



ASSESSMENT OF NEWBORN CARE PRACTICES OF MOTHERS IN MEREB LEKE DISTRICT, TIGRAY, ETHIOPIA

Gerezgiher Buruh Abera^{1*}, Hailemariam Berhe² and Haftom G/ Hiwet³

¹Gerezgiher Buruh Abera (BSc, MSc in maternity and RH nursing, Asst. Prof.), Department of Nursing, CHS, MU.

²Hailemariam Berhe (BSc, MSc in maternity and RH nursing, Asst. Prof.), Department of Nursing, CHS, MU.

³Haftom G/hiwet (BSc, MSc in maternity and RH nursing), Department of Midwifery, CHS, MU.

***Corresponding Author: Gerezgiher Buruh Abera**

(BSc, MSc, Ass. Prof), Head of department of Nursing Mekelle University, College of Health science, Tigray, Ethiopia

Article Received on 21/06/2016

Article Revised on 12/07/2016

Article Accepted on 03/08/2016

ABSTRACT

Background: A newborn care practice is a care given immediately after delivery to the newborn. A newborn care practice includes activities like cord care, eye care, hygienic practice at delivery, temperature maintenance and immediate feeding. Despite the different interventions, neonatal mortality is still prevalent in Ethiopia. **Objectives:** To assess home based newborn care practices in Merab leke district, central zone of Tigray. **Methods:** community based cross sectional study using quantitative method was conducted on the assessment of home based newborn care practices from October 2012 to March 2013. 422 mothers who give birth within the last one year were included. The data were collected using interviewer administered structured questionnaire. Data were entered, cleaned and analyzed using SPSS Version 16.0 statistical software package. **Result-** Among the study participants, half of them delivered at home, and 99.1% of them used a New/boiled razor blade in cutting the umbilical cord. However, poor cord care was driven mainly by putting substances on the cord. Only 18.3% bathed their babies after 24 hours and 18.7% initiated Breastfeeding after one hour. **Conclusion and recommendation:** Significant participants explained that they used prelacteal feeding other than breast feeding, and even exclusive breast feeding is 58.8%. According to the result, most of the mothers used new or boiled blade to cut the cord, but yet others used old unboiled blade. Health education opportunities for the mothers is good on the materials used for cutting the cord, disinfectants used immediately after cord cut, prelacteal feeding, the importance of colostrums and time of BF initiation.

KEY WORDS: Newborn, newborn care practice.

BACKGROUND

A newborn care practice is a care given immediately after delivery to the newborn. Newborn care practice greatly varies from unstructured (at home delivery) to structured standard based care in the hospital. A newborn care practice includes activities like cord care, eye care, hygienic practice at delivery, temperature maintenance and breast feeding.^[1]

The risk groups (mothers and children) have priority in the health service implementation. Child health has been incorporated into different health programs in the world in general and in Ethiopia in particular. Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life. The Millennium Development Goal 4 (MDG-4) for child survival calls for a two-thirds reduction in Under-5 mortality by 2015 from the 1990 baseline. Neonatal morbidity and mortality can be highly prevented by assessing newborn care immediately after delivery.^[1-4]

Most newborn that succumb every year die at home. They die at home for several reasons. First, most are born at home in developing countries and if they have complications, care seeking may be impeded by traditions. Second, the birth attendant is likely to be unskilled in managing labor and delivery, so birth trauma and asphyxia are common. Newborn with these conditions may quickly expire. Third, traditional household delivery and newborn care may place the newborn at increased risk of disease due to infection, anemia, hypothermia and hypoglycemia. To address this issue, essential newborn care interventions are important.^[3,5]

Despite the improvements in child survival over the past years, there is still virtually no effective health care system for newborns in many developing Countries. There are estimated 4 million neonatal deaths worldwide each year. Moreover it is estimated to account for 40% of under-five deaths and two thirds of infant deaths. A vast majority of these deaths occur in developing countries where 43% of births are attended by traditional birth

attendants, the proportion is generally higher in rural areas. Achieving UN Millennium Development Goal (MDG) 4 will not be possible unless neonatal mortality is reduced by at least one half.^[3,6,7,8]

Child mortality is high in developing countries in general and in Ethiopia in particular. According to EDHS 2011, preliminary report, the infant mortality rate was 59 deaths per 1,000 live births. The estimate of child mortality is 31 deaths per 1,000 children, while the overall under-5 mortality rate for the same period was 88 deaths per 1,000 live births. Sixty-seven percent of all deaths to children under-five in Ethiopia take place before a child's first birthday and neonatal mortality was 37 (DHS, 2011).^[2, 9, 10, 11]

Ethiopia has a community with poor health service supply, that delay health service coverage; being remote area difficult to reach, or difficult to afford health service costs. Only 10 % of Ethiopian women deliver in Hospital with facilities to give quality newborn care. Home delivery is common in Ethiopia; 90% has been reported home delivery (EDHS).^[2, 12, 13]

The Tigray region has also low institutional birth, as seen from the study conducted in Tigray, 2010, only 4% of mothers gave birth to their recent child in the health facility and only 6% mothers were assisted by skilled birth attendants. This implies that unskilled attendants in home delivery may have a poor newborn care practice which needs assessment.^[4, 14, 15]

Some progress has been made in providing quality child health in Ethiopia; by increasing the awareness of the community for institutional delivery and tried to improve the home based new born care by assigning health extension workers; even though the neonatal mortality is still prevalent and the practice at home level is not well documented. The findings of this study will enable to design new strategies to minimize the bad practices or it will enable to recommend policy makers design new strategies. It will also be a baseline for further study. The study was aimed to describe socio-demographic characteristics mothers giving newborn care at home and to identify the types of newborn care practices used in Mereb Leke District.

METHODS

Community based cross sectional survey was conducted in Merebleke Distric, Central zone, Tigray. It is administratively divided in to 22 Kebeles with estimated population size of 121, 286 at 2008. It has a public health care infrastructure of 6 health centers that comprises 15 health posts and no public hospitals and private clinics. All mothers in the reproductive age group with experience of delivery in the last one year and living in the District for six or more months were included in the study. Ten Kebeles out of 22 were selected using simple random sampling, and households were selected using a systematic random sampling method. In case if there

were two mothers with delivery experience in a single household, one woman was selected based on their age and delivery experience, in case they become the same in age and delivery experience, lottery method was used. The sample size was obtained with the assumption of Confidence level = 95%, Critical value $z = 1.96$ (from significance level $\alpha = 5\%$) and degree of precision, $w = 0.05$. Since there was no similar cross sectional study at this area, prevalence was 50% and non response rate 10%. The sample size was calculated using a formula for a single population proportion.

$$\text{Using } n = \frac{((Z\alpha/2) 2(p(1-p)))}{(d^2)} = \frac{((1.96) 2(0.5(1-0.5)))}{((0.05)^2)}$$

= 384. With contingency 38 participants, the total sample size was 422.

Dependant variable = Newborn care practice

Independent variables = Socio-demography variables, and health related variables.

The data was collected by interviewing the study participants using a structured questionnaire that was adopted from WHO essential newborn care components and by reviewing different literatures. The questionnaire was first prepared in English and then translated into Tigrigna and back translated into English by different qualified individuals to check consistency and conceptual equivalence. Health extension workers with previous experience of data collection collected the data. Two days training was given for the data collectors and a supervisor, on data collection techniques, including pre testing of the questionnaire. The Tigrigna version questionnaire was pretested two weeks before actual data collection in Adwa district and ambiguous words and concepts were corrected accordingly.

The questionnaire was distributed to the selected Kebeles/Tabias, based on their proportion.

The tasks of supervision were deploying and assisting data collectors, by going with them, introducing the purpose of the study for Kebele leaders, checking 10% of the filled questioners for completeness, accuracy at the closing of each day of data collection.

Data was entered and cleaned using EPI info version 3.51 and exported to SPSS V 16.0 statistical software package for analysis. In addition, the cross tabulation was computed using dependent and independent variables. Results has presented in the form of figures, tables, graphs and texts.

Ethical clearance and approval was obtained from Mekelle University-college of health sciences researches review committee. The necessary permission to undertake the study was also obtained from Tigray RHB and specific health institution leaders. Leaders of the site and all participants were informed about the purpose, advantage and disadvantage of the study, its anonymity

and the right to refuse at any stage of the interview. Confidentiality of the responses was assured, and informed consent was obtained prior to each interview.

RESULTS

A total of 422 participants were included in the study making the response rate 100%. The mean and median ages of respondents were 27.6 ± 7.3 and 27.5 respectively.

Almost all of the respondents (99.5%) were Orthodox followers and two third of the respondents were aged less than 30 years. Thirty one percent of the respondents had only 1 live birth and the rest had from 2 to 9 live births. Besides 54.0% and 71.8% of the respondents were illiterate and housewives with regard to educational level and occupation respectively.

Table 1: Socio-demographic characteristics of mothers in Merebleke district, 2014

Variable	Frequency	Percent
Religion	420	99.5
Orthodox	2	.5
Muslim	422	100.0
Age category		
15-20	104	24.6
21-25	86	20.4
26-30	97	23.0
31-36	73	17.3
37-41	51	12.1
42-46	11	2.6
Total	422	100.0
Marital status		
married	382	90.5
divorced	6	1.4
cohabitation	5	1.2
separated	29	6.9
Total	422	100.0
Maternal educational level		
illiterate	228	54.0
primary	83	19.7
secondary and above	111	26.3
Total	422	100.0
Maternal occupation		
housewife	303	71.8
Government Employee	2	.5
Private employee	1	.2
Daily labourer	16	3.8
merchant	7	1.7
others	93	22.0
Total	422	100.0
Number of live births		
1	133	31.5
2	70	16.6
3	59	14.0
4	56	13.3
5	29	6.9
6	28	6.6
7	27	6.4
8	15	3.6
9	5	1.2
Total	422	100.0
Newborn's sex		
Male	196	46.4
Female	226	53.6
Total	422	100.0

Ninety five point five percent of the study participants (95.5%) attended ANC service and 84.1 % of them

attended up to 4 times. Half of the deliveries (50%) took place at home which was mostly conducted by

mother/mother in-law (51.7%) and family members (32.7%). Fifty five point two percent study participants

reported that birth attendants washed their hand before conducting the delivery.

Table 2: Place of delivery and attendance during delivery among mothers in Merebleke district, 2014

Variable	Frequency	Percent
Hx of ANC in the last pregnancy		
Yes	403	95.5
No	19	4.5
Total	422	100.0
Frequency of ANC visit		
once	52	12.9
2-4	287	71.2
more than 4	64	15.9
Total	403	100.0
Place of delivery		
Home	211	50.0
Health facility	211	50.0
Total	422	100.0
Birth Attendant		
No one	24	11.4
Neighbour	69	32.7
mother/mother in-law	109	51.7
Another member of family	2	.9
HEW	5	2.4
TBA	2	.9
Total	211	100.0

Fifty point seven percent of the respondents (50.7%) reported that birth attendants had used clean delivery technique and almost all (99.1%) used "New/boiled blade or scissor" for cord cutting. About 67.3% of the respondents did not use any substance on the stump. Most of the respondents (77.3%) heated the room to keep

warm and 97.6 % of them used old washed cloth to wrap the baby. Twenty one point eight percent (21.8%) of the respondents bathed their babies within one hour and only 18.3% of respondents bathed their babies after 24 hours. Among the respondent, 14.9% was used washing the eye with soap.

Table 3: Traditional newborn care practices among mothers in Merebleke district, 2014

Variable	Frequency	Percent
Hand washing before attending delivery		
Yes	233	55.2
No	45	10.7
I don't remember	144	34.1
Total	422	100.0
Sterility techniques used		
Yes	214	50.7
No	200	47.4
I don't know	8	1.9
Total	422	100.0
Material used to cut the umbilical cord		
New/boiled blade or scissor	209	99.1
old/unboiled blade	2	.9
Total	211	100.0
Materials used to disinfect the umbilical cord		
Nothing	142	67.3
butter	69	32.7
Total	211	100.0
Materials used to wrap the baby		
New unwashed cloth	3	1.4
Old washed cloth	206	97.6
Old unwashed cloth	2	.9
Total	211	100.0
Temperature of the delivery room		

Warm	163	77.3
not warm	33	15.6
I don't remember	15	7.1
Total	211	100.0
Time of first baby bath		
>24 hours	266	63.0
<60 minutes	64	15.2
1-24 hours	92	21.8
Total	422	100.0
Type of Eye care given		
Cleaning by dry towel	136	32.2
Washing by water	203	48.1
Washing using soap	63	14.9
Other	20	4.7
Total	422	100.0

Among the respondents, more than 80.0% of them breast fed their babies within one hour. About 98.1% used Maternal Breast milk as baby's first feed, 81.3% of them initiated breastfeeding within 60 minutes. However, 18.7% initiated breastfeeding after one hour. Among the interviewed respondents, only 58.8% used Exclusive

breastfeeding, while the rest did not. Related to management, 66.6% the study participants used nothing as a management for a baby with coughing, and 36.7% used cold compress to manage a baby with fever (table 4).

Table 4: Feeding and disease management practices of newborns among mothers in Merebleke district, 2014

Variable	Frequency	Percent
baby's first feed		
Maternal Breast milk	414	98.1
Formula/cow milk	2	.5
Butter	3	.7
Water	3	.7
Total	422	100.0
Time of Breastfeeding initiation		
<30 minutes	23	5.5
30-60 minutes	320	75.8
1-24 hours	73	17.3
>24	6	1.4
Total	422	100.0
Frequency of feeding in 24 hours		
8 and above	320	75.8
less than 8	17	4.0
when the baby cries	48	11.4
I don't remember	37	8.8
Total	422	100.0
Baby food		
Exclusive breastfeeding	248	58.8
Mixed feeding	172	40.8
cow milk	1	.2
others	1	.2
total	422	100.0
cough management at home		
giving water	12	2.8
traditional medicine	33	7.8
Uveloctomy	1	.2
Nothing	281	66.6
others	95	22.5
Total	422	100.0
Diarrhoea management at home		
sugar water	4	.9
ORS	175	41.5
Absh	23	5.5

Water	3	.7
Nothing	145	34.4
Others	72	17.1
Total	422	100.0
Fever management at home		
bathing	80	19.0
cold compress	155	36.7
traditional medicine	12	2.8
others	175	41.5
Total	422	100.0

DISCUSSION

This study was conducted at Mereb-leke District. Among the study participants, half of them delivered at home, of which, 51.7% attended by mothers or mothers in-law. This is similar with a study conducted in western Nepal, 2006, which highlighted that home deliveries were common in rural areas, except that 53.3% deliveries attended by Neighbours. This might be because of the culture difference that when a woman becomes pregnant in Ethiopia, she prefers to give birth with her mother or mothers in-law.

In our study 55.2% of those attending delivery washed their hand and 10.7% were not, which is greater than the report from Nepal; 38.4% birth attendants had washed their hands before conducting delivery and 48.3% recalled that they did not.

Our results showed that in 99.1% of cases, a New/boiled blade or scissor was used in cutting the umbilical cord of newborns and this was in line with the WHO recommendation. It is also greater than a result from Western Nigeria, 2011, a new or boiled blade was used among 69.7% deliveries. Another report from Nepal, indicated that 90.4% new or boiled blade was used. This difference might be that there are trained health extension workers among the community supporting the home delivery and new born care in our setup.

Our data showed that poor cord care was driven mainly by putting substances like butter among 32.7% of mothers, which is less than studies conducted at Southern Tanzania 60%, but greater than a study done at Nigeria 4.7% of mothers were applied oil on the umbilicus. This is again less than the research conducted at Jima, Ethiopia, which was 48.7% of mothers applied butter on the umbilicus.

In our study, about 77.3% of mothers delivered at home heated the birth place during delivery, which was greater than the study from Nepal, 57.1% had delivered in heated room. It was also greater than the report from other study in Baitadi, Nepal, 2011, showed that 25% of the mothers used burning to maintain the warmth of the room.

Among respondents, 63% of babies were bathed after 24 hours, which is greater than the study in four regions of Ethiopia, 18.7% was bathed after 24 hours, and at

western Nigerai that almost all of their babies, 93.7% and at Southern Tanzania 60% of mothers used bathing for their babies less than six hours after birth.

Among the respondents, 98.1% used Maternal Breast milk for the first feed and only 1.9% used food other than breast milk, which is greater than the study at Nepal, which was 84.6%. Related to the time of Breastfeeding initiation, 81.3% of respondents were breast fed within one hour. This was greater than a study from India, 2012, which was 68.08% within 24 hours In our study, exclusive breastfeeding was used among 58.8% of respondents, mixed feeding was used among 40.8% respondents and cow milk was used only by 0.2%.

This is greater than a research result from Bangladish, only Breast milk was used by 35% of respondents, and it is less than the research result from Bangladish showed Cow's milk was used by 14% of respondents. Our study results showed that 66.6% of respondents used nothing for cough managements, 41.5% of respondents used Oral rehydration solution (ORS) for diarrhoea management and 36.7% of respondents used cold compress for fever management at home. This is better as compared to a report from Baitadi, Nepal, 2011, showed that 70.4% did not seek health services for their newborn after identification of signs of sickness of newborn.

CONCLUSION AND RECOMMENDATION

Based on the study conducted on newborn care practice by mothers in the rural area of Mereb-Leke Wereda, the following conclusions have been forwarded.

- More than half of participants were illiterate in education and housewife in occupation
- They had good ANC follow up practice, but half of them were delivered at home with more than half attended by mother/mother in-law.

Most of them used New/boiled blade or scissor to cut the cord, but significant numbers of participants (32.7%) were used butter to disinfect the umbilical cord Most of the participants used old washed cloth to wrap the baby; still significant numbers of participants (37%) were used first bath for their babies before 24 hours.

- Even though most of the mothers used appropriate eye care, some of them used soap to wash the eye.
- Majority of the mothers used Maternal Breast milk as baby's first feed, but some used Formula/cow milk, Butter or Water as pre-lacteal feed.
- Though most of mothers used 8 and above frequency of feeding in 24 hours, only 58.8% used Exclusive breastfeeding;
- Mothers used giving water, traditional medicine and Uveloctomy as cough management, sugar water, ORS, and Absh for Diarrhoea management and bathing, cold compress, and traditional medicine for fever management at home

RECOMMENDATION

Per the conclusions summarized, the following recommendations have been forwarded.

- Community mobilization and health education on advantage of institution delivery is important to improve the low institution delivery.
- Health education opportunities for the mothers is good on the newborn care related materials used for cutting the cord, disinfectants, and rolling the baby.
- Health education and practice monitoring is mandatory among the communities related pre-lacteal feeding, the importance of colostrums and time of BF initiation.
- It is also important to provide health education on signs and symptoms of child illnesses and the availability of health care services.
- Health sector supervisors and health planers are also recommended to give more concern on availability of delivery services and on changing the traditional attitude of the community related to newborn care practice and feeding.

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