Determinants of Newborn Care Practices among Mothers in Bharatpur, Nepal

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ABSTRACT

Background: Each year, approximately 130 million infants are born, and tragically, 4 million of these newborns do not survive beyond their first month. Data from hospitals indicate that the primary contributors to neonatal mortality in Nepal include infections, birth asphyxia, preterm birth, and hypothermia. To effectively tackle the issue of neonatal deaths in Nepal, it is crucial to acknowledge that 81 % of births occur at home and poorer newborn care practices.

Aim & Objective: To find out the relation between the newborn care practices and educational status of the mother, social taboos, four Antenatal care visits from trained health personnel, and parity.

Keywords: newborn care, mothers, education, ANC.

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Aim & Objective: To find out the relation between the newborn care practices and educational status of the mother, social taboos, four Antenatal care visits from trained health personnel, and parity.

Settings and Design: This was a cross-sectional, non-interventional, and descriptive study conducted among 96 mothers with children less than six months child.

Methods and Materials: Data were collected using structured interviews and analyzed and interpreted qualitatively and descriptively.

Statistical analysis used: Descriptive statistics method was used to analyze data.

Results: Most of the respondents (83.33%) received antenatal care. Most of the respondents (92%) were literate. Literate mothers have better newborn care practices. 70% still followed the untouchable system during their last postpartum period. 99% of them allowed the touchable system according to their culture. There is a relationship between touchable systems and newborn care practices. Most of the respondents (64%) were of second parity. The study showed that the lower the parity, the better the newborn care practices. It is poorer practice than the national standard as per the national neonatal health strategy 2004, Nepal.

Conclusion: Newborn care practice is significantly associated with the education of mother, 4 ANC visits, social taboos, numbers of children.

Keywords: newborn care, mothers, education, ANC.

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I. BACKGROUND

Each year, approximately 130 million infants are born, and tragically, 4 million of these newborns do not survive beyond their first month. The vast majority of these fatalities occur in developing nations and are attributed to preventable causes (1). In developing nations, it is estimated that 34 infants per 1,000 born do not survive beyond their first month of life, with the majority of these deaths occurring in a home setting (2). Although 3 million out of 4 million young lives could be preserved through readily available, low-cost interventions, the majority of funding and research dedicated to newborn health tends to concentrate on high-tech solutions, primarily addressing the 1 % of deaths that take place in wealthy nations (3).

Health statistics indicate that approximately two-thirds of infant fatalities take place within the initial month of life. Among those who pass away during this period, around two-thirds succumb within the first week. Furthermore, of the infants

who die within the first week, two-thirds do so within the first 24 hours of their lives (4). Every hour, approximately 450 newborns lose their lives, primarily due to preventable factors, a situation that is utterly unacceptable in the 21st century (5).

Research conducted globally has revealed that 85 % of neonatal fatalities are attributed to infections, birth asphyxia, and complications arising from prematurity (6). Low birth weight is a significant factor that contributes to numerous neonatal fatalities (7). Many newborns also succumb to mortality due to their mothers' inadequate health and insufficient access to vital medical care.

Despite significant reductions in childhood and infant mortality rates in South Asia over the past ten years, neonatal mortality remains alarmingly high (8). A significant portion of neonatal mortality, accounting for 60%, and a staggering 68% of the global burden of prenatal deaths, is concentrated in Asia (9). Neonatal mortality rates in Pakistan are the highest in the region, standing at 51 deaths per 1,000 live births. This is closely followed by Bangladesh, with a rate of 50 per 1,000 live births, and India, which has a rate of 47 per 1,000 live births. In contrast, Sri Lanka reports a significantly lower neonatal mortality rate of 13 per 1,000 live births (10).

Nepal ranks third globally in neonatal mortality, with a rate of 33 deaths per 1,000 live births (11). Due to the high investment and strong preventive measures, Sri Lanka reported lower neonatal deaths in this region.

Data from hospitals indicate that the primary contributors to neonatal mortality in Nepal include infections, birth asphyxia, preterm birth, and hypothermia. To effectively tackle the issue of neonatal deaths in Nepal, it is crucial to acknowledge that 81 % of births occur at home. Only 19 % of deliveries are facilitated by Skilled Birth Attendants (SBAs), while another 19 % are conducted by traditional birth attendants, and relatives or other untrained individuals manage 50 %. Additionally, 7 % of births take place without any assistance whatsoever (12). The elevated neonatal mortality rate is closely associated with inadequate skilled birth attendance. In recent years, there has been a growing emphasis on neonatal health, both worldwide and specifically in Nepal. Policies and initiatives have recognized neonatal health as a crucial element of safe motherhood initiatives. In 2004, the national neonatal health strategy was approved to enhance the health and survival rates of newborns. This strategy aims to promote beneficial practices for newborns, discourage detrimental behaviors, and reinforce the promotive, preventive, and curative neonatal services across all tiers of the healthcare system (13).

The majority of infants are born healthy and at full term; however, the quality of care they receive in the initial hour, days, and weeks of their lives plays a crucial role in maintaining their health. This fundamental care is referred to as essential newborn care (ENC), which encompasses immediate post-birth care, care provided during the first day, and ongoing care up to 28 days after birth (14). Every newborn requires specific critical care components right at birth and throughout the first month of life, which is a particularly delicate period. It is essential to dry the newborn promptly after delivery and to ensure they are kept warm and covered at all times. The umbilical cord should be cut with a sterilized blade, and no substances should be applied to the stump. Additionally, breastfeeding should commence within the first hour following birth, and caregivers must be vigilant in monitoring for any warning signs, providing immediate treatment when necessary (15).

Objectives of the Study

- To find out the relation between the educational status of the mother and newborn care practice.
- To determine the social taboos regarding newborn care practices.
- To examine the relation between 4 Antenatal care visits from trained health personnel and newborn care practices.
- To find out the relation between parity and newborn care practices.

II.   MATERIALS AND METHODS

The study design was cross-sectional, non-interventional, and descriptive. This was a quantitative study.

2.1 Sampling and Sample Site

The study population was the mothers having less than six months child and the sampling method was non-probability purposive sampling. Sample site was Bharatpur Metropolitan City of Chitwan district, Nepal. The sample site was selected purposively using a non-probability purposive sampling method. The study site was selected based on accessibility and logistic feasibility.

Sample Size: The study included 96 mothers with children less than six months child. The sample size was determined using the formula z^2pq/d^2. Based on a previous study reporting, P=0.94 where q=0.06. The value of the z=1.96. The sample size calculation accounted for a 5% test error. So, the value of d=0.05 and an anticipated 5% non-response rate was calculated.

Ethical approval was taken from the Saptagandaki Multiple Campus, Bharatpur, Chitwan, Nepal. Written consent was taken from the respective offices and respondents. The confidentiality and anonymity of the respondents were maintained. All participants were volunteers. They were free to withdraw their participation anytime during the interview.

A structured questionnaire was used to collect data. Questionnaires were pre-tested in a similar community. Data was collected by Structured interviews through house-to-house visit.

2.2 Data Analysis and Interpretation Procedure

The collected data was analyzed and interpreted in the qualitative and descriptive way with the help of simple statistical method. According to the nature of data, different types of tables, figures and diagrams were used to interpreted results.

III.   RESULTS

3.1 Socio-Demographic Characteristics

Most of the respondents belonged to age group 20 to 30 years. Minimum age of respondent was 16 years and the maximum age of the respondent was 39 years. The mean age of respondent was 25.51 years. About 71% of respondents were Brahamin/ Chhetri, 20% Janajati and only 9.2 % of respondents were Dalit.

The mean age of the child was 48.97 days. The minimum age of the child was 1 day, and the maximum age of the child was 156 days.

About 80% of respondents' occupation was agriculture. So, the majority of the respondents' (80%) major source of income was agriculture. Only 11.67% respondents' major source of income was service. Nearly 79.17% respondents have their own agricultural land. Among them, only 7.37% respondents were sustained >12 months from their own land production. 46.32% were sustained 6-12 months and nearly 25.26% sustained <3 months.

Only 8% of respondents were illiterate. Most of the respondents (92%) were literate. Among literate mothers, 16.3 % with primary education, more than 76 % have lower secondary, and 16.6% with secondary and above. Most of the respondents (64%) were of second parity, and 9.33% respondents were the third parity.

3.2 ANC Utilization

Only 83.33% of respondents received ANC from trained birth attendants. At least 90% of pregnant mothers should receive ANC services from trained health attendants. Around 61% of respondents went for an ANC visit to know the condition of the fetus. 17.6% went after the counseling by FCHVs, and only 9.6% went for ANC due to the counseling by HWs. 40% of respondents did not go for ANC due to a lack of time, 28% did not feel it necessary to ANC, 12% did not go due to the health facility being far from their house, and 12% did not go due to nobody told them. More than 44% of pregnant mothers received four and more than 6% received more than four times ANC services, while 5.6% and 16.8% of pregnant mothers received only one or two-times ANC services during their last pregnancy. The national protocol recommended that all pregnant women receive 4 ANC services. Nepal had targeted at least 90% of

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pregnant women would receive 4 ANC services from the health institutions.

3.3 Tetanus Vaccination

96.7% of respondents received the recommended two doses of Tetanus-Diphtheria (TD) immunization during their last pregnancy. It was higher than the national target (at least 90%). Among them, 97.9% have at least complete knowledge of TD immunization. Only 2% replied that they did not know why they received TD. Only 80% received 2 times TD among the respondent who received TD during their last pregnancy.

3.4 Iron Supplementation

Among the total respondent, around 90% received iron tablets during their last pregnancy. Among the respondents who received iron tablets, only 80 % completed 225 tablets, where 10% took less than 180 tablets and 10% took 180-225 tablets during their last pregnancy and post-partum period.

3.5 Birth Preparedness

Only 80% of respondents were prepared for an assistant during their last pregnancy. Among them, about 80% prepared health workers and the remaining prepared for their family members (mother-in-law, Sister-in-law). More than 93% of respondents prepared the place of delivery. Most of them (80%) prepared health facilities and the remaining prepared their own home. More than 93% prepared money, 53.33% prepared transportation and only 20% prepared a blood donor during their last pregnancy.

3.6 Newborn Care Practices

3.6.1 Place of Delivery

About 58% of respondents delivered their last baby at home, 26.67% in a hospital, and 15.33% in local health facilities HP. Among the respondents who delivered at home, about 30% used the Safe Delivery Kit (SDK).

3.6.2 Delivery Conducted by

More than 43% of birth attendants were family members and 33.33% were ANM/SN and 6.67%

doctors. 11.43% deliveries were conducted by TBAs and more than 3% by neighbors. The National Neonatal Health Strategy 2004 suggested that all deliveries should be conducted in health facilities and supported by trained birth attendants.

3.6.3 Cord-Cutting

94.25% of respondents used a new blade, and 5.75% used an already used blade for cord cutting during their last delivery. 80% used Navi ointment, 10% used oil on the cord stump. The National Neonatal Health Strategy 2004 targeted that nobody would use anything except antiseptic on the cord stump of the neonate.

3.6.4 Drying and Bathing

The babies who were delivered in a hospital or health facility were wiped and dried immediately after birth. Among home delivery, nearly 23% of respondents wiped and dried their newborn immediately after birth and bathed their newborn after 24 hours, 55.17% bathed within one hour of birth and 17.7% within 1-24 hours in their last delivery.

3.6.5 Wrapped in Clothes

About 94% of respondents wrapped the newborn immediately after birth. Among them, 77% used thick and warm clothes and 23% used thin clothes.

3.6.6 Breastfeeding

60% of respondent breastfed their newborn within one hour, and 33.3% breastfed immediately after birth. Only 6.67% breastfed after one hour of birth. Only 6.67% breastfed extra things to their newborn before breastfeeding. 50% cow/buffalo milk and the rest fed honey, ghee, glucose, sugar water, etc. 20% started supplementary feeding to those less than three months. Among them, about 84% started to feed from birth, 10.5% from one month of age, and 5.3% from two months of age.

3.6.7 Touch Ability Until the Nomenclature Ceremony

Among the total respondents, 70% followed the untouchable system during their last delivery. Among the respondents who were in contact with others during their last post-partum period until the nomenclature ceremony, about 55% according to their culture and 37.77% due to illness, and 6.67% did not know why they were touched.

3.6.8 Living Place until Nomenclature Ceremony

95 % of respondents lived in the same house, 5 % in a separate room of the same house during their last post-partum period until the nomenclature ceremony.

3.6.9 Newborn Checkup

28% of respondents checked up on their newborn within 28 days in their last delivery. Among them, 20% of respondents checked up their newborn because they were ill, 28.6% of newborns checked up due to the counseling during delivery by health workers.

3.6.10 Illness and Treatment Practices of Newborn

20% of newborns became sick within 28 days. Among them, 35.39% suffered from diarrhea, 23.5% suffered from common cold, 17.6% suffered from fever, 9% suffered from pneumonia, and 2.8% suffered from jaundice. 80% of ill newborns were treated in health facilities and medical halls, 15% were treated from home, and nothing was done for 5% of ill newborns.

3.6.11 BCG Immunization and Growth Monitoring

100% of newborns received the BCG vaccine and growth monitoring services.

3.6.12 Knowledge of the Danger Signs of Newborns

100% of respondents know the danger signs of the newborn. However, 86.67% of respondents have complete knowledge of the danger signs of newborns, and the remaining have incomplete knowledge.

IV.   DISCUSSION

Most of the respondents (83.33%) received antenatal care. 44% completed four ANC checkups in my study. This was better than the results of the National Demographic and Health Survey 2011. There is a significant relation between 4 ANC visits and newborn care practices. Among the respondents who visited ANC. 96.7% % respondents received the recommended two doses of the TD vaccine. This finding was better than the results of the National Demographic and Health Survey 2011. 90% of respondents received iron tablets during their last pregnancy. 80% of respondents completed 225 tablets during their last pregnancy and post-partum period. 80% of mothers responded that they were prepared for the birth in the last delivery. Out of them, about 80% prepared health workers and the remaining prepared their family members (mother-in-law, sister-in-law). About 93% of respondents prepared the place of delivery. Most of them (80%) prepared a health facility, 53.33% prepared for transportation, and only 20% prepared for blood during their last pregnancy. Among the total respondents, 70% still followed the untouchable system during their last postpartum period. 99% of them allowed the touchable system according to their culture. There is a relationship between touchable systems and newborn care practices. Among the respondents who delivered at home, about 30% used the Safe Home Delivery Kit (SHDK). 94.25% of respondents used a new blade for cord cutting during their last delivery. 80% used Navi ointment on the cord stump, 10% used oil on the cord stump as an applicant. 100% of newborns received the BCG vaccine. 100% of newborns were monitored for growth. During immunization, they practiced growth monitoring. 100% of respondents know the danger signs of the newborn. These findings of my study are better than the national status of newborn care practices as per the National Demographic and Health Survey 2011. It is poorer practice than the national standard as per the national neonatal health strategy 2004, Nepal.

V. CONCLUSION

Literate mothers have better newborn care practices. So, the education of mothers plays a positive role in newborn care practices. The mothers who have lesser number of children have good newborn care practice. My study shows that if there is higher the parity or number of children, there is poor newborn care practice. The study found that mothers who had four or more ANC visits did better in newborn care practice. Thus, 4 ANC visits in health facilities are responsible for newborn care practice. Mothers who did not follow social taboos like the touchable system before the nomenclature of newborns had good newborn care practice in comparison with mothers who followed the social taboos.

VI. RECOMMENDATION

- Intersectoral collaboration should be promoted by ensuring advocacy for and commitments to newborn health at the district and community level, focusing on poor, uneducated, and excluded groups.
- Health Policy should be revised to ensure birth preparedness and institutional delivery.
- All people should be informed about the "Safe Motherhood Program to promote newborn care practices.
- Community leaders and community members should be mobilized to play an active role in creating a suitable environment for promoting newborn health.
- Skill Birth Attendant training should be provided for nursing staff working in health facilities.
- Advocacy for emergency transport and funds from communities to birthing centers should be ensured.
- Community-based awareness on birth preparedness, newborn care practices before birth, at birth, and after birth should be implemented.
- Health education and behavior change communication on essential newborn care practices should be ensured.
- Research activities should be promoted on newborn health to improve planning, higher quality services, and more cost-effective interventions.
- Awareness raising programs about institutional delivery, newborn care practices should be strengthened through local FM, Radio, poster, street drama, school camping, etc.

Recommendation for Further Research

- This study examined some socio-economic and demographic characteristics of respondents, the role of the husband in newborn care practice can be included in other studies.

Limitations of the Study

- Due to limited resources and limited time for field visits, only those wards considered feasible and accessible within the research period were included in the sample.
- The study was limited only to mothers having children less than six months, and the sample was purposively selected.
- The time frame for this study was only 30 days.

REFERENCES

1. Newborn Health and Program in Nepal, Saving newborn lives 2004, https://www.healthynewbornnetwork.org/hnn-content/uploads/Nepal_Newborn_Assessement-2007.pdf
2. Care of newborn, Reference manual, Save the Children, Diano Beak, Frances Ganges, Susan Goldan, Phyllis Long.

3. The Lancet, neonatal survival. March 2005. Newborn health is a key to child survival.
4. Care of newborn. Training manual for MBBS-Institute of Medicine, Maharajgung, Kathmandu, Save the Children.
5. State of the world's newborns. Nepal: saving newborn lives. Save the Children, 2002.
6. The voice for global newborn health, health progress and challenges by Anne Tinker, Director, Saving Newborn Lives, Save the children.
7. What works for children in South Asia, newborn care. An overview. Unicef.
8. Paus and Beonari, 2002.
9. NIPORT et.al.2001, Save the Children, 2001.
10. Effects of a participatory intervention with women's group on birth outcomes in Nepal, cluster randomized controlled trial. Lancet 2004; 364; 970-979
11. Save the Children, state of the Nepal's Newborns; kathmandu. Save the Children, 2002.
12. National Neonatal Health Strategy; 2004
13. A state of the world's Newborns. A Report from Saving Newborn Lives, Washington DC, 2001.

Table 1: Socio-Demographic Characteristics of the Respondents

Age of Respondents		
Age group(Yrs)	Number	Percentage
<20	80	53.33
20-30	55	36.67
30-40	15	10
Occupations		
Agriculture	120	80
Service	14	9.33
Others	16	10.67
Major source of Income		
Agriculture	120	80
Service	14	11.67
Business	6	4
Others	10	6.67
Having own agricultural land	95	79.17
Sustainability from own land		
<3 months	24	25.26
3-6 months	20	21.05
6-12 months	44	46.32
>12 months	7	7.37
Educational level		
Illiterate	12	8
Among Literate		
Primary	38	27.54
Lower Secondary	83	60.14
Secondary and above	17	12.32
Parity		
First parity	40	26.67
Second parity	96	64
Third parity	14	9.33

Table 2: Newborn Care Practices and Associated Factors

Economic Status	Newborn Care Practice					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
Poor	20	47.62	24	45.28	44	46.32
Rich	22	52.38	29	54.72	51	53.68

Educational Status	Newborn Care Practice					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
Illiterate	10	55.56	2	1.52	12	8
Literate	8	44.44	130	98.48	138	92

Educational level	Newborn Care Practice					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
Primary	15	28.84	23	26.74	38	27.54
Lower secondary	30	57.69	53	61.63	83	60.14
Secondary and above	7	13.47	10	11.63	17	12.32

Parity	Newborn Care Practices					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
Less	5	11.11	35	33.34	40	26.67
High	30	66.67	66	62.86	96	64
Higher	10	22.22	4	3.8	14	9.33

4 ANC Visit	Newborn Care Practices					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
<4 ANC visit	40	74.07	21	29.58	61	48.8
4 ANC visit	14	25.93	50	70.42	64	51.2

Touch ability	Newborn Care Practice					
	Poor		Good		Total	
	Number	%	Number	%	Number	%
Touchable	25	41.67	75	88.24	105	70
Untouchable	35	58.33	10	11.76	45	30

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