

## Perception and Practice of Essential Newborn Care among Caregivers of Newborn Babies: A Study in a Tertiary Care Hospital, Bogura, Bangladesh

Dr. Anjana Basak<sup>1\*</sup>, Dr. Sharmin Afrozy<sup>2</sup>, Dr. Md. Homayun Shikdar<sup>3</sup><sup>1</sup>Junior Consultant (Paediatrics), MBBS, FCPS, Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh<sup>2</sup>Resident Physician, (Paediatrics), MBBS, DCH, FCPS, Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh<sup>3</sup>Junior Consultant (Paediatrics), MBBS, FCPS, Upazila Health Complex, Dhunat, Bogura, Bangladesh

\*Corresponding author: Dr. Anjana Basak

| Received: 06.01.2019 | Accepted: 17.01.2019 | Published: 12.02.2019

DOI: [10.21276/sjams.2019.7.2.4](https://doi.org/10.21276/sjams.2019.7.2.4)

## Abstract

## Original Research Article

Every year, four million newborn deaths occur in the world. Ninety-nine percent of these deaths occur in middle- and low-income countries. More than 90% of births and neonatal deaths occur at home, generally with little-to-no involvement of the formal healthcare system. In order to achieve the millennium development goal of reduction in neonatal mortality in resource poor countries with weak primary care health system, it is important to establish a good outreach and home based newborn care by improving home care practices and demand for skilled care at birth. A cross-sectional study was undertaken with a sample size of 101 caregiver with newborn of 0 -28 days of age, attending at indoor and outdoor of Pediatrics department in Shaheed Ziaur Rahman medical college hospital, Bogura, Bangladesh. Our aim was to observe perception and practice of essential newborn care among caregivers of newborn babies coming to Shaheed Ziaur Rahman Medical College Hospital, Bogura. Home delivery was found more in illiterate and rural groups, lower class and lower middle class of economical status. On the other hand educated, upper class and urban group conducted delivery at hospital and clinic. Among the study subjects, though only 77.2% had perceptions about hand washing before delivery but 22.8% practiced it, 73.3% had perceptions to use of sterile scissor or blade for cutting cord but only 62.4% used sterile blades, 29.7% used knife and 7.9% used other things practiced to cut the cord. Among the study subjects, 91.1% thought the newborn need to wrap in a dry towel but only 73.3% wrapped in a dry towel or blanket to keep the baby warm, 75.2% had perceptions to bath the newborn just after delivery but only 39.6% practiced it and 62.4% thought the newborn need to shave the head just after delivery but only 9.9% practiced it. 52.5% had perceptions to initiate breastfeeding within 1<sup>st</sup> half an hour of delivery but 40.6% initiated breastfeeding within that time, 61.4% thought the newborn need to use prelacteals but 63.4% used it, 72.3% had idea about colostrums but only 50.4% feed colostrums to the newborn. Only 42.65% subjects knew the actual duration of exclusive breastfeeding as 6 months and 86.1% thought that the newborn with low birth weight needs extra care. In developing countries, newborn care practices are poor and these are the areas having the highest burden of neonatal mortality. Statistical analysis of the study has identified demographic, social and economic factors associated with newborn care perceptions and practices but there is a "perceptions-to-practice gap", which should be minimized at the optimal level.

**Keywords:** Perception, Practices. Caregivers, essential newborn care.**Copyright © 2019:** This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

### INTRODUCTION

Approximately four million global neonatal deaths that occur annually, 98% occur in developing countries, where most newborns die at home while they are cared by mothers, relatives, and traditional birth attendants [1]. About The under-five mortality rate in Bangladesh (per thousand live births) is 67[2] and the infant mortality rate (per thousand live birth) is 39[3]. Although childhood and infant mortality in South Asia has reduced substantially during the last decade, the rate of neonatal mortality is still high [4]. Emerging evidence suggests, a substantial reduction in neonatal

mortality can be achieved with simple, low-cost interventions within family and community settings. Adaptation of this approach in Bangladesh in an effectiveness trial had half the effect (34% reduction) on neonatal mortality [5]. Most neonatal deaths in high-mortality regions are attributable to preventable and behaviorally modifiable causes. Practices that were assessed to be potentially harmful, preventable, within community control, and amenable to change were selected for behavioral modification [6]. While the mortality of children under five years of age has decreased worldwide from 10.8 million deaths per year

in 2000 to 8.8 million deaths in 2008, neonatal deaths decreased only from 3.9 million to 3.6 million during that time. This number represents an increased proportion of neonatal to under-five child deaths from 36% in 2000 to 41% in 2008[6]. Of these deaths, over 90% occur in low and middle-income countries (LMICs), making the risk of death in the neonatal period in LMICs more than six times the risk in high-income countries [7]. Proper implementation of essential newborn care can reduce this high rate of neonatal morbidity and mortality in our country. The World Health Organization's (WHO) guidelines for essential newborn care include the following: hygiene during delivery, keeping the newborn warm, early initiation of breast-feeding, exclusive breast-feeding, care of the eyes, care during illness, immunization and care of low birth-weight newborns [8]. Essential newborn care practices were outlined to decrease the neonatal morbidity and mortalities. In brief, key strategies to improve newborn health include: prioritization of ENC interventions according to local requirements; integration of ENC with existing maternal and child survival programs in a way that maintains clear visibility of newborn health issues [9]. Strategies like these will have a greater impact on neonatal mortality rates and, in turn, on infant mortality rates, which will represent an important step toward achieving the Millennium Development Goals. If we can aware the caregiver about the component of essential newborn care neonatal mortality and morbidity can be reduced to a substantial amount.

## Objectives

### General Objective

To observe perception and practice of essential newborn care among caregivers

### Specific objectives

To document the basic characteristics of the caregivers in Bangladesh

To document the demographic conditions of the caregivers in Bangladesh

## MATERIALS AND METHODS

Participants were selected by convenience sampling method. After taking informed written consent from the participant caregivers the study was undertaken. A structured questionnaire was used to assess perceptions and practices towards essential newborn care. The questions answers were yes/ no type and open ended also. The questions were explained before the participants. First 14 questions regarding demographic features of the study participants. The next 8 questions were regarding the perceptions and 7 questions were regarding the practices of the participants. The collected answer of the questions was analyzed and expressed in percentage of participant mothers giving positive or negative answers of the questions. The data and results were presented in the form of tables and diagram where applicable. Informed written consent was taken from the participants before enrolling them into the study. Anonymity was maintained and none of the names was used in the databases. The study was approved by the concern department.

## RESULTS

**Table-1: Distribution of the study subjects according to age (n=101)**

Age (years)	Number	Percentage (%)
14-25	46	45.5
26-35	16	15.8
36-45	16	15.8
46-55	15	14.9
56-65	8	7.9
Total	101	100.0
Mean $\pm$ SD	32.04 $\pm$ 14.37	
Range	14-65	

**Table-2: Perception of clean delivery and clean cord care of newborn, among the study subjects (n=101)**

Perceptions of clean delivery and clean cord care	Yes		No	
	No.	%	No.	%
Maintenance of proper hygiene during delivery	88	87.1	13	12.9
Necessity of adequate cleaning of perineal area	71	70.3	30	29.7
Necessity of hand washing before delivery	78	77.2	23	22.8
Use of sterile gloves to conduct delivery	57	56.4	44	43.6
Use of sterile scissor or blade for cutting cord	74	73.3	27	26.7
Keeping the umbilical cord open & untreated	65	64.4	36	35.6

**Table-3: Perceptions to encourage early and exclusive breast feeding to the newborn, among study subjects (n=101)**

Perceptions about early and exclusive breast feeding	Yes		No	
	No.	%	No.	%
Needs to keep mother and baby together in labor room	59	58.4	42	41.6
Needs to initiate breastfeeding within 1 <sup>st</sup> half an hour of delivery	53	52.5	48	47.5
Needs to use prelacteals	62	61.4	39	38.6
Idea about exclusive breast feeding	70	69.3	31	30.7
Idea about the duration of exclusive breast feeding				
< 6 months	45	44.6		
6 months	43	42.6		
> 6 months	13	12.9		
Idea about colostrums	73	72.3	28	27.7

**Table-4: Distribution of the study subjects according to practice regarding clean delivery and clean cord care, among the study subjects (n=101)**

Practices about clean delivery and clean cord care	Number	Percentage (%)
Place of delivery		
Home	48	47.5
Clinic	11	10.9
Hospital	42	41.6
Delivery conducted by		
Doctor	23	22.8
Nurse	30	29.7
Traditional birth attendant	12	11.9
Village dai	36	35.6
Hand washing before conducting delivery		
Yes	93	92.1
No	8	7.9
The cord was cut with		
Sterile blade	63	62.4
Knife	30	29.7
Others materials	8	7.9

**Table-5: Association between conduction of delivery and residence of the study subjects (n=101)**

Delivery conducted	Residence		Total (%)	p value
	Rural (%)	Urban (%)		
Home	93.8%	6.3%	100.0%	< 0.001
Clinic	27.3%	72.7%	100.0%	
Hospital	45.2%	54.8%	100.0%	
Total	66.3%	33.7%	100.0%	

P value measured from  $\chi^2$  test.  $\chi^2 = 32.04$ ,  $df = 2$

## DISCUSSION

Newborns are a vulnerable group and therefore need more attention and care. Globally, two-thirds of total infant deaths comprise newborns and 99% of these deaths are concentrated in Sub-Saharan Africa and the South East Asian region [8]. Bangladesh has a NMR of 38 per 1,000 live births, in Bangladesh was last reported at 38 in 2010, according to a World Bank report published in 2012, which is quite high. Bangladesh is predominantly rural, where perceptions and practices of newborn care are poor and some of which are also harmful [9]. Since there is little literature on the determinants of newborn care perceptions and practices, it would be important and helpful to look at the

determinants of newborn mortality and assume that the determining factors of newborn care perceptions and practices are similar to those determining newborn mortality. Cleland & van Ginneken [10], suggests that there is an association between child mortality and socio-demographic variables. Therefore, to ensure the survival of newborns there is a need to understand how the newborns care should practiced in households. We found in our study, 73.3% had perceptions to use of sterile scissor or blade for cutting cord, 29.7% with knife and 7.9% with other things. Though 91.1% thought the newborn need to wrap in a dry towel but only 73.3% wrapped in a dry towel or blanket to keep the baby warm, 75.2% had perceptions to bath the

newborn just after delivery but 39.6% had bath the baby just after delivery and 62.4% thought the newborn need to shave the head just after delivery but only 9.9% practiced it. Among the study subjects, 52.5% had perceptions to initiate breastfeeding within 1<sup>st</sup> half an hour of delivery but only 40.6% practiced it, 61.4% thought the newborn need to use prelacteals but 63.4% used it, though 72.3.3% had idea about colostrums but only 50.4% feed colostrums to the newborn. In the present study perceptions and practices showed both positive and negative correlations. In some situations the perceptions were negative but practiced positively. On the other hand positive perceptions were practiced negatively. There is a "perceptions-to-practice gap", which should be minimized at the optimal level. To improve the practices, perceptions must be improved but without socio-demographic status development improve of the perceptions is almost impossible. In Bangladesh, keeping the newborn warm after birth is not a common practice. Usually, families look for clothes only after birth and often they do not have warm clothes ready at the time of delivery. The newborn is kept naked or covered with a thin piece of cloth until the placenta is delivered or the umbilical cord is cut. Darmstadt GL [11], mentioned that immediate newborn bathing is a ritual for a family. In our study we found, 39.6% had bath the baby just after delivery whereas 60.4% did not. Bathing newborns soon after birth makes them more vulnerable to hypothermia and also interferes with their suckling ability, hence, recommends bathing newborn only after 24 hours of birth. Barrera A [12], found that, educated women are more likely to break away from tradition to use modern means of safeguarding their own health and that of their children, are better able to use the available services in their community to their advantage and seek quality health services. There could be a similar relationship between the education of the mother and the newborn care practices. In our study we found shaving head of the baby just after delivery, 9.9% had shaved the head of the baby just after delivery whereas 90.1% did not. Darmstadt GL *et al.* [11] explained the risk of hypothermia may stem from deeply rooted beliefs and practices. Usually, the baby is bathed on the first day, within several hours of delivery. In our study, to maintain temperature, 78.22% covered with warm clothes and blanket, 9.90% kept window and door closed, 4.95% rubbing with mustard oil. To control infection, 68.32% of the study subjects had no idea, 15.84% washed hand with soap, 10.89% maintained minimum handling and 4.95% maintained others methods. In the present study we wanted to explore the association among the demographic status, perceptions and practices of newborn care-

Many maternal and newborn deaths can be averted through changes in household level practices regarding delivery and newborn care. A set of perceptions and practices that reduces newborn morbidity and mortality has been identified as essential

and these include clean cord care (cutting and tying of the umbilical cord with a sterilized instrument and thread), thermal care (drying and wrapping the newborn immediately after delivery and delaying the newborn's first bath for at least six hours or several days to the reduce hypothermia risk), and initiating breastfeeding within the first hour of birth [13]. In the present study we found, 100% from rural area but none of urban area among the study subjects conducted delivery by traditional birth attendant (TBA). 91.7% rural and 8.3% urban caregivers, conducted delivery by village dai. The tendency was more among the rural people to conduct delivery by TBA and village dai, on the other hand it was negligible among the urban people. Association between residential area and conduction of delivery, among the study subjects was highly significant statistically, ( $p < 0.001$ ).

It has been estimated that 99% of the world's maternal deaths and 50-60% of infant deaths in developing countries occur within one month of birth, mainly because of lack of maternal health care. Patterns of birth related practices among women from an urban and slum population of Bangladesh [14]. The tendency was more among lower and lower middle class people to conduct delivery by TBA and village dai, on the other hand middle class and upper class were conducted delivery by doctor and nurse. The association between economical status with conduction of delivery, was highly significant statistically, ( $p < 0.001$ ). In this study we found, 61.1% from rural area and 38.9% from urban area used clean and washed clothes to conduct delivery. The association between residence with materials used during conduction of delivery was highly significant statistically, ( $p < 0.001$ ).

In this study we found, 100% of rural and none of urban study subjects used others materials for cutting cord. The association between residence with materials used for cutting cord during delivery was highly significant statistically, ( $p = 0.002$ ). Baqui *et al.* [15] in their study on newborn care in rural Uttar Pradesh of India has linked three newborn care practices- revealed that secondary and higher level education had a positive impact on clean cord care and early breastfeeding practices but had a negative impact on thermal care practice. In our study we found, 3.3% of illiterate, 23.3% of primary level, 23.3% of high school level, 23.3% of SSC, 16.7% of HSC level and 10.0% of graduate & above group used knife for cutting cord. The association between educational level with materials used for cutting cord during delivery was highly significant statistically, ( $p < 0.012$ ). In our study we found, 38.1% from lower class, 27.0% from lower middle class, 23.8% from middle class, 11.1% from upper class of the study subjects used sterile blades for cutting cord. The association between economical status with materials used for cutting cord, was highly significant, ( $p = 0.008$ ). Mannan *et al.* [16] in the Sylhet district of Bangladesh, found that inappropriate

breastfeeding. Caregivers' knowledge and beliefs have a strong influence on the health care of the infant care practices as well as factors associated with poor knowledge. Mothers who are more health conscious may be more aware of the benefits of early breastfeeding. In our study we found, 51.2% of rural and 48.8% of urban study subjects initiated breastfeeding within 1<sup>st</sup> half an hour. The association between residence and regarding initiation of breastfeeding within 1<sup>st</sup> half hour of the study subjects was highly significant statistically, ( $p=0.008$ ). In this study we found, 7.3% of illiterate, 29.3% of primary level, 31.7% of high school level of study subjects initiated breastfeeding within 1<sup>st</sup> half an hour. The association between educational level and initiation of breastfeeding within 1<sup>st</sup> half an hour of the study subjects was significant statistically, ( $p = 0.01$ ). Baqui *et al.* [15] has found the relationships between newborn care practices and socio-demographic factors and service utilisation, there is still a need to study the other predictors of newborn care practices and the interrelationships that influence newborn survival. Despite remarkable decline in the infant mortality rates in Bangladesh from 94 to 38 per 1000 live births over the twenty year period from 1991 to 2011, the state of the newborn is still poor. The current neonatal mortality rate of Bangladesh is 38 per 1,000 live births. Neonatal mortality has continued to increase as a percentage of overall neonatal mortality and now accounts for more than 60 percent of all deaths in infancy [17]. Any further reduction in infant mortality in Bangladesh is thus dependent to a great extent on saving more newborn lives. One of the key contributing factors in newborn mortality is the poor perceptions and practices of newborn care. Therefore, understanding the factors that determine the good newborn care perceptions and practices to act upon those factors to modify the bad newborn care perceptions and practices into good becomes essential in order to meet the MDG target related to infant mortality and improving the health of all children.

#### Limitations of the study

We conducted a cross-sectional observatory study in a single centre with small sample size. So, our study results can't reflect the scenarios of the whole country.

#### CONCLUSION AND RECOMMENDATIONS

Descriptive studies of perceptions and practices among caregivers of newborn babies provide valuable information on the patterns of newborn care practices across the world. In developing countries, newborn care practices are poor and these are the areas having the highest burden of neonatal mortality. Statistical analysis of the study has identified demographic, social and economic factors associated with newborn care perceptions and practices but there is a "perceptions-to-practice gap", which should be minimized at the optimal level. These findings are

useful for knowing which segment of the population uses recommended practices and which does not. The examination of socio-demographic status of caregivers, perceptions and practices of newborn care are important factors that are essential while studying the determinants of care practices of newborn babies.

#### REFERENCES

1. World Health Organization. Perinatal mortality: a listing of available information. SRH/MSM: WHO, Geneva. 1996; 96.7.
2. Bangladesh Bureau of Statistics. Millenium Development Goal: Bangladesh Progress at a Glance, Bangladesh. 2009.
3. Bangladesh Bureau of Statistics, Monthly Statistical Bulletin, Bangladesh. Feb 2011.
4. UNICEF, what Work for Children in South Asia Newborn Care-An Overview. Kathmandu, Health & Nutrition Sector, UNICEF regional office, Kathmandu, Nepal. 2004
5. Baqui AH, El-Arifeen S, Darmstadt GL. Effect of community-based newborn-care intervention package implemented through two service-delivery strategies in Sylhet district, Bangladesh: a cluster-randomized controlled trial, *Lancet*. 2008; 371: 1936-1944.
6. Black RE, Cousens S, Johnson HL, Lawn JE, Rudan I. Global, regional, and national causes of child mortality in. 2008: a systematic analysis. *Lancet*. 2010; 375: 1969–1987.
7. World Health Organization. Neonatal and perinatal mortality: country, regional and global estimates. Geneva: World Health Organization. 2006.
8. Knippenberg R, Lawn JE, Darmstadt GL, Begkoyian G, Fogstad H, Walelign N, Paul VK, Lancet Neonatal Survival Steering Team. Systematic scaling up of neonatal care in countries. *The Lancet*. 2005 Mar 19;365(9464):1087-98.
9. World Bank Indicators, Bangladesh, 2012, Retrived on 4 January 2012; from [www.tradingeconomics.com](http://www.tradingeconomics.com)
10. Cleland JG & Van Ginnekan JK. Maternal education and child survival in developing countries: The search for pathway of influence. 1998; *Soc. Sci. Med*, 27, 1357-1368.
11. Darmstadt GL, Syed U, Patel Z, & Kabir N. Review of domiciliary newborn care practices in Bangladesh, *Journal of Health population and nutrition*. 2006; 24,380-393.
12. Barrera A. The role of maternal schooling and its interaction with public health programs in child health production, *Journal of Development Economics*. 1990; 32, 69-91.35
13. Marsh D, Darmstadt G, Moore J, Daly P, Oot D, & Tinker A. Advancing newborn health and survival in developing countries: A Conceptual framework, *J Perinatol*. 2002; 22:572-576.
14. Shakya K & Mc Murry C. Neonatal mortality and maternal health care: Searching for patterns of association: *J Bioscos*. 2001; Sci. 33.87-105.

15. Baqui AH,William EK, Dramstadt GL, Kumar V, Kiran TU, Panwar D. Newborn care practices in rural Uttar Pradesh, Indian J Pedatr, 2007; 74:241-247.
16. Mannan I, Rahman SM, Sania A & Seraji HR. Can early postpartum home visits by trained community health workers improve breastfeeding of newborns? Journal of perinatology. 2008; 28(9), p. 632.
17. World Bank report. Level and trends in child mortality in Bangladesh, Estimate developed by the UN inter-agency group for child mortality.2011. From <http://data.worldbank.org/indicator/SP.DYN.IMRT.IN?>