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Original Article

A Cross Sectional Study on Nurses Knowledge and Practice of Essential Newborn Care at Tertiary Care Hospitals of Bahawalpur

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ABSTRACT

The newborn survival, growth, and development depend on the knowledge of essential infant care and correct application. The World Health Organization's guideline is crucial, yet the majority of healthcare professionals are unaware of it and do not adhere to it. Four million infants die every year, primarily in developing countries. For every 1,000 live births in Pakistan, there are 40.4 neonatal fatalities. **Objectives:** To examine nurses understanding and their application of newborn care at Bahawalpur tertiary care hospitals. **Methods:** At Bahawalpur's tertiary care hospitals, a cross-sectional study was done. Using a random sampling procedure, 280 registered nurses who provide labor and delivery and neonatal care were chosen. Participants were given self-administered questionnaires in order to gather data. Input and analysis of the data were done with SPSS Version 21.0. Frequency and percentages were used to present qualitative characteristics. A P value of 0.05 was employed to evaluate statistical significance. **Results:** Study participants averaged a 24.28 on a knowledge scale. 53.2 % of respondents had strong knowledge, while 47.8 % had low knowledge, according to the research. 52.1 % of respondents had an excellent level of practice, while 48.9 % had a low level, according to the mean practice score of 33.83. **Conclusions:** On some crucial aspects of neonatal care, the research population had inadequate knowledge and experience. Therefore, while assigning employees to the delivery room, preference should be given to participants with higher knowledge. Those who perform well should also be commended.

INTRODUCTION

A newborn baby is thought to be tiny, helpless, and entirely dependent on other people to survive. Even if they are born with normal birth weights, neonates are nevertheless susceptible to a range of health issues [1]. The mortality and illness rates among newborns are particularly high. To increase their chances of survival, they need the most attention imaginable. Because the survival of a newborn baby is intertwined with a high cost. Nurses usually take a substantial role in the nursery while the baby is there, despite the fact that parents are ultimately responsible for this care [2]. However, the standardized technique for obtaining newborn care is not widely used. One of the most important parts of health systems in terms of adhering to essential newborn care norms is knowledge. Hospital health workers. In Ethiopia, there were a performance disparity of immediate critical newborn care provided until the first hour after birth, and the average practice score for immediate newborn care was poor [3]. Basic newborn care procedures are necessary to spread knowledge and lower the infant mortality rate. The baby's subsequent well-being depends on the baby's transition to extra uterine life and first adaptations, which should be acknowledged and facilitated by health care providers at the moment of delivery and beyond by providing vital infant care. As a

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result, the study's purpose was to look at the practices of nurses on vital infant care and to offer solutions to health facility heads for the found deficiencies. Nurses' care during labor and delivery is crucial to minimize unfavorable outcomes, to assure survival with prompt treatment [4]. Proper and ongoing education of the nurses regarding newborn care is the need of good quality health services. The current study is therefore designed to assess the newborn care practices among staff nurses at tertiary care hospitals. This study will provide insight for the nurses regarding newborn care in terms of knowledge enhancement. Also, this study will help the nurses to enhance their skills through educational courses regarding newborn care practices. In Pakistan, there is a dearth of research on infant care. Preventive measures for basic neonatal care could reduce the burden of infant illness and mortality [5].

METHODS

At Bahawalpur's tertiary care hospitals, a cross-sectional study was done. Using a random sampling procedure, 280 registered nurses who provide labor and delivery and neonatal care were chosen. Nurses who didn't give delivery care for at least one year were not included. The goal of the study was to evaluate nurses' knowledge and practice of neonatal care. The institutional board of the University of Lahore gave their approval to the study. Participants were given self-administered questionnaires in order to gather data. Input and analysis of the data were done with SPSS Version 21. Frequency and percentages were used to present qualitative characteristics. A P value of 0.05 was employed to evaluate statistical significance. Data on practices were obtained using 24 items of an observational checklist built from 22 items of knowledge data [1]. Questions that were not accurate or consistent were not included in the study. Each knowledge question's correct response received one point, while each incorrect response received zero. By using the mean score as the cutoff, the dichotomy between good and bad knowledge was determined based on the total number of right answers. Assigning scores to responses on a scale of Likert 0 to 2 points 0 = never, 1 = some times, and 2 = always—was used to evaluate the standard of care for newborns. 48 were deemed to be the maximum possible cumulative score for practice. Good practice and bad practice were used as dichotomies for the overall score. The pilot study objective was to evaluate the tool's efficacy. 10 % of the study participants were selected and then removed from the sample. The questionnaire was changed in response to the pilot study's findings. The dependability was determined using the 0.760 Cronbach's alpha. The tool's content validity was also calculated; the result is 0.931.

RESULTS

There were 210 participants 75 % who were between the ages of 25 and 30. 215(76 %) participants had between two and five years of experience, and 26(09 %) people had more than five years of experience in the most recent department. The majority of the 257 participants (91 %) worked in the labor room, while 03 % worked in the gynecology ward and 12 % of the nurses worked in the newborn critical care unit (Table 1).

Variables	Frequency (%)
Age (n=48) in years	
25-30	210(75)
30-35	50(17)
35-40	20(07)
Years on the Job total (n=48)	
2-5Years	215(76)
6-10 Years	26(09)
> Than 10 Years	39(13)
Years of employment in recent department (n=48)	
1-3 Years	209(74)
3-5 Years	52(18)
> Than 5 Years	19(06)
Department name, and participant job title(n=48)	
Labor Room	257(91)
Gynecology Ward	11(03)
NICU	12(04)

Table 1: Demographic characteristics of the Participants(n=280)

When asked about what to do if a baby didn't cry right away after delivery, 228 (81%) of them recognized that calling for aid and starting CPR was the best course of action, while the others were unsure. 200 (71%) of the participants were asked about the baby's head posture to open the airway, and they all said that the head should be slightly extended. The other participants were unable to describe this position. Only 110 (39%) of the total participants say that 40 breaths per minute are the recommended breaths per minute during infant ventilation (Table 2). 64 out of 216 respondents (or 22%) did not know that newborns should not be bathed until 24 hours have passed since delivery, but 216 respondents (or 77%) did. Regarding skin-to-skin contact and thermal protection, 222 (79.0%) and 50 (17%), respectively, knew that the baby should be quickly dried, while 08 (2%) said that it was bad to bathe the infant too young. Most respondents, 230 (82%) were aware that newborns should be placed on the mother's tummy right after birth, although 50 (17%) were unaware (Table 2). Initiation of breastfeeding should begin within the first few hours of delivery, according to 245 of the study's participants, and more than 3/4 were aware that colostrum plays an important role in a newborn's ability to fight infections. The remaining 50 participants (17%) were unaware of these facts. 245 (87.0%) of the participants

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were aware that a mother should breastfeed their child exclusively for the first six months when asked about exclusive breastfeeding. 110 (39%) of the participants knew about cord care, however 170 (59%) misremembered the correct time to clamp the chord of a crying newborn (Table 2). When asked how to care for a dirty umbilical cord, 99 people (36.4 %) knew it should be washed with soap and water, dried, and not bandaged, yet 63.6% of them gave the incorrect answer. 45 (16%), 210 (75 %) and 14 (5%) of the respondents who were asked about the recommended care for low birth weight babies could, respectively, name early and frequent breastfeeding, keeping the kid warm, and infection prevention. As opposed to the WHO recommendations, 11 (4.0%) people mention bathing frequently. 220 (78.0%) of those surveyed knew that the first 24 hours after delivery are the ideal time for postnatal visits. The majority of participants in the study were informed, per the study, that vitamin K can stop infant hemorrhage (Table 2).

Knowledge	Response	Frequency	Percent
What steps are taken if the newborn does not cry?	Keep the baby covered and allow skin- to-skin contact	36	12
	Call for assistance and begin CPR	228	81
	Place baby on table and tend to mother	16	5
How should the baby's head be positioned to allow airflow?	Posture of the head in flexion	53	18
	Head in someone stretched position	200	71
	Head in a Hyper extended position	27	9
What you should give a baby If their breathing is still labored after drying?	Additional breathing stimulation	75	26
	Ventilation with a mask and bag	205	73
How many breaths per minutes is recommended during new born ventilation?	breaths per minute of 30	65	23
	40 breaths per minutes	110	39
	a minute breath rate of 60	105	37
Should a newborn be bathed?	Instantly	08	2
	prior to 24 hours after delivery	56	20
	24 hours after delivery	216	77
How can newborn avoid hypothermia?	drying instantly	50	17
	enabling skin-to-skin contact	222	79
	a morning shower	08	2
Should a newborn be kept right away after birth?	other than the mother	20	7
	paired with another	0	0
	on the mother's chest or abdomen	230	82
	on crib or changing table	30	10
When should a newborn baby start receiving breast milk?	within the first hour of delivery	245	87
	1-6 hours of delivery	30	10
	>6 hours of delivery	05	01
Does the newborn baby colostrum play a protective effect against infections?	Yes	230	82
	No	50	17
How long should a mother breast feed her child exclusively?	less than 6 month	15	05
	for 6 months	245	87
	greater 6 months	20	7
How long should you wait before clamping or tying a wailing baby's umbilical cord?	squeeze or tie immediately	120	42
	within 1-2 minutes of delivery, clamp or tie	50	17
	Squeeze or tie 2-3 minutes after delivery or when the umbilical cord pulse has stopped	110	39
What sort of tool can we use to cut the cord?	Tidy Scissors.	10	3
	A fresh Surgical blade	55	19
	A fresh razor blade	05	1
	Sterile Shears	210	75
What should I do if umbilical cord is dirty?	Wash it with soap and water then bandage it.	67	23
	do not cover after washing it with soap and water ,dry it	99	35
	to clean the umbilicus, use alcohol	114	40
What is the suggested course of treatment for a newborn eye infection?	Nothing is done	04	01
	Put some breast milk in the eye	06	02
	Using sterile water, wash the eye	70	25
	Use tetracycline or silver nitrate	200	71

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What treatment is advised for low birth weight newborns?	Often Bath	11	04
	Breast feeding frequently and early	45	16
	Warm up the newborn	210	75
	Prevent the spread of infection	14	05
What is the best timing for first postnatal visit?	Within the first 24 hours of delivery	220	78
	On the 3rd day of delivery	50	17
	On the 7th day of delivery	10	03
The recommended dose of vit K for preterm baby is?	1mg	60	21
	0.5mg	220	78
Would you list the vaccines those should be given during essential newborn care?	BCG	120	42
	OPV	120	42
	Vit K	40	14

Table 2: Nurses Knowledge on Essential Newborn Care (n=280)

Regarding thermal protection, 220 (78%) of the participants dried all of the infants with a dry towel, while 60 (20%) only did so for some of the infants. A total of 210 (75%) of the respondents kept all of their newborns on their mothers' bellies right away, while 70 (24%) of them did not. A total of 165 (58%) of the respondents discarded wet towels and covered all of their newborns with dry towels, while 115 (40%) only did so for some of the infants. In the first hour after delivery, 245 (87%) of them started breastfeeding (Table 3).

Thermal Practice	Response	Frequency	Percent
Do you use a dry towel to instantly dry the newborn?	Not done	10	3
	Sometimes	50	17
	Done	220	78
Do you throw away damp towels and cover the newborn with dry towel instead?	Not done	10	3
	Sometimes	105	37
	Done	165	58
Do you keep the baby on mother's chest or belly right after the delivery?	Not done	10	3
	Sometimes	60	21
	Done	210	75
Do you maintain skin-to-skin contact between the mother and newborn?	Not done	05	1
	Sometimes	75	26
	Done	200	71
Do you start breast feeding your baby right away after delivery?	Not done	10	3
	sometimes	25	8
	Done	245	87

Table 3: Practice of thermal protection (n=280)

Regarding personal protective equipment, 220 (78%) wore sterile gloves during cord care for all babies, while 50 (17%) of them used them occasionally only. Only 211 (75%) of the total participants used clean masks for all deliveries, while 67 (23%) did not use any at all. Four responders (1% of the total) did not use clean masks at all. Only 226 people (80%) reported washing their hands before all operations when it came to hand washing during childbirth, whereas 04 people (1%) did not. Only 20 women (7%) wash their hands prior to holding the infant (Table 4). Regarding cord care, 87 (32.0%) people waited 2-3 minutes after birth to clamp the umbilical cord of any crying infants, whereas 193 (68%) people did so immediately or in less than 2 minutes. After clamping the cord, 210 (75%) of the participants cut the cord with sterile scissors; however, 70 (23%) of them occasionally did so. 120 of the study's participants (42%) said they cleaned the chord and let it air dry, while 110 (39%) said they only did this for some newborns (Table 4). Regarding eye care, 35 (12%) people only occasionally wipe their eyes, while more than half did not do so right away after birth. A total of 150 people (53%) reported applying eye ointment to every newborn, whereas 107 people (38%) said they did it occasionally. When applying eye ointment, 158 (56%) did so without coming in contact with the eyes, while just 16 (5%) did so with contact. Over 3 out of 4 individuals said they weighed and recorded the weight of every baby they delivered (Table 4). A minimum of four of the usual 11 danger signs had to be recognized by participants in order to be deemed informed. Less than two thirds of the respondents in this survey cite four or more newborn danger indications, whereas more than two thirds do not mention danger signs. Participants in the study had a mean score of 24.28 for general knowledge, and a mean score of 33.83 for practice.

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Thermal Practice	Response	Frequency	Percent
Check that sterile glove put on during cord care.	10(3%)	50(17%)	220(78%)
Check that during delivery, clean apron worn.	67(23%)	103(36%)	110(39%)
Check that during delivery, clean mask worn.	04(1%)	65(23%)	211(75%)
Before the procedure, make sure to wash your hands with soap and water to prepare for childbirth and newborn care.	04(1%)	50(17%)	226(80%)
With a swab soaked in sterile water and different swab for each eye, Check that the eyes are clean as soon as possible after birth from the medial to lateral side	210(75%)	35(12%)	35(12%)
Wait 2- 3 minutes after the birth or until the cord pulsation stopped before checking the cord clamp on a wailing newborn.	126(45%)	67(23%)	87(32.0%)
To cut the cord Make sure to use Sterile Scissors.	0(0%)	30(10%)	250(89%)
Make sure to take care of the cord care by washing it and allowing it air dry.	50(17%)	110(39%)	120(42%)
Verify that the mothers and caregivers wash their hands before handling the newborn.	150(53%)	110(39%)	20(7%)
Verify that within one hour of birth, newborn babies should be given eye ointment.	23(8%)	107(38%)	150(53%)
With the tip of the finger, ensure that eye ointment was applied without touching the eyes	16(5%)	106(37%)	158(56%)
The baby's weight should be verified and recorded.	0(0%)	12(4%)	268(95%)

Table 4: Practice of cord care and infection prevention (n=280)

DISCUSSION

This study evaluates the nurse's expertise of newborn care in Tertiary Care Hospitals of Bahawalpur. Education for nurses is often recognized as a critical method for promoting their expertise, and Kruk et al., discussed in study where 47.8 % and 48.9% of the participants had poor level of knowledge and poor level of practice respectively [6]. Ayele et al., found that it is more expensive than Egypt, Uganda, and India. Thus, there is a critical need to improve practice through ongoing education and relevant training, and especially for nurses this is so important, because they serve as first line of treatment to mothers and children whose lives they are attempting to save [7]. This study revealed that only 53 % of women gave eye ointment to all of the babies they delivered, 38% did it only for certain kids, and 78% knew the necessary vitamin K dose for preterm babies is 0.5mg, but only 21 % gave it at all [8]. This is congruent with findings from studies done in Egypt, where the results were greater than those from Uganda but lower than those from the Philippines. According to this, rather than a lack of expertise, the aforesaid discrepancy between how Vitamin K and eye ointment are administered in the study area and in the Philippines may be the result of different drug availability [9]. Delaying nursing after birth reduces the chances that moms and babies would benefit from early initiation while also increasing the danger of hypothermia and hypoglycemia. Initiation of breastfeeding should begin within the first few hours of delivery, according to 245 of the study's participants, and more than 3/4 were aware that colostrum plays an important role in a newborn's ability to fight infections [10]. The remaining 50 participants (17%) were unaware of these facts. 245 (87.0%) of the participants were aware that a mother should breastfeed their child exclusively for the first six months when asked about exclusive breastfeeding. Comparing this to studies done in Ethiopia, Tanzania, and MAISHA, this difference is enormous [11]. It's crucial for newborns to have thermal protection. Because it can avoid the side effect of hypothermia. Regarding thermal protection, 220 (78 %) of the participants dried all of the infants with a dry towel, while 60 (20 %) only did so for some of the infants. A total of 210 (75 %) of the respondents kept all of their newborns on their mothers' bellies right away, while 70 (24%) of them did not [12]. A total of 165 (58%) of the respondents discarded wet towels and covered all of their newborns with dry towels, while 115 (40%) only did so for some of the infants. The research conducted in Khartoum is congruent with this. However, this study's quality is not as high as Tanzania's [13]. In order to stop early neonatal infections, clean cord care is crucial. The umbilical cord should be clamped and cut at precisely the right time since there is some evidence that the newborn may benefit if the cord is not clamped and cut right away after birth [14]. Regarding cord care, in this study 87 (32.0%) people waited 2-3 minutes after birth to clamp the umbilical cord of any crying infants, whereas 193 (68%) people did so immediately or in less than 2 minutes. Mersha et al., found that when compared to Tanzania, this is lower [15]. However, nurses need to be up to date on current events in order to make evidence-based practice a more consistent reality. Notably, De-Graft et al., found that study's nurses lacked adequate training and experience in the care of neonates. For the survival and future well-being of the neonates, nurses' understanding of neonatal danger indicators is crucial [16]. A minimum of four of the usual 11 danger signs had to be recognized by participants in order to be deemed informed. Less than two thirds of the respondents in this survey cite four or more newborn danger indications, whereas more than two thirds do not mention danger signs [17]. It would seem obvious that nurses would require continual education and training in newborn care in order to decrease neonatal death and morbidity. When caring for the newborn baby, nurses with

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more knowledge were skilled in their practical fields [18]. A weekly focus on one component of care, Posters, and other techniques to reinforce and maintain better care over time could be used as additional teaching or educational initiatives [19]. This involves attempting to increase nurses' motivation by providing encouraging feedback about their practice improvements in meetings [20].

CONCLUSIONS

This was the first study of its kind in Bahawalpur, in improving nurses' capacity to learn more about and practice providing care for babies. To maintain knowledge and competency in Practice, though, requires ongoing instruction and coaching because generally participants had good knowledge and practice, while on some aspects of essential nursing care they had poor knowledge and practice. The research population lacked information in several resuscitation-related areas, practiced poor infection control, administered Vitamin K and eye ointment seldom, knew nothing about the specific cord clamping time that may cause newborn anemia, and was largely unaware of neonatal danger symptoms. The majority of the study population had good awareness of and experience with heat protection as well as good practice with prompt breast-feeding initiation.

Conflicts of Interest

The authors declare no conflict of interest

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