%) (nurse population). According to Khudhair's (2011) research, a second study found that nursing schools are responsible for 37.5% of nurses' education [8]. The results of Mua'ala, E. (2013), who noted that the highest percentage of participants (65.5%) had graduated from a nursing institute, are also consistent with this [9].

Part 2: Discussion of Overall Assessment of Nurses Practices about neurological Examination.

According to the study's overall assessment of nurses' practices related to neurological assessment, the pre-test time for nurses showed poor level of practices ($M \pm SD = 8.77 \pm 3.29$), while post-test time for nurses showed increasing level of practices, as seen in post-test 1 ($M \pm SD = 37.43 \pm 8.83$) for 73.3% of them and post-test 2 ($M \pm SD = 35.57 \pm 10.54$) for 63.3% of them, which shows an improvement in their practices This research looked at how nurses' understanding of developmental care changed following the implementation of an instructional session, and it was supported by Mohammed and Aburaghif. (2018) In descriptive analytic research conducted in Baghdad City, using a quasi-experimental design, it was discovered that nurses' general knowledge was 45.7% (Good) for the post-test and 51.4% for the pre-test. (acceptable) [10].

Part 3: The relationship between Nurses' practices and educational level

The current study's findings revealed a statistically significant connection between nurses' knowledge of neurological examination and their level of education during post-test 2 at p-value. (0.023). However, at p-values (0.46 & 0.082), there is no correlation between nurses' practices regarding neurological assessment and their degree of education during the pre-test and post-test 1, respectively. The

results of this study corroborate those of Abd Al-Wahid and Nagi (2015), who discovered substantial relationships between nurses' practices and their educational attainment ($P < 0.05$) [11]. Another research carried out by Hadi and Fadhil (2020) shows an extremely significant correlation between performance in relation to education and evidence-based practices. This can be taken to imply that nurses' education has a real impact on their performance and use of evidence-based practices [12].

Conclusions:

- The study concluded that the nurses' practices reveal that overall evaluation of practice among nurses regarding assessment of neonatal neurological examination are with poor level of practice during the pre-test time. The nurses' practice is improved during the time of post-test 1 and post-test 2 to good level after implementation of the interventional program.
- The research found a significant correlation between post-test 2 nurses' practices of neurological assessment and their educational level.

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