

Research article

Pattern of Newborn care and associated Health Problems among home delivered children

Singh JK¹, Rauniyar P², Gautam D³

¹Department of Community Medicine, Janaki Medical College, Janakpur, Nepal.

²Eastern Regional Health Directorate, Dhankuta

³IYCF and Bal Vita Promotion Program, Max Pro, Kathmandu, Nepal

ABSTRACT

Background and Objectives: Newborn Care practices during neonatal period contribute to risk of mortality and morbidity. It is estimated that in Nepal nearly 50,000 children under one year of age die every twelve months. This study aims to identify newborn care and practices in rural area in the study population.

Methodology: 248 mothers having children of age < 6 months having delivery at home were selected from ten VDCs of Sunsari district using multistage random sampling. Standardized questionnaire were filled through interview with mothers/ female head of the family who assisted the delivery. Data were analyzed by using statistical package for social sciences (SPSS) version 17. Chi-square test was conducted and p-value < 0.05 considered as statistically significant.

Results: More than half (53.6%) of the newborns were assisted with Clean Home Delivery Kit. However, only 32.6% of the newborn babies applied antiseptic disinfectant to umbilical stump. Majority (76.6%) of the newborns bathed within 24 hour after birth. Less than half of respondents (41.9%) started breast feeding within 1 hour of birth and majority of the respondents (82.7%) fed colostrums to the newborn. Majority (37.9%) of children suffered from Acute Respiratory tract Infection, jaundice, redness and discharge around the cord, skin rashes and eye discharge. The methods used to make room warm was significantly associated ($\chi^2 = 13.68$, p-value = 0.001) with the occurrence of ARI. Materials applied for dressing of cord was significantly associated with problems of cord in babies ($\chi^2 = 10.89$, p-value = 0.004). Discharge from eye was found more among the babies who applied kajal however it was statistically insignificant. ($\chi^2 = 0.60$ p=0.439).

Conclusion: High-risk traditional newborn care practices are common and need to be addressed.

Keywords: New born, Care of Cord, Home delivery, TBA

INTRODUCTION

Newborn Care practices during neonatal period contribute to risk of mortality and

morbidity. Newborn mortality is one of the world's most neglected health problems [1]. Globally 3.9 million neonatal deaths constitute 36% of under-five child deaths [2].

Correspondence

Jitendra Kumar Singh
Department of Community medicine
Janaki Medical College
Email: jsingdj@gmail.com

About 98% of newborn deaths occur in developing countries, where most newborns deaths occur at home. The average neonatal mortality rate in developing countries is over eight times (33/1000 live births) that prevailing in developed countries (4/1000 live births) [3]. In Nepal infant and neonatal mortality rate is very high i.e. IMR is 48/1000 live births; NMR is 33/1000 live births and perinatal mortality rate is 45/1000 live births [4]. It is estimated that in Nepal nearly 50,000 children under one year of age die every twelve months. Infant mortality has declined by 41% over the 15 year period from 82 deaths per 1000 live births to 48. The corresponding decline in the neonatal mortality over the 15 year period is only 33% [5]. Thus the newborn health challenge faced by Nepal is more voluminous, more diverse and more formidable. Newborn health is the key to child survival especially for a developing country like Nepal. Addressing infant mortality requires a continuity in the elements of care, which is lacking in many settings/communities with care for the neonate often receiving little attention in either maternal or child health programmes. The greatest gap in care often occurs during the critical first week of life when most neonatal and maternal deaths occur, usually at home and without any contact with the formal health sector. This study will be helpful to identify newborn care and practices in rural area in the study population, which will help in checking the infant morbidity and mortality.

MATERIAL AND METHODS

This is a cross-sectional study was carried out in 9 village development committee (VDC) of Sunsari district. Two hundred and forty eight mothers having children aged <6 months delivered at home were selected using

multistage random sampling and standardized questionnaire was administrate through interview among them (or /and female head of the family who assisted her delivery). Simple Random sampling was done to select the VDC with the help of DDC record and convenience and feasible sample was taken till the required number of sample was achieved with the help of FCHVs and TBAs in each VDC. Sample Size was calculated by using formula, $n = z^2pq/e^2$. Where, Prevalence of ARI in neonates is 20%) and $z = 1.96$ at 95% confidence level with allowable error 5%. Respondents were fully informed and verbal consent was taken before data collection and privacy and confidentiality was maintained. Data were analyzed by using statistical package for social sciences (SPSS) version 17 for windows. Chi-square test was conducted and p-value less than 0.05 considered as statistically significant.

RESULTS

Table1 shows background characteristics of the respondents. Majority of the respondents (36.7%) were in the age group of 20-24 years and about 19% were teenagers. Among all the respondents, maximum (39.5 %) were dalit followed by (37.5%) and (22.6%) from non dalit castes and Upper caste group respectively. Proportions of illiterate mothers were high (61.7%) and majority of respondents (94.4%) engaged in household work and very few (0.8%) were labour. Proportion of female newborn babies was high (58.9%) than the male. Only 31.5% of deliveries were assisted by trained health worker at home followed by traditional birth attended (26.2%) and majority (37.5%) were attended by family member themselves.

Table-1: Background characteristics of the respondent	Frequency	Percent
Age distribution (in Years)		
15-19	47	19.0
20-24	91	36.7
25-29	61	24.6
30-34	49	19.8
Caste-wise distribution *		
SC	99	39.9
OBC	93	37.5
General	56	22.6
Educational Status		
Illiterate	153	61.7
Literate	95	38.3
Occupation		
Household Work	234	94.4
Agriculture	12	4.8
Labour	2	0.8
Sex of the last child		
Female	146	58.9
Male	102	41.1
Attendant at home Delivery		
Family member	93	37.5
Neighbour	12	4.8
Traditional Birth	65	26.2
Attended		
Trained Health Worker	78	31.5
Total	248	100.0

*Schedule Caste (SC): Dalit, Other Backward Caste (OBC): Non Dalit Tarai Castes, General: Upper Caste Group.

Table 2 shows that more than half (53.6%) of the newborns were assisted with Clean Home Delivery kit . Only 32.6% of the newborn babies applied antiseptic disinfectant to umbilical stump and 46.8 % of the newborn babies applied mustered oil with turmeric.

Table-2: Newborn Care Practices	Freq uency	Perc enta ge
Utilisation of delivery kit		
Yes	133	53.6
No	115	46.4
Care of Cord (Dressing applied)		
Oil and turmeric	116	46.8
Antiseptic	81	32.6
Nothing	51	20.6
Time of bathing the baby after birth		
≤ 24 hour	190	76.6
> 24 hour	58	23.4
Method to make room warm		
Fire	157	63.3
Coal/Cow dung cake	66	26.6
Heater	25	10.1
Initiation of breast feeding		
≤ 1 hour	104	41.9
> 1 hours	144	58.1
Colostrum feeding		
No	43	17.3
Yes	205	82.7
Prelacteal feeding		
No	221	89.1
Yes	27	10.9
Application of oil inside the baby's orifice		
No	41	16.5
Yes	207	83.5
Application of Kajal in Eye		
No	43	17.3
Yes	205	82.7
Total	248	100

Further, in this study majority (76.6%) of the newborns bathed within 24 hour after birth and few (23.4%) after 24 hours. Majority (63.3%) of the respondents warmed their room by fire followed by (26.6%) with coal and cow dung cake and very few (10.1%) used heater to make room warm. Less than half of respondents (41.9%) started breast feeding within 1 hour of birth and majority of

the respondents (82.7%) fed colostrums to the newborn. Very few (10.9%) started prelacteal feeding with honey and cow's milk. Maximum 83.5% applied oil inside ear, nose and urethral orifice to the babies during massage and maximum (82.7%) applied *kajal* in eye.

Around half of babies (48.4%) did not suffer from any type of health problems and remaining suffered from different health problems. Among them highest was the ARI (37.9%) followed by Redness and discharge around the cord (14.11%), Eye discharge (12.9%), Jaundice (4.03%), and Skin rashes (Blister) (3.62%).

Table-3: Type of health problems to the baby*	Freq uency	Perce ntage
ARI	94	37.90
Discharge around the Cord	35	14.11
Eye discharge	32	12.90
Jaundice	10	4.03
Skin Rashes (Blister)	9	3.62
None	120	48.40
Total	248	100

*Multiple Responses

Table 4 shows the associated health problems of newborns in relation to different factors. Approximately 38% of babies suffered from ARI and 14.11% babies had discharge from cord which was associated with the materials used for warming room ($\chi^2 = 13.68$, p- value = 0.001) and material applied on cord cut ($\chi^2 = 10.89$, p- value = 0.004) respectively. Out of 43 babies who did not apply kajal on eye, 9.3% had eye discharge where as out of 205 who apply kajal , 13.7% of babies had discharge from eye. ($\chi^2 = 0.60$, p- value = 0.439)

Table-4: Newborn Care Practices and associated Problems

Practices	Health Problems	
	Yes	No
Dressing applied and discharge from Cord		
Nothing	9 (17.6)	42 (82.4)
Antiseptic	3 (3.7)	78 (96.3)
Oil and turmeric	23 (19.8)	93 (80.2)
	$\chi^2 = 10.89$, p- value = 0.004	
Method to make room warm and ARI		
Heater	3 (12.0)	22 (88.0)
Coal/Cow dung cake	19 (28.8)	47 (71.2)
Fire	72 (45.9)	85 (54.1)
	$\chi^2 = 13.68$, p- value = 0.001	
Application of Kajal and discharge from Eye		
Yes	28 (13.7)	177 (86.3)
No	4 (9.3)	39 (90.7)
	$\chi^2 = 0.60$, p- value = 0.439	

DISCUSSION

Majority of respondents were in the age group of 20-24 years but 19% was below 19 years. This shows the tradition of the early marriage in the community. Majority of the respondents were from Scheduled caste and few from general caste. More than half of the respondents were illiterate. Most of respondents were engaged in household work and very few of them were engaged in labour because of poverty. Proportion of female newborn babies was high and very few deliveries were assisted by trained health worker.

In this study more than half of birth attended using Clean Home Delivery Kit (CHDK). A study by Care Nepal (2003) showed that around 16% of mothers used a Safer Home Delivery Kit (SHDK) during the last delivery

[7] and a study by Global Health (2005) reported that the kit has significant impact in reducing rates of infection. Newborns of mothers who used the clean delivery kit were about 13 times less likely to develop cord infection than infants whose mothers did not use the kit. Women who used the kit were about 3 times less likely to develop puerperal sepsis than women who did not use the kit.

Only one third of the births applied antiseptic disinfectant to umbilical stump and approximately half applied oil and turmeric but few births applied nothing to it. In a similar study by Alam et al. (2008) in Bangladesh found that the most common substances used on the cord were turmeric (83%) and rest applied mustered oil, ash, coconut oil, ginger and chewed rice [8]. It was found that most of children were given bath within 24 hours of birth. Similar study by Barnette and azad (2006) in Bangladesh reported that only 44% of the infants were bathed immediately after delivery. [9] This condition climatic condition in Nepal put the infants to the high risk of hypothermia. Most of respondents warming their the room by burning firewood followed by coal or cow dung cake which is responsible for smoking environment in the room leading to high risk of respiratory problems to whole the mother and children and even put them at the high risk of morbidity and mortality. Few women started breast feeding within one hour of birth. Study by Sreeramreddy et. al. (2007) in Nepal found that initiation rates of breast-feeding were 57.9% within one hour and 42.2 % within 24 hours [10]. Similar study by Orisin et. al. (2002) in rural Nepal found that 63% of babies were breast fed within an hour of birth [11]. Most of the women fed colostrum to the newborn children and few did not saying that colostrum is dirty milk, traditional practice, baby cannot digest. A

study conducted by Yadav (2007) on traditional practices in newborn care in Nepal shows that colostrum is regarded as dirty milk in some communities, and babies were fed with cow or goat milk immediately after birth for the popular belief that it will make the baby become more intelligent. [12] Similar study by Sreeramreddy et. al. (2007) in Nepal found that about 10.8% mothers did not feed colostrums to their babies. Another study by Barnette and azad (2006) in Bangladesh found that 85% of women said that the first milk feed given to their newborn infants [9]. The mother who did not start breast feeding early gave to prelacteal feeding to their children were given as Prelacteal feeds honey, cow's milk and others mother milk. Similar study done by Sreeramreddy et. al. (2007) in Nepal reported that Pre lacteal feeds were given to 15.2% newborns [10]. Another Similar study by Orisin et. al. (2002) in Nepal found that a taste of clarified butter (ghee), sugar, or honey was given before feeding began 12% [11]. Majority of respondents applied oil inside ear, nose and urethral orifice to the children, 1/3rd applied only in ear and few applied only in nose. These are harmful practices which lead different problems like infection and allergies in children so these practices should be avoid in communities. Application of kajal was also common practice. It was found that nearly half of the children did not suffer from any type of health problems, more than 1/4th suffered from ARI and few suffered from jaundice, redness and discharge around the cord, skin rashes and eye discharge. These are the great problems of communities and country which increase infant morbidity and mortality. This may cause high in IMR. There are several factors that are responsible for problem of ARI including cow dung cake used to make room warm. Statistically significant

association was found between method to make room warm and occurrence of ARI ($p=0.001$). Materials applied for dressing of cord had also significant role on problems of cord in babies ($p=0.004$). Most of mothers applied kajal in eye of the babies to protect from ghost/ evil eye and for beauty which is harmful practice and lead to eye infection. However, there was no statistically significant association between effect on eye and application of kajal ($p=0.439$).

CONCLUSION

Women know little about the importance of delivery by a skilled attendant or of guidelines for care of newborn children. From the analysis of the data it can be concluded that traditional child care practices have significant effect on health of the baby. It takes huge efforts to change this tradition. The high-risk traditional newborn care practices like early bathing, mustard oil application on the cord and orifices and Prolactal feeding need to be addressed by culturally acceptable community based health education programmes and activities which play an important role in making community aware of the healthy practices

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