



Original Article

Knowledge of Nurses on Facilitated Tucking Position during Venipuncture at Misan Child and Maternity Hospital's Neonatal Intensive Care Unit

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Abstract:

Objectives: to determine how well nurses understand the assisted tucking posture for venipuncture. to ascertain the correlation between nurses' demographic variables and their knowledge scores.

Methodology: From March 19 to December 9, 2024, a "descriptive (cross sectional) study" was carried out at Misan Children and Maternity Hospital's Neonatal Intensive Care Unit.

Results: According to the study's findings, most people are unable to relieve discomfort using the aided tucking position. Age, education level, and years of experience in a neonatal intensive care unit did not statistically significantly correlate with the nurses' expertise.

Recommendations: By offering educational posters, guidelines, booklets, and manuals, the study suggests that the neonatal intensive care unit's educational features should receive more attention. Neonatal nurses should also start a policy that offers a particular educational session on how to relieve discomfort without the use of pharmaceuticals.

Keywords: Tucking Position, Neonatal, Venipuncture, Intensive Care Unit

Introduction:

Preterm infants in the neonatal intensive care unit (NICU) feel pain, which is a complicated and multidimensional phenomenon. In the NICU, infants endure a variety of uncomfortable procedures. According to Kumar et al. (2010), many diagnostic and therapeutic procedures associated with neonatal care are uncomfortable.

Nonpharmacological interventions tested in neonates include maternal voice and odor, breastfeeding, skin-to-skin contact, or kangaroo care, nutritional (oral sweet solutions), and

sensory stimulation (positioning or swaddling, vestibular action or rocking, nonnutritive sucking, music).

During assisted tucking, the baby is held by a parent or caregiver in the flexed fetal position, side-lying. It has been demonstrated that assisted tucking reduces the intensity of the physiological and behavioral pain response in preterm and extremely preterm children receiving routine tissue breaking operations in the NICU (Johnston et al., 2011). Non-pharmacological analgesic treatments have been developed and published in recent decades to treat mild, temporary pain and

discomfort associated with invasive procedures. These non-pharmacological analgesic therapies, used in conjunction with or instead of pharmaceutical analgesics, can alleviate minor pain and discomfort. A range of intervention approaches are used in NICU settings (Ward-Larson, et al., 2004).

Non-pharmacological treatments are essential for nursing practice because they are autonomous and depending on the nurse's judgment (Kashaninia et al., 2008).

Pharmaceutical painkillers can be used to treat severe pain, but they are not enough to treat minor, painful procedures like venipuncture. Additionally, most of the opioids that are provided to preterm neonates in NICUs are either not approved for use in this population or are off-label. Non-pharmacological pain management methods are recommended as a solution to these problems. Techniques that reduce the babies' sensitivity during and after simple, unpleasant surgeries are among these therapies (Anand, 2015).

Some NICUs still lack standard pain management standards for routine minor uncomfortable procedures, such heel sticks. Inadequate pain treatment is known to impair the motor and cognitive development of this patient population. Preterm infants are more susceptible to inadequate pain management because of their neurologic immaturity and high central nervous system plasticity (Badr et al., 2010).

Preterm neonates are more sensitive to discomfort and respond more strongly to stress than full-term newborns (Liaw et al., 2013).

Opioids and other medications may not be the most effective strategy to treat neonatal distress. Narcotic analgesics have been demonstrated to adversely affect the developing organs and tissues of preterm newborns (Martinez,2016).

Methodology:

Pediatric nurses working in Misan Child and Maternity Hospital's Neonatal Intensive Care Unit took part in a cross-sectional descriptive study from March 19 to December 9, 2024, to gauge their familiarity with the assisted tucking posture for venipuncture.

The study was conducted at Misan Child and Maternity Hospital's Neonatal Intensive Care Unit. Misan Child and Maternity Hospital's newborn critical care units employ 40 non-probability (purposive sample) day shift workers.

The researcher developed a questionnaire to determine nurses' knowledge needs for the assisted tucking posture during venipuncture based on previous studies and relevant scientific literature.

The study questionnaire is divided into two sections: Six items in the second portion address nurses' comprehension of the aided tucking posture during venipuncture, whereas four items in the first section deal with basic information. On a yes-or-no scale, the right answer on the questionnaire is (2), whereas the wrong one is (1). A panel of experts with over seven years of expertise in their fields was tasked with assessing the content validity of the early-developed program and instrument.

Results

Table 1: The sociodemographic attributes of the research sample

Sociodemographic information	Evaluation	Frequency	Percentage
Age	20-29	6	15 %
	30-39	23	57.5 %
	40-49	4	10 %
	50 ≥	7	17.5 %
	Total	40	100 %
Gender	Male	6	15 %

	Female	34	85 %
	Total	40	100 %
Level of Education	Nursing School	5	12.5%
	Nursing Diploma	25	62.5 %
	Nursing Bachelor	8	20 %
	Post graduate (M.Sc. & Ph.D.)	2	5 %
	Total	40	100 %
Years of experiences in the NICU	1-5	8	20%
	6-10	7	17.5 %
	11-15	13	32.5 %
	16-20	8	20 %
	21 ≥	4	10 %
	Total	40	100%

23 (57.5%) of the nurses in the study sample are in the 30- to 39-year-old age range, according to Table 1. In terms of gender, the majority of nurses in the study sample—34, or 85%—are female. In terms of educational attainment, the majority of nurses—25, or 62.5%—had nursing diplomas. 13 (32.5%) of the nurses had between 11 and 15 years of experience in the newborn critical care unit.

Table-2: Evaluation of Nurses' Understanding of Pharmaceutical and Non-Pharmaceutical Pain Management Techniques during Venipuncture

Items		Responses	Frequency	Percentage
Pharmacological relief methods		Yes	20	50 %
		No	20	50 %
		Total	40	100 %
Non-pharmacological Methods	Facilitating Tucking position	Yes	10	25 %
		No	10	25 %
		Total	20	50 %
	Breast feeding	Yes	6	15%
		No	14	35 %
		Total	20	50 %
	Music	Yes	5	12.5 %
		No	15	37.5 %
		Total	20	50 %
	Toys	Yes	11	27.5 %
		No	9	22.5 %
		Total	20	50 %
	Others	Yes	8	20 %
		No	12	30 %
		Total	20	50 %

Nurses' awareness of pharmacological pain management techniques during venipuncture is shown in Table 2. Twenty nurses answered "yes" (50%) and twenty nurses answered "no" (50%). The capacity of nurses to without the use of pharmaceuticals in relation to facilitating the tucking posture by answering "Yes" and "No" by 10 (25%). Answers to the question about nursing were as follows: 6 (15%) said "yes," and 14 (35% said "no." The majority of nurses (37.5%) respond with No. 15 when asked about the music method. When

asked if they use toys to help with pain alleviation, nurses gave 11 (yes) answers (27.5%) and 9 (no) answers (22.5%). Answers to the final question on other pain management methods were Yes 8 (20%) and No 12 (30%).

Table 3: Based on nurses' overall comprehension of the aided tucking posture during venipuncture, the study sample distribution was determined.

Total Knowledge of Nurses	Pre-test					Post-test				
	F.	percentage	M. s.	S. D	Ass.	F.	percentage	M. s.	S.D	Ass.
Pass	0	0%	1.19	.0862	F	15	75%	1.59	.290	P
Fail	20	100%				5	25%			
t-value (6.8115), d.f. (39), significance (0.002)										

Summaries of nurses' understanding of the aided tucking posture during venipuncture are shown in table (3). All of the questionnaire items associated with this section have been ascribed noteworthy changes when compared to the pre-posttest (mean score more than 1.5), according to these data, which include frequency, percentage, mean score, and standard deviation.

Table 4: The distribution of the study sample was based on the nurses' overall comprehension of the aided tucking posture during venipuncture.

Overall of Nurses Knowledge	Post-test I					Post-test II				
	Freq	percentage	M. s.	S. D	Ass.	F.	percentage	M. s.	S.D	Ass.
Pass	15	75%	1.59	.290	P	13	65%	1.62	.155	p
Fail	5	25%				7	35%			
T-value (0.125), d.f. (39), significance (0.092)										

Summaries of nurses' understanding of the aided tucking posture during venipuncture are shown in Table (3). These statistics include frequency, percentage, mean score, and standard deviation, which indicate that all questionnaire items related to this section have been assigned meaningful improvements when compared to the pre-posttest (mean score greater than 1.5).

Discussion of the Study Results:

Misan Child and Maternity Hospital's Neonatal Intensive Care Unit Table (1) indicates that during the study sample, 23 (57.5%) of the nurses in the study sample are in the 30- to 39-year-old age range. the majority of nurses in the study sample—34, or 85%—are female. the majority of nurses—25, or 62.5%—had nursing diplomas,

The results of the This finding contradicts a research by Hassan, S.M.S., and Hassan, H.S. (2012) examined the efficacy of nursing education programs in enhancing nurses' understanding of arrhythmia at Kirkuk teaching hospitals. Based on their educational background, 15 nurses finished junior nursing, accounting for 60.0% of the study group. The majority of the study participants in Al-Ani, B.A.J., and Badir's (2012) study, "Impact of an Educational Program on Nurses' Knowledge and Practices Concerning Neurogenic Bladder Rehabilitation for Spinal Cord Injured Persons," were secondary nursing school graduates with experience in neonatal critical care units.

These three components are believed to best represent the upsetting experiences of preterm infants. Since the PIPP and other objective data

show that preterm neonates indeed experience pain, it is imperative to find ways to lessen this discomfort (Hill, S., et al 2005). Our study's questions about nurses' knowledge of the Premature Infant Pain Profile (PIPP) and physiological markers of pain are not statistically significant because most newborn nurses in Iraq do not use the PIPP to quantify the level of pain. Venipuncture for blood collection is a common unpleasant procedure in the NICU; the method utilized affects how painful the procedure is. A common non-pharmacological pain management method is the use of facilitated tucking posture (FT). The modest, "baby-friendly" hospitals in Iraq do not reduce discomfort by assisted tucking. Naturally, after taking into account the nurses' awareness of the technique, we find that the results are not significant. Programs pertaining to aided tucking position during venipuncture were not found by us; nevertheless, in 2014, Reyhani et al. 70 preterm newborns who needed routine blood collection and were born between 32 and 36 weeks gestation were split into two groups for a semi-experimental study: 35 neonates for the intervention and 35 neonates for the control. According to the data, There was a substantial difference in the amount of time each group sobbed following sampling, with the control group crying for longer than the intervention group ($P < 0.05$). In both preterm and very preterm infants having regular tissue breaking surgeries in the NICU, assisted tucking has been found to lessen the degree of the behavioural and physiological pain response (Johnston et al., 2011).

Conclusion:

According to the study's results, before training, the majority of participants were unable to use the aided tucking posture to alleviate their discomfort. 6.1.10. Nurses' age, education, years of experience, and years spent in a newborn critical care unit did not significantly correspond with their level of knowledge.

However, their general information at the first and second post-tests on (pharmacological treatment,

helped tucking posture, breastfeeding, and other) and their capacity to alleviate the child's pain following venipuncture are statistically correlated.

Recommendations;

By offering educational posters, guidelines, booklets, and manuals, the study suggests that the neonatal intensive care unit's educational components receive more attention. Neonatal nurses should also adopt a policy that offers a specialized educational session on how to reduce discomfort without the use of medicines.

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