

# Nurses' Knowledge and Practice regarding Immediate Newborn Care in Maternity Ward of a Teaching Hospital

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## Article Info:

Received Date: 1 Apr, 2024

Acceptance Date: 25 May, 2024

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**Funding sources:** None

**Conflict of interest:** None

## Abstract

**Introduction:** A newborn is thought to be small, helpless, and entirely reliant on others for survival. During the first hour of life, newborns are primarily susceptible to morbidity and mortality, which can be avoided with prompt care immediately after birth. The newborn care that is provided immediately after delivery is straightforward but crucial.

This aim of the study is finding out the nurses' knowledge and practice regarding immediate newborn care.

**Methods:** A cross-sectional research design was carried out among 32 nurses. Consecutive sampling technique was used. The self-administered questionnaire was utilized to assess knowledge and observation checklist for assessing practice on immediate newborn care. The data was edited, coded and entered into excel then exported to SPSS 16 program.

**Results:** Findings revealed that 65.63 % nurses have average knowledge and 87.50 % nurses have average practice. Education, work experience and training were not significantly associated with the nurse's knowledge and practice regarding immediate newborn care at 95 % confidence interval. However, there was positive correlation between knowledge and practice on immediate newborn care.

**Conclusion:** The findings conclude that majority of the nurses have average knowledge and practice on immediate newborn care. Therefore, it is necessary to conduct continuing nursing education about immediate care to neonate for nurses in maternity ward periodically.

**Keywords:** Immediate newborn care, knowledge, maternity ward, nurses and practice

Access the article online



DOI: [doi.org/10.70027/jrahs3](https://doi.org/10.70027/jrahs3)

## Introduction

For newborn to effectively transition from intrauterine to extrauterine life, birth is a significant challenge.<sup>1</sup> In order to ensure survival, the newborn baby must undergo additional interventions during the transition from intrauterine to extrauterine life.<sup>2</sup> Because several organ systems are switching from intrauterine to extrauterine functions, the first few hours are critical. The care provided to a newborn in the delivery room by trained professionals is known as immediate care.<sup>3,4</sup> Neonatal deaths could be prevented by simple but current

health measures which can be provided immediately after birth. During delivery, nurses come into direct contact with newborn. Therefore, they need to be knowledgeable in providing excellence newborn care. However, there are limited studies available on this issue from Nepal. So, the researcher is interested to conduct this study.

The study's main objective is to assess the nurses' knowledge and practice regarding immediate newborn care in maternity ward of a Teaching Hospital.

## Citation:

Khatri B, Maharjan RK. Nurses' Knowledge and Practice regarding Immediate Newborn Care in Maternity Ward of a Teaching Hospital. *J. Rapti A. Health Sci.* 2024;1(1):6-10.

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## Methods

A descriptive cross-sectional research design was used to assess the knowledge and practice on immediate newborn care among the nurses. The study was conducted at maternity ward of Patan hospital. There were total 35 nurses in the maternity ward. In Patan hospital, approximately 7000-8000 deliveries are conducted a year. The population of the study was all the nurses working in maternity ward of Patan hospital. The total sample size was all the 35 nurses working in the maternity ward. The consecutive sampling technique was used for sample selection. The total number of nurses at the maternity ward of PH was 35 therefore researcher included all of them. The nurses of maternity ward, who were willing to participate in the study and those who were available during the period of data collection, were included in the study.

The study was conducted after obtaining permission from Institutional Review Committee of Patan Academy of Health Science. The data collection took place from 26<sup>th</sup> August to 22<sup>nd</sup> September 2018. The purpose of the study was explained to the respondents. Verbal and written informed consent were taken from each nurse for assessment of knowledge and practice on immediate newborn care.

They were communicated that their immediate newborn care practice will be assessed without their awareness at any time. Initially, practice was observed by using observation checklist. The checklist that was observed was assigned a code number. Next, the self-administered questionnaire assigned the same code number. Following that, self-administered questionnaire was given to the nurses whose practices had previously been observed according to their convenient time. The researcher was able to assess the knowledge from 32 nurses due their long leave at the time of data collection. However, only the practice of 31 nurses could be assessed. The time to complete self-administered questionnaire was 15-20 minutes and tool was collected after completion in the same day.

The tool was developed by reviewing related literature, referring research advisor, and subject expertise. Two tools were used in this study, namely a structured self-administered questionnaire and an observation checklist. The tools were developed into English language based on research objectives. Pretesting on knowledge related questionnaire was conducted among 5 nurses working in post-partum ward of Patan hospital to check the accuracy, feasibility clarity, accuracy and sequence of the tool. Slight modification was done on knowledge related questions after pretesting. The instrument was used to gather information on the following sections:

- ✓ Part I included questions related to professional information of nurses
- ✓ Part II included self-administered questionnaire consisting knowledge on immediate newborn care. There were total 10 items on knowledge related questionnaire and the total score was 31. One point was awarded for each accurate response and 0 point for each inaccurate response. If correct answers were  $\leq 50\%$  of the overall score, these nurses were thought to have poor knowledge. If they get 51% to 74% of the total score, the respondents were thought to have average and if they get  $\geq 75\%$  of the over-all score, they were thought to have good knowledge.<sup>4</sup>
- ✓ Part III= It consisted of observation checklist related to practice regarding immediate newborn care. The researcher herself observed the practice by using checklist. The total items on checklist were 18 and one score was given for each item performed. The overall practice score was determined by converting obtained score into percentage and rated as poor ( $\leq 50\%$ ), average (51-74%) average and good ( $\geq 75\%$ ).<sup>1</sup>

After data collection, information was carefully checked, modified, coded and imported into excel then exported to SPSS 16 program. The knowledge and practice were calculated with regard to descriptive statistics like frequency, percentage, mean and standard deviation. The Fisher's exact test was used to assess the association of knowledge and practice on immediate newborn care with socio-demographic characteristics. The relation between knowledge and practice regarding immediate newborn care was evaluated by using Pearson's correlation coefficient.

## Results

Table 1 shows the level of knowledge about immediate newborn care which indicate that around two-third of the nurses (65.63%) had average knowledge and only 6.5% had poor knowledge

**Table 1:** Level of Knowledge regarding Immediate Newborn Care N = 32

Variables	Frequency	Percentage
Good Knowledge	9	28.13
Average Knowledge	21	65.63
Poor Knowledge	2	6.25

Mean  $\pm$  SD = 68.44  $\pm$  11.6

Table 2 reveals that more than half of respondents (56.25%) had completed bachelor level. Regarding work experience, majority of the nurses have experience of  $\leq 5$  years in nursing field (43.75%) and maternity ward (59.38

%). Only two-fifth (40.63 %) received training on immediate newborn care. Among them, more than two-third (69.23 %) received 2 days training.

**Table 2:** Socio-demographic Information of the Respondents N = 32

Variables	Frequency	Percentage
<b>Academic qualification</b>		
PCL	14	43.75
Bachelor	18	56.25
<b>Experience in nursing field</b>		
≤ 5 years	14	43.75
6-10 years	10	31.25
11-15 years	5	15.63
≥ 16 years	3	9.38
Mean ± S.D. = 8.44 ± 6.23		
<b>Experience in maternity ward</b>		
≤ 5 years	19	59.38
6-10 years	8	25.00
11-15 years	4	12.50
≥ 16 years	1	3.13
Mean ± S.D. = 5.47 ± 5.16		
<b>Training on immediate newborn care</b>		
Yes	13	40.63
No	19	59.37
If yes, duration of training (n = 13)		
1 day	4	30.77
2 days	9	69.23

Table 3 reveals the level of practice regarding immediate newborn care, which demonstrated that majority of the nurses (87.50 %) had average practice and minority of the nurses (3.13 %) had good practice about immediate newborn care.

**Table 3:** Level of Practice regarding Immediate Newborn Care N = 31

Variables	Frequency	Percentage
Good Practice	2	3.13
Average Practice	28	87.50
Poor Practice	1	6.25

Mean ± SD = 64.87 ± 8.53

Table 4 demonstrates that nurses' knowledge and practice on immediate newborn care are positively correlated.

**Table 4:** Correlation between Knowledge and Practice N = 31

Knowledge	Practice		Pearson Correlation
	Low Practice	High Practice	
Low knowledge	12 (80.00%)	3 (20.00%)	r = 0.259
High knowledge	3 (18.75%)	13 (81.25%)	

Table 5 illustrates that there is no association between socio-demographic variables like academic qualification, work experience in nursing and maternity field, training on newborn care and nurses' knowledge about immediate newborn care.

**Table 5:** Association between Knowledge regarding Immediate Newborn Care and Socio-demographic Variables of Respondents N = 32

Variables	Level of knowledge		P-value (Fisher's exact test)
	Low knowledge	High knowledge	
<b>Academic qualification</b>			
PCL	8 (50.00%)	6 (37.50%)	P = 0.722
Bachelor	8 (50.00%)	10 (62.50%)	
<b>Work experience in nursing</b>			
≤ 10 years	11 (68.75%)	13 (81.25%)	P = 0.685
> 10 years	5 (31.25%)	3 (18.75%)	
<b>Work experience in maternity</b>			
≤ 10 years	13 (81.25%)	14 (87.50%)	P = 1.000
> 10 years	3 (18.75%)	2 (12.50%)	
<b>Training</b>			
Yes	7 (43.75%)	6 (37.50%)	P = 1.000
No	9 (56.25%)	10 (62.50%)	

Note: p ≤ 0.05: significant at 95 % confidence interval

Table 6 reveals that there is no association between socio-demographic variables like academic qualification, work experience, training on newborn care and nurses' practice on immediate newborn care.

**Table 6:** Association between Practice on Immediate Newborn Care and Socio-demographic Variables of Respondents  
N = 31

Variables	Level of practice		P-value (Fisher's exact test)
	Low practice	High practice	
Academic qualification			
PCL	9 (60.00 %)	5 (31.25 %)	P = 0.156
Bachelor	6 (40.00 %)	11 (68.75 %)	
Work experience in nursing			
≤ 10 years	10 (66.67 %)	14 (87.50 %)	P = 0.220
> 10 years	5 (33.33 %)	2 (12.50 %)	
Work experience in maternity			
≤ 10 years	12 (80.00 %)	15 (93.75 %)	P = 0.333
> 10 years	3 (20.00 %)	1 (6.25 %)	
Training			
Yes	5 (33.33 %)	7 (58.33 %)	P = 0.716
No	10 (66.67 %)	8 (47.37 %)	

Note:  $p \leq 0.05$ : significant at 95 % confidence interval

## Discussions

In the present study, around two-third of the nurses (65.63 %) have average knowledge on immediate newborn care. This finding of the study was consistent with the study conducted in Ethiopia, where 60 % of the respondents have medium knowledge on immediate newborn care.<sup>5</sup> This was also supported by a study in India in which majority (72%) of the respondents have average knowledge on immediate newborn care. However, this is highly contradictory with the study conducted in Kapilvastu district of Nepal, where only 28 % respondents had average knowledge.<sup>6</sup>

Regarding knowledge on steps of immediate newborn care in the present study, all the nurses answered skin to skin contact, 96.88 % of them answered drying baby and assessing breathing which are the steps of immediate newborn care followed by cord cutting (87.50%) and early initiation of breastfeeding (84.38%). This finding was slightly similar with the study conducted in Ethiopia where around 90 % answered drying baby, assessing breathing and cord cutting, and around 86 % of the respondents replied initiation of early breast feeding and skin to skin contact with the mother.<sup>3</sup>

In the present study, 87.50 % of the nurses have average practice regarding immediate newborn care. This was consistent with the study conducted in Ethiopia where 80.70 % respondents had correct practice regarding immediate newborn care.<sup>7</sup> However, this result was contradicted with findings of the study conducted in BPKIHS, Nepal, where only 57.60 % received average

quality of care regarding immediate newborn care.<sup>1</sup>

In this study, 96.77 % nurses dried babies with dry towel, wiped eyes, wrapped with dry one and covered head; all respondents assessed breathing and weighed the baby. This result was supported by a study conducted in Ethiopia where 86.4 % participants dried babies with dry towel, wiped eyes, wrapped with dry towel and covered head, 87.8 % participants assessed breathing and color, and 91.5 % weighed the baby.<sup>8</sup>

In the current study, level of knowledge among nurses is not significantly associated with academic qualification, work experience, and training on immediate newborn care. This finding was consistent with the study in India where knowledge level was not significantly associated with nurses' qualification, work experiences in labor room and additional courses on newborn care.<sup>9</sup> However at another study in India, there is significant association between years of experience ( $p < 0.05$ ) and knowledge of nurses.<sup>5</sup> It is contradictory with the study in Ethiopia in which professional education is significantly associated with level of knowledge.<sup>10</sup>

In the present study, level of practice among nurses is not significantly associated with academic qualification, work experience, and training on immediate newborn care. This result was supported with the findings of study conducted in Ethiopia, where practice level was not significantly associated with work experience, education level and duration of training.<sup>8</sup> However at another study in Ethiopia, level of education, training were significantly

associated with practice level rearing essential newborn care, which shows contradiction.<sup>11</sup>

In this study, nurse's knowledge and practice regarding immediate newborn care were positively correlated ( $r = 0.26$ ) which was similar with the study in India where there was positive correlation ( $r=0.3$ ) between nurse's practice and knowledge regarding immediate newborn care.<sup>9</sup>

The findings of the study will help the professional nurses and student nurses to conduct further studies in different setting. This study could be used as baseline evidence for hospital authority to provide training and to encourage for self-initiated learning for improving nurse's knowledge and practice on immediate newborn care.

Because the study was limited to only nurses of maternity ward of Patan hospital its results could not be generalized in other contexts. The study was also limited in a small sample size.

## Conclusion

Around two-third of the nurses have average knowledge on immediate newborn care and more than three-fourth of the nurses have average practice on immediate newborn care. A comparative study can be conducted among nurses from different hospitals. Continued nursing education on immediate newborn care can be organized to enhance the nurses' knowledge and skills on care of newborn baby.

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