Newborn Care Practices in Rural Community of Palpa District, Nepal.

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Abstract:
Background: Newborn care is of immense importance for the proper development and healthy life of a baby. The first 28 days of life is known as the newborn or neonatal period. It is the most complicated period in the life.
Objective: To find out the home based newborn care practices and assess the practices during home delivery.
Methods: A community-based cross-sectional study was carried out in Palpa district on a sample of 150 lactating mothers who have delivered within the past 6 months.
Results: It was observed that most of the respondents (80.0%) had not any types of health problems during pregnancy. More than three quarter (88.0%) deliveries took place in institution and 12.0 per cent at home. Around half of respondents (56.7%) bathed the baby after 24 hour of birth, followed by around one third (38.0%) within 1-24 hours of birth and 5.3 per cent bathed within 1 hour. Around three quarter of the respondents (75.3%) had introduced breastfeeding within 1 hour. Similarly, majority of the respondents (97.3%) had fed colostrums (first milk) to new borne baby. Likewise, majority of respondents (90.7%) applied kajal in eye. Majority of babies (70.0%) had not any type of health problems but 10.7 per cent had ARI followed by 9.3 per cent had jaundice, 6.0 per cent had skin rashes and 4.0 per cent had redness and discharge around the cord. More than half of the respondents (66.7 %) had delivered at home who were illiterate and 92.8 per cent delivered in institution who were literate. More than one third (44.4%) deliveries attended by neighbours followed by nearly one fifth (22.2%) deliveries attended by FCHV. Majority of the birth attendants (83.3%) had applied chlorhexidine ointment (Kawach) among home deliveries and around three quarter of birth attendants (72.2%) used new blade for cord cutting. More than one third of the respondents bathed the baby after 24 hours of birth but 16.7 per cent bathed within one hour among home deliveries.
Conclusion:The newborn care practices of at home has significant effect on health of the baby which is the most important determinant for child survival. The high-risk traditional newborn care practices like bathing, prelacteal feeding, breast feeding and discarding colostrum need to be addressed by culturally acceptable community-based health education program which helps to improve physical, mental and cognitive development of children.
Keywords: Newborn, care, practice, breastfeeding, pre-term birth and low birth weight

I. Introduction

Newborn care is of immense important for the proper development andhealthy life of a baby. The first 28 days of life is known as the newborn or neonatal period. It is the most crucial period in the life.Since most newborn deaths occur during the first hour or day after birth.Establishment and maintenance of cardio-respiratory functions (e.g., breathing) is the most important thing the moment the baby is born. The risk of death is the greatest during the first 24-48 hours after birth.Leading causes of neonatal death are pre-term birth/low birth weight, infections and asphyxia. These causes account for nearly 80 per cent of deaths in this age group. Globally, 10 million children die annually before their fifth birthday. An estimated that four million babies die before they reach the age of one month,every year globally. According to NDHS, 2016 report, infant mortality rate of Nepal is 32 per 1000 live births and neonatal mortality rate is 21 per 1000 live births. Neonatal deaths account for 40 per cent of all deaths among children under five. The majority of all neonatal deaths (75%) occurs during the first week of life, and between 25 to45 per cent occurs within the first 24 hours.Clean and safe delivery is important factor for survival of new borne child including clean hands, clean delivery surface, clean cord cutting and tying, proper cord care, and bathing which is a key intervention for reducing infections in newborns.The first milk which is called "colostrum" is the most suitable food for the baby during this early period because it contains a high concentration of protein and other nutrient the body needs; it is

also rich in anti-infective factors which protect the baby against respiratory infections and diarrhoeal diseases.

1.1Objectivesof The Study
1.   To find out the home based newborn care practices.
2.   To assess the practices during home delivery.
3.   To identify the problems in newborn.

II.   Material And Methods

2.1Study design: A descriptive community based cross sectional study,using only quantitative method, was conducted in Palpa district.

2.2Study Population:
The mothers or care givers of less than six monthschildren.

2.3 Sample size:

The following formula is used to calculate the sample size

$n = z^2 pq/e^2$

$= (1.96)^2 * 0.11 * 0.89/ (0.05)^2 = 150$

So, respondents were selected =150

n = samples size

z = 1.96 for 95% Confidence Interval (CI)

p = Prevalence =11% (0.11)

q = 1-p = (0.89)

e^2= permissible error =5% (0.05)

Note: 11% of births are assisted by a traditional birth attendant. (NDHS, 2011)

2.4 Sampling Technique:

Multistage sampling method was adopted for the present study.Palpa district of Nepal was selected purposively. There are 60 VDCs in Palpa district, among them Arghali, Bandipokhara, Boughagumba, Boughapokharathok and Darlamdanda VDCs were selected purposively. There are 9 wards in each VDC and all wards were selected as well as children's mothers were the respondents.Total numbers of less than six months children were listed ward-wise by the help of Female Community Health Volunteer (FCHV) of respective ward and 30 respondents were taken from each VDC by systematic random sampling. Thus, the sample size was 150.

2.5 Tools and techniques of data collection:

A structured interview schedule was developed and pre-testing was done in 20 respondents from another VDC of Palpa district except above five VDCs. Final tool was developed after the feedback from pre-testing. Data was collected by face to face interview by researcher himself. All participants were informed regarding the purpose of study and their consent was obtained for data collection.

2.6Procedures of data analysis and presentation:

1.   Data was compiled, coded and analyzed in SPSS software.
2.   The result was interpreted in the light of the objectives. Statistical calculations was donewherever required.

2.7Period of data collection
The period of data collection was 25[th]Mangsir to 25[th]Falgun 2072

III.   Results And Discussion

Table 3.1 Socio demographic characteristicsof the respondents

Personal profile	Frequency	Percentage
Age wise distribution of respondents (in years)		
15-19	28	18.7
20-24	58	38.7
25-29	59	39.3
30-34	5	3.3
Age at marriage as reported by respondents		
<15	8	5.3
15-17	30	20.0
18-20	89	59.3
21-23	23	15.4
Caste-wise distribution of the respondents		

Brahmin, Chhetri	80	53.3
Janajati	52	34.7
Dalit	13	8.7
Muslim	5	3.3
Education wise distribution of the respondents		
Illiterate	12	8.0
Primary	75	50.0
Secondary	49	32.7
Intermediate	14	9.3
Occupation wise distributions of the respondents		
Housewife	110	73.3
Agriculture	31	20.7
Business	5	3.3
Service	4	2.7
Types of family of the respondents		
Nuclear	56	37.3
Joint	94	62.7
Sex wise distribution of the last child		
Male	77	51.3
Female	73	48.7

Table 3.1 shows that 39.3 per cent respondents were from 25-29 years of age group followed by 38.7 per cent were from 20-24 years of age group and very few (3.3%) were 30-34 years of age group.Majority of respondents (59.3%) got married at the age of 18 to 20 years, 15.4 per cent in 21-23 and very few (5.3%) at the age of less than 15 years.Similarly, majority of respondents (53.3%) were Brahmin, Chhetri by caste followed by 34.7 per cent were Janajati and very few (3.3%) were Muslim. Half of the respondents (50.0%) were primary educated followed by 32.7 per cent were secondary educated and very few (8.0%) were illiterate. Around one quarter (73.3%) of respondents were housewives and one fifths respondents were involved in agriculture. Similarly, 62.7 per cent respondents were from joint family, followed by 37.3 per cent from nuclear. Likewise, majority of children (51.3%) were male and 48.7 per cent were female children.

Table 3.2Antenatal care of the mother

Frequency of visit	Frequency	Percentage
Four times	112	74.7
Partial	38	25.3
Iron tablet received during pregnancy and post-partum		
Full course	118	78.7
Partial	32	21.3
Albendazole tablet received after first trimester of pregnancy		
Yes	139	92.6
No	11	7.4
Tetanus Toxoid and Diptheria (T.D.) injection during pregnancy		
Full course	112	74.7
Partial	34	22.6
None	4	2.7
Health problems during pregnancy		
Yes	30	20.0
No	120	80.0
Types of health problems during pregnancy	**(N=30)**	
Bleeding	4	13.3
Severe headache	11	36.7
Hypertension	6	20.0
Oedema	9	30.0
Place of delivery		
Institution	132	88.0
Home	18	12.0

Table no. 3.2 illustrates that majority of respondents (74.7%) had received four ANC visit according to schedule (4, 6, 8 and 9th months) and 25.3 per cent had taken less than four ANC services.More than three quarter of the respondents (78.7%) had taken full course of iron tablet during pregnancy and after delivery of the 42 days but 21.3 per cent mothers had taken partially. Majority of respondents (92.6%) had taken albendazole(deworming) tablet after first trimester of pregnancy but 7.4 per cent had not taken. Likewise, majority of respondents (74.7%) received full course of TD injection followed by 22.6 per cent received one time and few (2.7%) did not receive. Most of the respondents(80.0%) had not any types of health problems during pregnancy but one fifth had problem. Among them more than one third (36.7%) had severe headache, 30

per cent had oedema and one fifth had hypertension. Similarly, more than three quarter (88.0%) deliveries took place in institution and 12.0 per cent at home.

Table 3.3 Newborn care practices

Characteristics	Frequency	Percentage
Time of bathing the baby after birth		
Within 1 hour	8	5.3
1-24 hours	57	38.0
After 24 hours	85	56.7
Dressing applied to umbilical stump		
Oil	74	49.3
Oil and turmeric	18	12.0
Antiseptic disinfectant	5	3.3
Nothing	53	35.4
Initiation of first breastfeeding after delivery		
Within 1 hour	113	75.3
1-12 hours	37	24.7
Administration of Colostrums		
Yes	146	97.3
No	4	2.7
Type of prelacteal feeding		
Nothing	143	95.4
Cow or buffalo milk	5	3.3
Other mother's milk	2	1.3
Application of Black shot (kajal) in eye		
Yes	136	90.7
No	14	9.3

Table 3.3 shows that around half of respondents (56.7%) bathed the baby after 24 hour of birth, followed by around one third (38.0%) within 1-24 hours of birthand 5.3 per cent bathed within 1 hour. Around half of the respondents (49.3%) applied oil in umbilical stump followed by 35.4 per cent applied nothing and few (3.3%) applied antiseptic. Around three quarter of the respondents (75.3%) had introduced breastfeeding within 1 hour and rest of the mothers (24.7%) had introduced 1 to 12 hours after delivery. Similarly, majority of the respondents (97.3%) had fedcolostrums (first milk) to new borne baby but very few (2.7%) did not feed. Most of the respondents (95.4%) did not start prelacteal feeding followed by (3.3%) cow or buffalo milk and rest (1.3%) used to give other mother's milk. Likewise, majority of respondents (90.7%) applied kajal in eye and remaining 9.3 per cent did not apply.

Table 3.4 Maternal knowledge and newborn danger signs

Danger signs	Frequency	Percentage
Maternal knowledge about newborn danger signs		
Not able to breastfeed	132	88.0
Fast breathing	86	57.3
Severe chest indrawing,	73	48.7
Hypothermia	124	82.7
Fever	139	92.6
Umbilical infection	135	90.0
Convulsion	46	30.6
Multiple response		
Type of health problems to the baby		
Jaundice	14	9.3
Redness and discharge around the cord	6	4.0
Skin rashes (Blister)	9	6.0
ARI	16	10.7
None	105	70.0
Place of seeking for Health service during ill		
Government health services	64	42.7
Private medical	82	54.6
Traditional healer	4	2.7

Table 3.4 depicts that 88.0 per cent respondents reported that not able to breastfeed is newborn danger sign. Likewise, 82.7 per cent reported hypothermia, 92.6 per cent reported fever and 90.0 per cent reported umbilical infection are the newborn danger signs. Likewise, majority of babies (70.0%) had not any type of health problems but 10.7 per cent had ARI followed by 9.3 per cent had jaundice, 6.0 per cent had skin rashes and 4.0 per cent had redness and discharge around the cord. Similarly, more than fifty per cent mothers (54.6%)

reported visit to private medical when their children get ill, followed by 42.7 per cent reported government health center and 2.7 per cent reported traditional healer.

Table 3.5 Relation between education of mother and place of delivery

Education of mother	Place of delivery		Total
	Institutional	**Home**	
illiterate	4 (33.3)	8 (66.7)	12(100.0)
literate	128 (92.8)	10 (7.2)	138(100.0)
χ^2 cal = 36.913,	df-1,	P value- .000 (Significant)	

Above table shows that majority of respondents (66.7 %) had delivered at home who were illiterate and 92.8 per cent delivered in institutionwho were literate. Therefore, there is significant association between maternal education and institutionaldelivery.

Table 3.6 Relation between education of mother and new borne health problem

Education of mother	New borne health problem		Total
	Present	**Absent**	
illiterate	8 (66.7)	4 (33.3)	12 (100.0)
literate	37 (26.8)	101 (73.2)	138 (100.0)
χ^2 cal = 8.351,	df-1,	P value- .004 (Significant)	

Above table illustrates that more than two third (66.7%)new borne had health problem whose mothers were illiterate and only 26.8 percent had health problem whose mothers were literate. Therefore, there is significant association between maternal education and new borne health problem.

Table 3.7 Relation between place of delivery and types of family

Place of delivery	Types of Family		Total
	Nuclear	**Joint**	
Institutional	42 (31.8)	90 (68.2)	132 (100.0)
Home	14 (77.8)	4 (22.2)	18 (100.0)
χ^2 cal = 14.301,	df-1,	P value- .000 (Significant)	

Above table depicts that more than two third (68.2%) respondents delivered in institutionwho belonged to joint family and 77.8 per cent respondents delivered at home who belonged to nuclear family.

Table 3.8 Practices during home delivery

Characteristics	Frequency	Percentage
Attendant at home Delivery		
Family member	3	16.7
Neighbour	8	44.4
Health worker	3	16.7
FCHV	4	22.2
Hand washing by birth attendant		
Yes	14	77.8
No	4	22.2
Application of Chlorhexidine ointment (Kawach)		
Yes	15	83.3
No	3	16.7
Cord cutting instrument used		
New blade	13	72.2
Old blade	3	16.7
Sickle	2	11.1
Time of bathing		
Within 1 hour	3	16.7
1-24 hours	7	38.9
After 24 hours	8	44.4

Table no. 3.8 shows that majority of deliveries (44.4%) attended by neighboursfollowed by nearly one fifth (22.2%) deliveries attended by FCHV. Majority of the birth attendants (77.8%) had washed their hand with soap and water before conducting delivery and few (22.2%) had not washed.Majority of the birth attendants (83.3%) had applied chlorhexidine ointment (Kawach) and 16.7 per cent had not applied. Around three quarter of birth attendants (72.2%) used new blade for cord cutting followed by 16.7 per cent old blade and least (11.1%) used sickle. More than one third of the respondents bathed the baby after 24 hours of birth but 16.7 per cent bathed within one hour.

IV. Discussion

The major findings of the study are discussed in this chapter and the findings of quantitative results are synthesized in an attempt to reach answers of the objectives. Majority of respondents were from 25-29 years age group and 18.7% were 15-19 years of age. This shows the tradition of the early marriage. Majority of the respondents were Brahmin, Chhetri. Half of the respondents were primary educated and very few (8.0%) respondents were illiterate. Study found that the literacy rate of present study is higher than national level and this is full literacy district. Similarly, **NDHS (2011)** indicates that two-thirds of women in Nepal (67%) are literate and the level of literacy is much higher among women age 15-19 than among women in other age groups. This suggests that younger women have had more opportunity for learning than older women. Education status of mother has prominent effect on health status of newborn. Study illustrates that 62.7 per cent respondents were from joint family and in respect to sex ratio, number of males and females children were almost equal. Present study found that more than two third of respondents had made four times of antenatal visit during their last pregnancy. Almost similar result was observed study done by **KapilGyawaliet. al. (2013)** found that around 60 per cent had done ≥ 4 ANC visits during last pregnancy. Similarly, similar result presented by Annual report (2070/071), ANC first visit as percentage of expected pregnancy has 86 percent. **NDHS (2011)** found that 50% pregnant mothers received the recommended four or more visits. Present study findings are higher than other study because government promote four ANC check-up and provide Rs. 400 for each visit and awareness level is high in this district. The National Safe Motherhood Program guideline recommends at least four ANC visits during pregnancy. The present study indicates high rate of utilization of antenatal care.

Study revealed that 78.7 per cent mothers had taken full course of iron tablet during pregnancy and post-partum period. Similar result presented by **NDHS (2011)** eight in ten women took iron supplements during pregnancy. Similarly, same result depicted by **KapilGyawaliet. al. (2013)** 90 per cent had taken Iron and folic acid tablets. As well asimilar result presented by **Annual report (2070/071)** that 72 per cent pregnant woman receiving IFA tablets during their last pregnancy. Deficiency of iron leads inadequate ingestion, inadequate absorption, and defects in release from stores, inadequate utilization, increased blood loss or excretion and increased requirement which cause low birth weight child. Therefore, iron is very important specially during pregnancy. Nepal government provides IFA trough health facilities after first trimester to 45 days of delivery, a total of two hundred twenty five tablets. Study observed that majority of respondents received full course of TD injection. Similar result presented by **Annual report (2070/071)** the coverage of Td2+ (Td2 and Td2+) is 75 per cent.

Study depicted that more than half of children (56.7%) were given bath the baby after 24 hour of birth and around one third (38.0%) within 1-24 hours of birth, but 5.3 per cent bathed within 1 hour. **NDHS (2011)** found that in half of cases, the infants first bath occurred within one hour of birth. One in four newborns is bathed at least 24 hours after birth as recommended. Study showed that around half of birth attendants applied oil to umbilical stump and nearly one third applied nothing. Similar studydoneby**Bala et al. (2008)** in Bangladesh found that 29.6 per cent of cases nothing was applied on umbilical stump and in rest of the cases oil/ghee, antiseptic powder or ointment was applied. Study observed that around three quarter of the respondents (75.3%) had introduced breastfeeding within 1 hour and rest of the mothers (24.7%) had introduced 1 to 12 hours after delivery. Similarly, almost all respondents fed colostrum to the newborn children. Similar result observed by **Chaudhary J. et al. (2013)** reported that all newborns were breastfed and given colostrums as first feed and ninety seven per cent were bathed after 24 hours of delivery. Another studydone by**Barnette and Azad (2006)** in Bangladesh found that 85% of women said that the first milk feed given to their newborn infants. Study showed that majority of respondents (95.4%) did not start prelacteal feeding followed by (3.3%) cow or buffalo milk.Similar study done by **Sreeramreddyet. al. (2007)** reported that pre lacteal feeds were given to 15.2 per centnewborn.

Present study found that majority of babies (70.0%) had not any type of health problems but 10.7 per cent had ARI followed by 9.3 per cent had jaundice. Present study observed that more than fifty per cent mothers (54.6%) reported visit to private medical when their children get ill, followed by 42.7 per cent reported government health center and 2.7 per cent reported traditional healer. Similar study conducted in Jajarkot district by **Concern Worldwide- Nepal, (2008)** among the 112 children which were brought for medical treatment 62.50 per cent (n = 70) were seen at a government health facility whereby 31.30 per cent (n=35) were treated by the private sector and 6.30 per cent (n = 7) went for treatment to the FCHVs.

Present study also depicted that majority of respondents (66.7 %) had delivered at home who were illiterate and 92.8 per cent delivered in hospital who were literate. Similarly, more than two third (66.7%) new borne had health problem whose mothers were illiterate and only 26.8 percent had health problem whose mothers were literate. There is significant association between maternal education and hospital delivery and new borne health problem.

V. Conclusion And Recommendations

Conclusion

A cross-sectional study was conducted to identify new borne care practices, a total of 150 respondents were taken.

1. The study concludes that majority of respondents were from age group 20-29 years and more than half were Brahmin, Chhetri by caste followed by 34.7 per cent were Janajati.
2. Similarly, more than half (51.3%) were male and 48.7 per cent were female children. Fifty per cent respondents were primary educated and very few (8.0%) were illiterate.
3. More than two third (74.7%) had received four ANC visit according to schedule. Majority of the respondents (78.7%) had taken full course of iron tablet during pregnancy but around one fifth (21.3%) had taken partially.
4. Majority of respondents had not any types of health problems during pregnancy but few had oedemaand hypertension.
5. More than three quarter (88.0%) deliveries took place in institution and 12.0 per cent at home.
6. Majority of respondents (49.3%) applied oil in umbilical stump followed by 35.4 per cent applied nothing and few (3.3%) applied antiseptic.
7. Around three quarter of the respondents (75.3%) had fed breastfeeding within 1 hour and rest of the mothers (24.7%) had fed 1 to 12 hours after delivery. Similarly, majority of the respondents (97.3%) had fed colostrums (first milk) to new borne baby but very few (2.7%) had not fed.
8. Majority of respondents (95.4%) did not start prelacteal feeding followed by (3.3%) cow or buffalo milk and rest (1.3%) used to give other mother's milk.
9. Most of respondents (90.7%) applied kajal in eye and remaining 9.3 per cent did not apply.
10. Majority of babies (70.0%) had not any type of health problems but 10.7 per cent had ARI followed by 9.3 per cent had jaundice, 6.0 per cent had skin rashes and 4.0 per cent had redness and discharge around the cord.
11. More than fifty per cent mothers (54.6%) reported visit to private medical when their children get ill, followed by 42.7 per cent reported government health center and 2.7 per cent reported traditional healer.
12. More than half of the respondents (66.7 %) had delivered at home who were illiterate and 92.8 per cent delivered in institutionwho were literate. Therefore, there is significant association between maternal education and institutional delivery
13. More than two third (66.7%) new born had health problem whose mothers were illiterate and only 26.8 percent had health problem whose mothers were literate. Therefore, there is significant association between maternal education and new borne health problem

Recommendations

1. IEC activities play an important role in making aware of the healthy practices so that harmful traditions should be given up along with promoting healthy traditional practices.
2. IEC activities should also be initiated to upgrade the knowledge of mothers regarding birth process, need of proper antenatal care, institutional deliveries, early identification of danger signs, bath the baby after 24 hours to prevent hypothermia, application of chlorhexidine ointment to the cord stump.
3. Efforts should also be made to encourage institutional deliveries where health education can be provided also not only to mothers but to other members of family.
4. Health workers promote institutional delivery, early and exclusive breastfeeding, keep the newborn warm (promoting skin-to-skin contact), assess the baby for signs of serious health problems and advice to seek prompt medical care if necessary.
5. Kangaroo Mother Care does not need expensive and sophisticated equipment, and for its simplicity it can be applied almost everywhere, Kangaroo Mother Care can also contribute to the humanization of neonatal care and to better bonding between mother and baby.
6. Ensure early initiation of breastfeeding within one hour of birth, avoidance of prelactal feed and promotion of exclusive breastfeeding for the first 6 months which is helpful for reduction of mortality, morbidity, improved physical mental and cognitive development of children.
7. There should be intersectoral co-ordination to ensure proper facilities to tackle the health problems of mothers and new born babies.
8. Strengthen the capacity of FCHV, community level service providers, health worker and medical professionals for management of new born health problems.

Acknowledgment

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