

## Original Research Article

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# Intra-natal care practices of staff nurses with compliance to professional protocols

Pooja Chand<sup>1</sup>, Pratiti Haldar<sup>2\*</sup>, Manoj Jangir<sup>3</sup>, Nagendra Prakash<sup>4</sup>, Ratna Prakash<sup>5</sup>

<sup>1</sup>Department of Obstetrics and Gynecological Nursing, <sup>2</sup>Department of Child Health Nursing, <sup>3</sup>Department of Mental health Nursing, <sup>4</sup>Academic Advisor, <sup>5</sup>Department of Medical Surgical Nursing, Pal College of Nursing and Medical Sciences, Haldwani, Uttarakhand, India

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**\*Correspondence:**

Dr. Pratiti Haldar,

E-mail: beliealwz@gmail.com

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## ABSTRACT

**Background:** Intranatal care refers to care given throughout the process of all four stages of labor and is important for both mother and newborn. Safe delivery practice and compliance to intranatal care protocol by trained staff nurses is essential. The objectives were to identify the intra-natal care practices of staff nurses, compare intranatal care practices among the three selected hospitals and explore the barriers to compliance of intranatal care practices by staff nurses.

**Methods:** Cross-sectional observation design was used for the present study. The study was conducted in two phases to fulfil the objectives. Three hospitals were conveniently selected and about 42 delivery events were observed in phase I and 15 staff nurses were interviewed through semi-structured interview schedule to identify the barriers to compliance in phase II.

**Results:** It was found that majority of 8 (57.1%) staff nurses were in the age group of (25-42) years and maximum 13 (86.7%) staff nurses had attended training program related to intranatal care practices. In majority 24 (57.1%) deliveries, sterile technique for vaginal examination was not followed, in 33 (78.6%) deliveries cord pulsation was not assessed and in 39 (92.9%) deliveries baby was not placed on mother's chest. Lack of required facilities leading to referral and non-cooperation of women during procedures were some identified barriers.

**Conclusions:** The present study findings revealed that the intranatal care practices were inappropriate, they were missing most essential practices that might harm to the mother or baby in future.

**Keywords:** Barriers, Delivery, Intra-natal care practices, Staff nurses

## INTRODUCTION

Mother is the central axis of the family, including family's general health status. Therefore, mother's health during pregnancy and child birth should be of utmost concern of health care delivery system. A good number of neonatal morbidity and mortality occurs due to improper delivery and newborn care practices.<sup>1</sup> Intra-natal care refers to care given to the mother and newborn at the time of delivery. These includes: cleanliness, smooth delivery without injuring to the mother and newborn, preventing post-partum complications, post-delivery resuscitation for the

newborn. In order to attain these a trained staffs are needed to participate in delivery process.<sup>2</sup> As per WHO, 61% of births in India take place at home, and the majority of these are not attended by a skilled birthing assistant.<sup>3</sup> Government of India started LaQshya program on 11 December 2017 for labor room quality improvement initiative to improve the quality of care offered in labor room and maternity operation theater.<sup>4</sup> India's present MMR is below the millennium development goal (MDG) target and puts the country on track to achieve the sustainable development goal (SDG) target of an MMR below 70 by 2030.<sup>5</sup> India's maternal mortality ratio (MMR) has dropped by 7.4 per

cent in 2016-18, but it is still almost double the sustainable development goal target set by the World Health Organization (WHO).<sup>6</sup> Every year, thousands of women suffer life threatening injuries or die during childbirth because of negligence of hospital staff towards implementation of safety practices.<sup>7</sup> The condition is worse in hilly areas. In a state like Uttarakhand, the access to health care services and unavailability of medical facilities is a common problem. The recent national health and family survey reported 89 deaths/lakh deliveries in 2015-2017.<sup>8</sup> There are around six mahila hospital (maternity hospitals), 55 community health centers, 239 primary health centers providing primary health care services to a confounding 100,86292 population in the Uttarakhand.<sup>9</sup> According to Janani Suraksha Yojana it was found that Uttarakhand is a low performing State.<sup>10</sup> Hence, it becomes essential to identify the intranatal care practices of staff nurses and explore the barriers perceived by them. Moreover, very few studies have been conducted in this area in Uttarakhand and this study highlight the significant findings which in future will help to improve our health care services.

## METHODS

A cross-sectional observation study design was selected for the present study after obtaining ethical clearance from the Ethics review board of the selected hospitals. Informed consent was obtained from the staff nurses. The study was conducted in two phases. The data was collected by observing deliveries in three selected hospitals i.e. A, B and C. All the three hospitals selected were government hospitals in Nainital district. In each hospital for two weeks deliveries were observed and so in phase I was 42 deliveries events (first to fourth stage of labour) were observed. Sampling technique adopted for phase I was 'event sampling'. For phase II, only the staff nurses present during the time of data collection were recruited for interviewing. Thus, convenient sampling technique was adopted for phase II. The tools used for the study were observational checklist on intranatal care practices and semi-structured interview schedule on barriers related to intranatal care practice compliance. Validity of the tool was done by giving it to five experts. Reliability of observational checklist tool (intranatal care practices) was established through interrater method and was  $r=0.86$ .

## RESULTS

About 15 staff nurses participated in the study. Majority of 8 (57.1%) staff nurses were in the age group of (25-42) years. Mostly 14 (93.3%) staff nurses had general nursing and midwifery (GNM) as their professional qualification. Maximum 8 (57.1%) staff nurses had (1-10) years of professional experience. Most 10 (66.7%) staff nurses had conducted 50-100 deliveries per month and maximum 13 (86.7%) staff nurses had attended training program related to intranatal care practices as shown in Table 1.

**Table 1: Frequency and percentage distribution of the demographic characteristics of the staff nurses (n=15).**

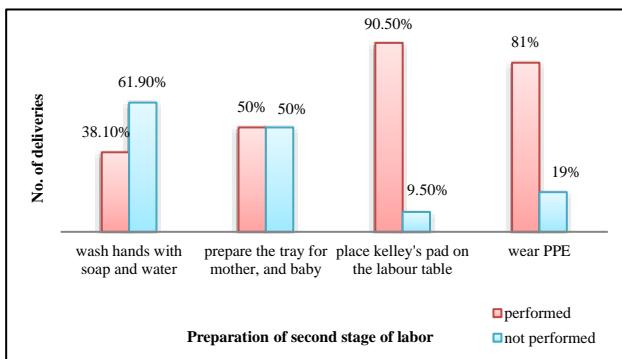
Variables	Frequency	%
<b>Age in years</b>		
25-42	08	53.3
43-60	07	46.7
<b>Education</b>		
General nursing and midwifery	14	93.3
Basic B.Sc. nursing/post basic B.Sc. nursing	01	6.7
M.Sc. Nursing and above	00	00
<b>Years of professional experience in labour room</b>		
01-10	08	53.3
11-20	07	46.7
<b>Normal deliveries conducted</b>		
01-50	05	33.3
50-100	10	66.7
<b>Attended any training programme on intranatal care</b>		
Yes	13	86.7
No	02	13.3

**Table 2: Frequency and percentage distribution of intranatal care practices by staff nurses in first stage of labor (n=42).**

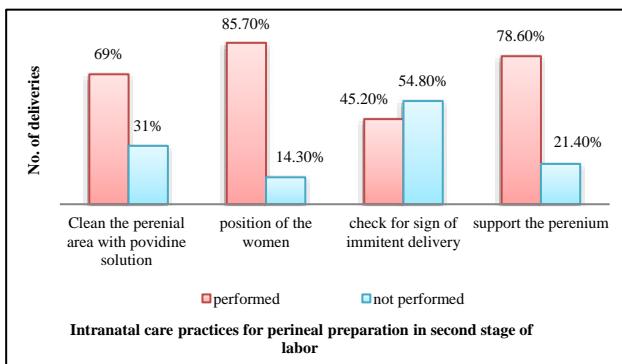
Criteria	Performed		Not performed	
	F	%	F	%
Practices in first stage of labor				
Follow sterile technique for vaginal examination	18	42.9	24	57.1
Clean the perineal area with antiseptic solution	4	9.5	38	90.5
Check FHR every 30 minutes	34	81.0	8	19.0
Vaginal examination every 4 hourly	29	69.0	13	31.0
Check vital sign of the mother	27	64.3	15	35.7
Plotting the partograph	16	38.1	26	61.9

The intranatal care practices were observed for all four stages of labor. The practices of intranatal care practices were observed and categorized into performed and not performed practices. In first stage of labor, it was found that majority 24 (57.1%) deliveries sterile technique for vaginal examination was not followed. In most of the 38 (90.5%) deliveries perineal area was not cleaned with antiseptic solution. In maximum 34 (81%) deliveries FHR was checked every 30 minutes and maximum 26 (61.9%) deliveries partograph was not plotted as shown in Table 2. Intranatal care practices of staff nurses during second stage of labor were categorized into: preparation of second stage of labor, perineal preparation, practices for umbilical cord care and other intranatal care practices. In 26 (61.9%) deliveries hand washing was not performed

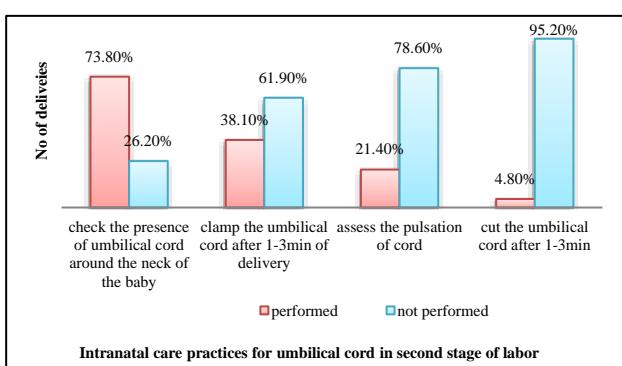
with soap and water. About 21 (50%) deliveries tray was not prepared for mother and baby. In majority 38 (90.5%) deliveries Kelley's pad placed on the labor table and in maximum 34 (81%) deliveries staff nurses worn PPE as shown in Figure 1.



**Figure 1: Bar diagram showing intranatal care practices by staff nurses for preparation in second stage of labor (n=42).**



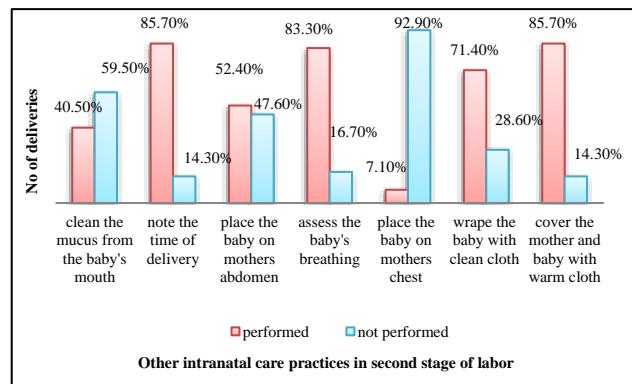
**Figure 2: Bar diagram showing intranatal care practices by staff nurses for perineal preparation in second stage of labor (n=42).**



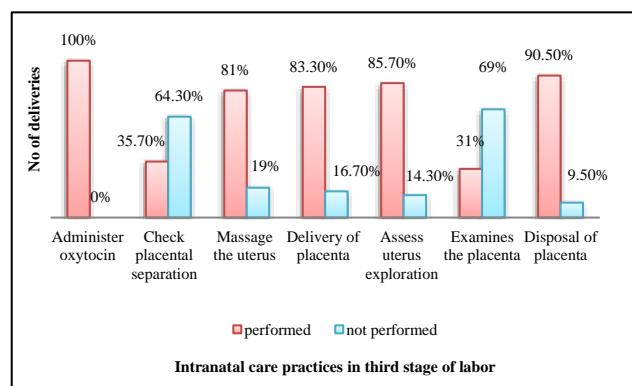
**Figure 3: Bar diagram showing intranatal care practices by staff nurses for care of umbilical cord in second stage of labor (n=42).**

In mostly 23 (54.8%) deliveries sign of imminent delivery was not checked and maximum 33 (78.6%) deliveries perineum support was provided to the women during

delivery as shown in Figure 2. In most of 26 (61.9%) deliveries umbilical cord did not clamp after 1-3 minutes of delivery. In majority 33 (78.6%) deliveries cord pulsation was not assessed. In maximum 40 (95.2%) deliveries umbilical cord did not cut after 1-3 minutes as shown in Figure 3.



**Figure 4: Bar diagram showing other intranatal care practices by staff nurses in second stage of labor (n=42).**



**Figure 5: Bar diagram showing intranatal care practices by staff nurses in third stage of labor (n=42).**

Figure 4 describes that in most of 25 (59.5%) deliveries mucous was not cleaned from baby's mouth. In maximum 36 (85.7%) deliveries time were noted of delivery. In most of the 39 (92.9%) deliveries baby did not place on mother's chest. Maximum 30 (71.4%) deliveries baby were wrapped with clean cloth and clean both eyes of the baby and mostly 36 (85.7%) deliveries mother and baby were covered with warm cloth. In most of 27 (64.3%) deliveries sign of placental separation was not checked. In maximum 29 (69%) deliveries examination of the placenta, membranes and the umbilical cord was done and in majority 38 (90.5%) deliveries disposed the placenta in yellow bin as shown in Figure 5. As shown in Table 3, about 26 (61.9%) deliveries uterine contraction was not checked every 15 minutes. Maximum 34 (81%) deliveries vital sign every 15 minutes in the first hour after delivery was not monitored. In most of the 22 (52.4%) deliveries vaginal bleeding was not checked. In

majority 25 (59.5%) deliveries the baby was not examined after delivery and in maximum 26 (61.9%) deliveries Apgar score was not checked.

**Table 3: Frequency and percentage distribution of intranatal care practices by staff nurses in fourth stage of labor (n=42).**

Criteria	Performed		Not performed	
	F	%	F	%
<b>Practices in fourth stage of labor</b>				
Maternal care				
Check uterine contraction every 15 minute	16	38.1	26	61.9
Examine the perineum	35	83.3	7	16.7
Clean the perineum and put sanitary pads	33	78.6	9	21.4
Monitor vital sign every 15 minute in the first hour after delivery	8	19.0	34	81.0
Check for vaginal bleeding	20	47.6	22	52.4
Initiate breast feeding within one hour	29	69.0	13	31.0
<b>Newborn care</b>				
Administration of vitamin K	29	69.0	13	31.0
Examine the baby	17	40.5	25	59.5
Check Apgar score	16	38.1	26	61.9
Check vital sign every 15 minute	17	40.5	25	59.5
Check weight and height	39	92.9	3	7.1
Dressed the baby and wrapped with warm cloth	37	88.1	5	11.9

The staff nurses selected for the study were interviewed via semi-structured interview schedule to identify barriers related for compliance to intranatal care practices. Table 4 shows that about 4 (26.66%) staff nurses responded that incubator, ventilator, CPAP (continuous positive airway pressure) and Doppler ultrasound is not available, about 7 (46.66%) staff nurses mentioned that they referred the women to another hospital due to inappropriate facilities, 12 (80%) staff nurse responded that non-cooperation of women during procedure due to pain and 8 (53.33%) staff nurses responded that lack of understanding among women during labor and birth practices acted as barrier for providing intranatal care. Other barriers reported were NICU is not available 7 (46.66%), increased workload due staff shortage 7 (46.66%), about (13.33%) staff nurses mentioned that they are not able to perform step to step practices, 2 (13.33%) staff nurses said that number of women for delivery are more therefore they are not able to follow all steps, 6 (40%) staff nurses said that it was not possible for them to follow all the steps, and 3 (20%) staff nurses responded that they follow only those steps which are important in the guidelines given by the hospital during intranatal care.

**Table 4: Frequency and percentage distribution of barriers to compliance of intranatal care practices by staff nurses (n=15) (multiple responses).**

Statement	Frequency (%)
<b>Lack of required facilities</b>	
Incubator, ventilator, CPAP and Doppler ultrasound is not available	4 (26.66)
Refer the women to another hospital due to inappropriate facilities	7 (46.66)
<b>Behaviour of the women</b>	
Non-cooperation of women during procedure due to pain	12 (80)
Lack of understanding among women	8 (53.33)
<b>Organizational difficulties</b>	
NICU not available	7 (46.66)
Increased workload due to shortage of staff	7 (46.66)
Based on priority we handle the patient	5 (33.33)
Call for help	4 (26.66)
We have other staff for help	3 (20)
<b>Difficulties to follow standard operating procedure of intranatal care practices</b>	
Step- step we are not able to perform	12 (80)
Number of women for delivery are more	2 (13.33)
It is not possible to follow all the steps	2 (13.33)
We don't have any difficulty for implementing the practices	6 (40)
Almost steps we follow, the steps that are most important we follow them	3 (20)

## DISCUSSION

The data presented in table and figures revealed that all the intranatal care practices were not performed by the staff nurses as per professional protocols. The barriers to compliance of intranatal care practices identified were: lack of required facilities leading to referral of women to other hospitals, non-cooperation of women during procedures, non-availability of NICU and increased workload due to staff shortage leading to difficulties in performing step by step procedure protocols.

The present study findings were consistent with an observational study conducted by Nuriy et al on nurse/midwives' practices during labor and delivery in maternity teaching hospital. The study found that midwives did not perform the following practices during labor and delivery i.e. preparing the mother (84%), checking vital signs (93.3%), providing privacy for the mother (84%), and using sterile technique for vaginal examination, checking the progress of labor (93.4%). The study concluded improvements in their practice through training courses and changing hospital and delivery room policies is recommended.<sup>11</sup> The present study finding regarding perceived barriers to

intranatal care practices reported by staff nurses were following; lack of required facilities, behavior of the mothers, organizational difficulties and difficulties to follow professional protocols of intranatal care practices.

The present study findings were partially consistent with a qualitative study conducted by Mselle et al on barriers to providing humanizing birth care in two districts. The study results showed that there were four barriers reported by skilled health personnel i.e. physical space, facilities limitation and institutional norms and practices. The study concluded that it is essential to revalue the labor ward and additionally in-service training is needed to bring out changes in the labor ward.<sup>12</sup>

## CONCLUSION

The purpose of the present study was to observe and analyse the intranatal care practices in selected Hospitals in Nainital District, Uttarakhand. The findings concluded that staff nurses were not following the practices as per professional protocols developed by researcher and barriers also identified for inappropriate intranatal care practices. So, there is a need of frequent supervision and conduct awareness program by government organizations for filling the gap in care related to barriers in intranatal care practices and professional protocols.

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*Ethical approval: The study was approved by the Institutional Ethics Committee*

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