

Original Research Article

Pattern of Clean Practices during Intra-natal Care at Home Delivery in Rural Nepal

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ABSTRACT

Clean delivery practice is a key intervention for reducing infection-related maternal and neonatal mortality. Understanding local practices is important for designing appropriate interventions. This study was carried out to find out the pattern clean delivery practices in rural area. The study included 248 mothers having children less than 6 months delivered at home were selected from ten VDCs of Sunsari district, Nepal using multistage sampling. Data were collected by using semi-structured interview schedule from 1st January to 28th February 2009. Data were analyzed by using SPSS version 17 for windows. Result of the study revealed the most of birth attendants washed their hands with soap and water before conducting the delivery and more than half of them used soil with cow dung and few (17.7%) deliveries used soil only to clean the floor for delivery of the baby. Three fourth of them used new blade for cord cutting. More than half of birth attendants used thread from Birth kit to tie cord. Only 23.8% of birth attendants applied antiseptic disinfectant to umbilical stump. More than two third used clean cloth for wrapping the babies. The statistically significant association was observed between the occurrence of discharge from the cord and application of different materials (oil, turmeric etc,) to it. Traditional and unhygienic practices at home delivery are common in rural areas having deleterious effect on maternal and neonatal health. Therefore, domiciliary midwifery services have to be carried out by trained and skilled birth attendants.

Key Words: Care of Cord, delivery, TBA

INTRODUCTION

Maternal health care embraces antenatal, intra-natal and postnatal care; quality intranatal care and is crucial to achieve the aim of a healthy mother and a healthy baby at the end of a pregnancy.^[1] For the majority of women, Pregnancy and child birth are normal life event requiring minimal intervention. The care during this

period in life is crucial for making it a fulfilling experience for the woman, family and society. Today the need for this care, to be safe, of high quality and participatory, is the concern of all involved in this field.^[2]

Anomalies and complications during pregnancy, childbirth and postnatal period are leading causes of death and disability among women of reproductive age in

developing countries. Every day in the world, approximately one thousand women die from preventable causes related to pregnancy and childbirth, out of them 99% of all maternal deaths occur in developing countries. Maternal mortality is higher in rural areas and among poorer and less educated communities. In addition, three million neonatal deaths, representing about 40% of all under-five infant mortality occur every year. Three quarters of these neonatal deaths occur in the first week of life. Preterm birth, infections, and asphyxia are the major direct causes of neonatal deaths.^[3] Sepsis accounts for up to 15% of an estimated 3.3 million annual neonatal deaths globally.^[4]

Millennium Development Goal- 5 concerns maternal health and aims to reduce by three quarters the maternal mortality ratio between the years 1990 and 2015. Estimate of WHO, UNICEF and UNFPA for the years 1990, 1995 and 2000 points out that more than half a million women die every year from complications of pregnancy and childbirth, of which more than 50% take place in Africa and 40% in Asia.^[5] Nepal is promoting safe motherhood through initiatives such as providing financial assistance through maternity incentives schemes to women seeking skilled delivery care in a health facility. Subsidies are also provided to health institutions on the basis of deliveries conducted. However, still two-thirds of births (63 percent) take place at home.^[6]

Clean birth practices can prevent sepsis; one of the leading causes of both maternal and newborn mortality.^[7] Clean delivery of newborns is a key intervention for reducing infection-related neonatal mortality.^[8] The appropriate use of a clean delivery kit or clean delivery practices is associated with relative reductions in neonatal mortality among home births in underserved, rural populations^[4]

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that may cause the death or serious illness of the mother and the baby or both. Hence, an important component in the effort to reduce the health risks of mothers and children is to increase the proportion of babies delivered in a safe and clean environment and under the supervision of health professionals.^[9] A community Based cross-sectional study was conducted to identify Pattern of Clean practices during intra-natal care at home delivery in Rural Nepal.

MATERIALS AND METHODS

This was community based cross sectional study carried out in 10 Village Development Committee (VDCs) of Sunsari District situated in Eastern Development Region of Nepal. Simple Random Sampling Technique was followed to select the VDCs with the help of the District Development Committee (DDC) record of the same district. A sample size of two hundred and forty eight mothers having children less than 6 months delivered at home was determined on the basis of person providing assistance by traditional birth attendant (19.8%) during delivery in rural Nepal.^[10] Respondents were selected using multistage random sampling technique. Data were collected by enumerators using pre-tested, standardized semi-structured interview schedule from 1st January to 28th February 2009. Respondents were fully informed and verbal informed consent was taken before data collection and privacy and confidentiality were maintained. Data were analyzed using statistical package for social sciences (SPSS) version 17 for windows. Appropriate tests were used to draw inferences.

RESULTS

The result of the study shows that higher numbers of the respondents (36.7%) were in the age group of 20-24 years followed by age group 25-29 years (24.6%). About (19%) were teen age group. 39.5 %

of respondents were schedule caste followed by OBC (37.5%) and (22.6%) from general cast. Majority of them were illiterate (61.7%) and more than 2/3rd of respondents (72.6 %) had children of age 1-4 months. (Table1).

Table-1: General profile of the respondent

| Characteristics | Frequency | Percentage |
|---------------------------------------|-----------|------------|
| 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 |
| Age of last child (in Months) | | |
| <1 | 17 | 6.8 |
| 1-4 | 180 | 72.6 |
| 4-6 | 51 | 20.6 |
| Total | 248 | 100.0 |

Table-2: Practices of Clean delivery at home.

| Practices | Frequency | Percentage |
|--|-----------|------------|
| Attendant at home Delivery | | |
| Family member | 93 | 37.5 |
| Neighbour | 12 | 4.8 |
| TBA | 65 | 26.2 |
| Trained Health Worker | 78 | 31.5 |
| Hand washing by birth attendants(Clean Hand) | | |
| Yes | 207 | 83.5 |
| No | 41 | 16.5 |
| Materials used to paint the floor area at delivery(clean surface) | | |
| Soil | 44 | 17.7 |
| Soil with cow dung | 126 | 50.8 |
| Cord cutting instruments(clean cord cutting) | | |
| New blade | 185 | 74.6 |
| Boiled blade (used) | 57 | 23.0 |
| Scissors | 6 | 2.4 |
| Utilisation of thread to tie cord (Care of Cord) | | |
| Thread from kit | 133 | 53.6 |
| Household thread | 104 | 41.9 |
| Don't know | 11 | 4.4 |
| Dressing applied to umbilical stump (Care of Cord) | | |
| Oil and turmeric | 116 | 46.8 |
| Antiseptic disinfectant | 81 | 32.6 |
| Nothing | 51 | 20.6 |
| Clean the baby after delivery (Clean Cloth) | | |
| Wiped with dry cloth | 155 | 62.5 |
| Wiped with wet cloth | 24 | 9.7 |
| Give bath | 69 | 27.8 |
| Cloth used for wrapping the baby | | |
| Clean cloth | 175 | 70.6 |
| Dirty cloth | 53 | 21.4 |
| New cloth | 11 | 4.4 |
| Unknown | 9 | 3.6 |
| Total | 248 | 100.0 |

Practices of Clean delivery at home are presented in table 2 which shows that only 31.5% of deliveries were assisted by trained health worker at home and 26.2% by Traditional Birth Attendants (TBAs). Relatively higher (37.5%) attended by family member and few (4.8%) by neighbours. Most of the birth attendants (83.5%) washed their hand with soap and water before conducting delivery and least (16.5%) of the birth attendants did not wash their hand with soap and water before conducting delivery. To clean birth floor during delivery, 50.8% used soil with cow dung and few (17.7%) deliveries used soil only whereas (31.5%) did not paint the

Table 3 shows the association between materials applied to cord and discharge from the chord. Around 14.11% babies had discharge from cord which was associated with the materials applied on cord cut ($\chi^2 = 10.89$, p- value = 0.004).

Table-3: Association of Materials applied to cord and Discharge from the cord.

| Material used in dressing cord | Discharge from the cord | |
|--|-------------------------|-----------|
| | Yes | No |
| Nothing | 9 (17.6) | 42 (82.4) |
| Antiseptic | 3 (3.7) | 78 (96.3) |
| Oil and turmeric | 23 (19.8) | 93 (80.2) |
| Corrected $\chi^2 = 10.89$, p- value =0.004 | | |

DISCUSSION

Among 248 respondents involved in this study, majority of them were in the age group above 19 years of age and belonged to OBC/SC cast. Majority of them were illiterate.

This study revealed that only approximately thirty two percent of deliveries were assisted by trained health worker at home followed by one fourth by Traditional Birth Attendants (TBAs) and relatively higher thirty eight percent attended by family member and few approximately five percent by neighbours. The findings of the present study is similar

floor. About 3/4th of the birth attendants (74.6%) used new blade for cord cutting followed by (23%) boiled blade (used blade) and least (2.4%) used scissors. More than half of birth attendants (53.6%) used thread from kit to tie cord. Only 32.6% of birth attendants applied antiseptic disinfectant to umbilical stump and nearly half (46.8%) applied mustered oil and turmeric. Majority of respondents (62.5%) cleaned the babies by wiping with dry cloth after delivery, 9.8% wiped with wet cloth and 27.8% gave bath. Maximum 70.6% used clean cloth for wrapping the babies followed by (21.4%) dirty cloth and rest (3.6%) did not know.

to the Nepal Demographic and Population Health Survey, 2011 which showed that Seventy-three percent of urban births are assisted by an SBA, compared with 32 percent of births in rural areas and two in five (40 percent) births are attended by a relative or some other person, while 3 percent of births take place without any type of assistance. [6]

On contrary to this, the study done by Hoque et. al (1996) in Dhaka revealed that 75% had deliveries performed by an untrained attendant and 3% had a doctor-assisted delivery [11] and Chandrasekhar et. al. (2006) in Nepal also reported that 53.3% deliveries were attended by neighbours, 21.3% were attended by family members and 15.8% women gave birth alone. Only 6.3% deliveries were attended by skilled personnel i.e. auxiliary nurse midwife or health assistant and 5.4% deliveries were attended by traditional birth attendants. [12,13]

It takes huge efforts to change this tradition of home deliveries and lack of skilled attendance during delivery in home setting. There is an ongoing debate about reinforcing home-based birthing strategies with skilled attendants in developing countries. Hence, there is a need for research

comparing the feasibility, cost-effectiveness, acceptability, and equity implications of skilled home-based and facility-based obstetric care.

Most of the birth attendants washed their hands with soap and water before conducting delivery in this study but, the Study done by Manandhar et.al. (2004) in Nepal found that about half of attendants had washed their hands before conducting the delivery.^[14] The study revealed that more than half of deliveries were conducted at painted floor with cow dung, and some with soil. One third had not done anything to clean and gave birth to dirty and unhygienic floor. Nandan and Mishra (1996) in Uttar Pradesh of India found that the floor was properly washed in only 3.1% of deliveries.^[15] These practices of delivery are very unsafe especially in terms of tetanus neonatum and other infection.

In our study, it was reported that about 3/4th of the birth attendants used new blade in cord cutting and nearly one fourth used blade (boiled blade) but few used scissor. The findings of this study are similar to the study by Chandrasekhar et. al. (2006) in Nepal reported that the umbilical cord was cut with a new or boiled blade in 90.4% deliveries and in 7.1% deliveries a sickle/household knife or an old unboiled blade was used.^[12, 13] Another study of Sreeramreddy et. al. (2006) in Nepal also showed that cord was cut using a new/boiled blade in 90.4% deliveries.^[16] Similar findings were found in a study of Hoque et. al. (1996) in Dhaka where 95% reported that the umbilical cord was cut with a razor blade and 5% used a strip of bamboo.^[12]

In the study, it was found that more than half of birth attendants (53.6%) used thread from Birth kit to tie cord and nearly half attendants used household thread for the same. On contrary to this, a similar study conducted in rural Ghana most of the attendants tied the cord with a new

thread.^[17] About one third birth attendants applied antiseptic disinfectant to umbilical stump and nearly half of them applied mustered oil and turmeric and few birth attendants applied nothing to it. In a similar study done by Bala et al. (2008) in Bangladesh found that 29.6% of cases nothing was applied on umbilical stump and in rest of the cases oil/ghee, antiseptic powder or ointment were applied.^[18] Another similar study of Chandrasekhar et al. (2006) in Nepal reported that oil was applied in 22.1% deliveries.^[12,13] The statistically significant association was observed between the occurrence of discharge from the cord and application of different materials (oil, turmeric etc,) to it. ($p= 0.004$). Thus applications on cord had significant role on problems of cord in babies.

More than two third of respondents used clean cloth for wrapping the babies and 1/5th used to dirty cloth but rest new cloth in this study. A study on Bangladesh in three district found that dirty cloth used in wrapping the children lead to allergy and other infection.^[19] The understanding of pattern of clean delivery practices will help designing new intervention to the concerned population.

CONCLUSION

The proper care during delivery is important for the well being of the mother and her child. Traditional and unhygienic practices at home delivery are common which play significant role in maternal and neonatal health. Community based interventions are required to improve the number of families engaging an unskilled attendant and unhygienic condition during delivery. Therefore, domiciliary midwifery services have to be developed and to be carried out by trained and skilled birth attendants.

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REFERENCES

1. Bhandari TR. Maternal and Child Health Situation in South East Asia. *NJOG* 2012; 7(13):5-10.
2. Malla DS. Maternity Care Today. *NJOG* 2011; 6(2):1.
3. Souza JP, Souza JP, Gulmezoglu AM, Carroli G, Lumbiganon P, Qureshi Z. The World Health Organization Multi-Country Survey on Maternal and Newborn Health: Study Protocol. *BMC Health Serv Res.* 2011;11:286.
4. Seward N, Osrin D, Li L, Costello A, Pulkki-Brannstrom AM, Houweling TA, Morrison J, et.al. Association between clean delivery kit use, clean delivery practices, and neonatal survival: pooled analysis of data from three sites in South Asia. *PLoS Med.* 2012; 9(2).
5. World Health Organization. Reproductive Health Indicators: Guidelines for Their Generation and Analysis for Global Monitoring. World Health Organization: WHO Press, 20 Avenue Appia, 2011, Geneva 27, Switzerland, 2006.
6. Ministry of Health and Population (MOHP) [Nepal], New ERA, ICF International Inc: Nepal Demographic and health survey 2011. Kathmandu, Nepal: Ministry of Health and Population. Calverton, Maryland: New ERA, and ICF International; 2012.
7. Hundley VA, Avan BI, Ahmed H, Graham WJ. Clean birth kits to improve birth practices: development and testing of a country level decision support tool. *BMC Pregnancy Childbirth* 2012; 19(12)
8. Shamba DD, Schellenberg J, Penfold SC, Mashasi I, Mrisho M, Manzi F et.al. Clean home-delivery in rural Southern Tanzania: barriers, influencers, and facilitators. *J Health Popul Nutr.* 2013;31(1):110-7.
9. Ministry of Health and Population (MOHP) [Nepal], New ERA, and Macro International Inc: Nepal Demographic and Health Survey 2006. Kathmandu, Nepal: Ministry of Health and Population, New ERA and ICF International Inc, 2006; 51-54.
10. Ministry of Health and Population (MOHP) [Nepal], New ERA, ICF International Inc: Nepal Demographic and health survey 2011. Kathmandu, Nepal: Ministry of Health and Population. Calverton, Maryland: New ERA, and ICF International; 2012.144.
11. Hoque A, Selwyn B, Caulfield L. Birth practice patterns in urban slums of Dhaka, Bangladesh. *Women Health* 1996; 24(1):41-58.
12. Chandrasekhar T, Joshi H, Binu S, Giri S, Chuni N. Home delivery and newborn care practices among urban women in western Nepal: a questionnaire survey. *Women Health Popul.* 2006; 24(7):386-02.
13. Chandrashekhar T, Ravi P, Binu V. Care Seeking Behaviour for Childhood Illness- A Questionnaire Survey in Western Nepal. *BMC International Health and Human Rights* 2006; 6(1):7.
14. Manandhar D , Osrin D , Shrestha B , Mesko N , Morrison J , Tumbahangphe K . et al. Effect of

- participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial. [Lancet] 2004;364(9438):970-9.
15. Nandan D and Mishra S. Delivery Practices in West Uttar Pradesh. *Indian J Public Health* 1996;40(1):20-1.
 16. Sreeramareddy CT, Joshi HS, Sreekumaran BV, Giri S, Chuni N. Home delivery and newborn care practices among urban women in western Nepal: a questionnaire survey. *BMC Pregnancy Childbirth* 2006;23(6):27.
 17. Hill Z, Tawiah-Agyemang C, Okeyere E, Manu A, Fenty J, Kirkwood B. Improving hygiene in home deliveries in rural Ghana: how to build on current attitudes and practices. *Pediatr Infect Dis J*. 2010;29(11):1004-8.
 18. Bela N, Phaneendra R.S, Acharya D, Yadav S, Bhat V. Newborn care: traditional practices in Nepal. *BMJ* 2008;15 (2).
 19. Barnett S, Azad K, Barua S, Mridha M, Abrar M, Rego A, et al. Maternal and Newborn-care Practices during Pregnancy, Childbirth, and the Postnatal Period: A Comparison in Three Rural Districts in Bangladesh. *BMJ Health Pop Nut*. 2006;24(4):394-402.

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