

# Newborn Care Practices by the Mother / Care Givers' and Their Knowledge about Signs of Sickness of Neonates

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## Abstract

**Background:** Despite proven cost effective intervention, there has been little change in neonatal mortality. In Bangladesh neonatal mortality accounts for two third of infants death. About 90% deliveries take place in home and majority of neonatal death are taking place within 7 days of birth. Information about reasons for delivering at home and newborn care practices will be useful to undertake simple intervention measures by policy makers.

**Aims and objective:** To see the knowledge, perception and behaviour of mothers towards their normal and sick newborn.

**Methods:** A cross sectional study was carried out in Dhaka Shishu Hospital from June to November, 2007. A semistructured, pretested questionnaire was used to interview mothers attending inpatient (IPD) and outpatient department (OPD) of hospital.

**Results:** A total 198 mothers were interviewed. Home deliveries were 35.5% and Institutional were 64.5%. Among the Institutional deliveries 35% (44 out of 127) were planned and tried first at home, but when failed mothers were taken to hospital. Majority (86%) of home deliveries were conducted by Dai/relatives. Umbilical cord was cut with new/boiled blade in 85% of home deliveries and household knife was used in 4% cases. Birth place were not at all heated in all home deliveries. In 32 % of home deliveries babies were given bath within 1 hour of birth and it was 15% in case of hospital deliveries. Forty-eight percent babies of home deliveries were wrapped within 10 minutes. Prolactal feed was given in 51% of home deliveries in comparison to 23% of institutional deliveries. The rate of initiation of breast feeding within one hour of birth was 52% in home and 35% in institutional deliveries. In all cases breast milk was given within 48 hours. Main reasons cited for delivering at home were preference (43%) and fear about hospital (39%). In case of educated (graduate) mothers 72% deliveries took place at hospital. Less feeding (56%), vomiting (42%), less movement (32%), fever (29%) and cough (27%) could be recognized by mothers as signs of sickness.

**Conclusion:** Home deliveries and poor newborn care practices are commonly found in this study. Traditional birth attendants should be adequately trained as they are conducting majority of home deliveries. Female education is very important to reduce home delivery as it is seen that deliveries of educated mothers are taking place in hospital. High risk traditional newborn care practices like delayed wrapping, early bathing, use of oil in umbilical stump and prolactal feeding need to be addressed. This study also found that knowledge to identify sickness in newborn is still poor.

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## Introduction

Of the approximately 4 million global neonatal deaths that occur annually, 98% occur in developing countries, where most neonates dies at home while they are cared by mothers, relatives, and traditional birth attendants.<sup>1</sup> This high neonatal mortality causes slow declining of infant mortality rate for last 2 decades. Despite proven cost effective intervention to reduce

neonatal mortality, such as tetanus toxoid immunization, immediate and exclusive breast feeding, and clean cord care, there has been little change in neonatal mortality.<sup>2</sup> In Bangladesh neonatal mortality accounts for two-third of infant death.<sup>3</sup> Reducing neonatal mortality will be necessary for achievement the targets for the child mortality under the United Nations MDG.

The World Health Organization's Guidelines for essential newborn care include: hygiene during delivery, keeping the newborn warm, early initiation of breast feeding, exclusive breast feeding, care of eyes, care during illness, immunization and care of low birth weight babies.<sup>4</sup> But in Bangladesh about 90 % of the deliveries take place at home conducted mainly by untrained birth attendants or relatives in a unhygienic condition. Many of the mothers are very young and uneducated. Majority (about 75%) of the neonatal deaths are taking place within 7 days of birth receiving no appropriate care. So initial care and care seeking behaviour at the appropriate place at the appropriate time lies at the hands of the care givers at home. We know the knowledge and care seeking behaviour varies in our population depending on their location, taboos, education, traditional beliefs etc. One needs to know the prevailing situation in the families or the communities to develop ways for improving the situation by imparting appropriate knowledge and undertaking some simple intervention measures. With this view this study was carried out to see the knowledge, perception and behaviour of mothers/ caregivers towards their normal and sick newborn.

### Materials and methods

This cross sectional study was conducted among the mothers and caregivers of the neonates attending Dhaka Shishu Hospital (DSH) from 1st June 2007 to 30th November 2007. DSH is 535 bedded pediatric

hospital in Bangladesh for primary and tertiary care. Neonatal admission accounts for about 18% of the total admission in a year. Neonatal mortality contributes about 34% of the hospital mortality. This hospital receives neonates from different corners of the city as well as from all over the country and comprises mothers from almost all strata of our population. Interviewing these mothers revealed the knowledge and practice regarding newborn care in the various socio-economic strata and geographical location.

Mothers of neonate attending DSH (IPD & OPD) during this period were interviewed using a structured questionnaire. Comments from open-ended conversation with the mothers were also recorded when relevant. Mothers/caregivers of extremely sick babies and who were unable to give correct information, were not interviewed.

Statistical analysis: The data were subjected to statistical analysis according to standard procedure. SPSS version 12.0 for Windows (SPSS Inc, Chicago, IL, USA) software was used for data recording and analysis.

Ethical issue: Verbal consent was taken from respondents being explained the objectives of the study clearly. Confidentiality and privacy were maintained throughout the study. There was no extrafinancial burden to the patients.

### Results

#### *Socio-demographic characteristics*

Total 198 mothers/ caregivers were interviewed. The mean age of neonates was 12 days (12.14±10.21). The mean age of mothers was 23years (22.66±4.10). The mean monthly family income was 10,300 taka (approximately 145\$). Most mothers were educated up to primary level (48%) followed by secondary (23%). Ten percent mothers were illiterate (Table-I).

**Table-I**  
*Distribution of mothers by education*

Mother education	Hospital delivery N=83	Home+ Failed Home trial. n=115	Total	P vale
Primary	32(33)	63(67)	95	0.03
SSC	23(50)	23(50)	46	0.45
HSC	08(40)	12(60)	20	0.63
Graduation	13(72)	05(28)	18	0.01
No education	07(35)	12(65)	19	0.69

**Place of delivery, birth attendants:**

Home deliveries and Institutional deliveries were 71(35.5%) and 127(65%) respectively. Forty four (35%) cases of institutional deliveries were planned and tried at home first, but when failed mothers were taken to hospital/clinic (Table-II). Ninety-seven deliveries out of 115(71+44) were planned for home deliveries, whereas 18 were unplanned (Table-III). Regular antenatal checkup was 10%. Eighty-five percent of home deliveries (61out of 71) were conducted by TBA/Dai and relatives and rest were by nurse (Table-IV).

**Table-II**  
*Distribution of mother by place of delivery*

Place	No	%
Home	71	35.5%
Hospital after failed home trial	44	22.0%
Hospital	83	42.5%
Total	198	100

**Cleanliness and hygienic practice:**

Umbilical cord was cut with a new boiled blade in 60(85 %) cases of home deliveries and in 3(4%) cases household knife was used (Table-Va). The stump of umbilical cord was left undressed in (67%) cases. But oil (mostly mustard oil) was applied in (14%) cases and antiseptic solution in 19% cases (Table-Vc). Most of the neonates were wrapped with old washed cloth (66%) and in 46(23%) cases new washed clothes was used (Table-Vb).

**Table-III**  
*Distribution of mothers by reasons for home delivery (included failed home trail): n-115*

Reasons	Planned	Unplanned	Total(%)
Prefer home delivery	18	00	18
Family members prefer	25	05	30
Easy/convenient	10	00	10
Previous delivery at home	10	00	10
Less cost	12	08	20
Fear about hospital	39	00	39

**Table-IV**  
*Distribution of mother by attendants at home delivery (n-71)*

Attendants	No	%
Nurses	10	14
TBA/Dai	56	78.9
Relatives	05	7
Total	71	100

**Table-V**  
*Cleanliness and hygiene practice*

a) Distribution of babies by which babies umbilical cord was cut (home deliveries n= 71)

Instruments	No	%
New or boiled blade	60	85
Household knife	03	4
Old unboiled blade	00	00
Scissor	08	11

b) Distribution of babies by cloth used for wrapping the baby

Cloth used for wrapping	Hospital (including Failed Home trial).No (%)	Home No (%)	Total No (%)
Old washed cloth	89(70)	42(60)	131(66%)
Old unwashed cloth	00	05(7)	05(2.5%)
New unwashed cloth	00	01(1)	01(0.5%)
New washed cloth	23(18)	23(32)	46(23)
Unknown	15(12)	00()	15(8%)
	127(100 %)	71(100 %)	198

c) Distribution of babies by applicants used in umbilical stump (n-198)

Applicants used	No	%
None	132	67
Antiseptic	38	19
Oil	28	14

**Maintenance of temperature:**

Birth place were not heated in all home deliveries. Bathing of newborn immediately (<1hour) after birth were practiced in 32% of home and 15% of institutional deliveries. In majority cases 56% of home and 45% of institutional deliveries were wrapped within 10 minutes and rest (52%) were wrapped within 30 minutes (Table-VI).

**Table VI**  
*Practice related to temperature maintenance of baby*

a) Distribution of baby by time of bathing:

Time of bathing	Hospital/(including failed home trail) N=127	Home n=71	Total No (%)	P value
Immediately after birth (less 1hr)	19(15)	23(32)	42(21)	0.007
With in 6 hrs	00	10(2)	10(10)	<0.01
6-24 hrs,	10(8)	05(7)	15(7.5)	0.94
more 24 hrs	40(32)	02(3)	42(21)	<0.01
more72 hrs	58(45)	31(56)	89(40.5)	0.97

b) Distribution of babies by time of wrapping at home delivery n=71

Time(minute)	Home	Percentage
<5 m	12	17
5-10 m	22	31
10-20m	24	34
20-30m	13	18
	71	100 %

### Feeding

Breast milk was given as first feed in 59% cases of institutional and 35% cases of home deliveries. Infant formula (18%) were given as first feed only in institutional deliveries but not in home and cow s milk were given only in home deliveries (14%) but not in institute. Honey, misri, sugar water were given as prelacteal feed in 51% of home deliveries in comparison to 23% of institutional deliveries (Table-VII). The rate of initiation of breast feeding within one hour of birth was 52% in home and 35% in institutional deliveries. In all cases breast milk was given within 48hours (Table-VIII).

**Table-VII**

*Distribution of babies by type of first feeding*

Type of first feeding	Hospital (including failed home trail) N=127	Home n=71	P value
Breast milk	75(59)	25(35)	0.002
Cow's milk	00(00)	10(14)	<0.01
Misri/Sugar/Honey/Water	29(23)	36(51)	<0.01
Infant formula	23(18)	00(00)	<0.01

**Table-VIII**

*Distribution of babies by time of initiation of Breast feeding*

Timeof initiation of BF	Hospital (including failed home trail) n = 127	Home N=71
Within 30min	28(22%)	21(31%)
Within 1hrs	16(13%)	15(21%)
Within 2hrs	55(43%)	20(28%)
Within 6hrs	01(0.7%)	05(7%)
Within 24hrs	17(13.3%)	04(6.5%)
Within 48hrs	10(2%)	04(6.5%)

### Reasons for home delivery

Mother herself and or family members' preferred home delivery (43%) and fear about hospital (39%) were important reasons for planned home deliveries. Precipitate labour was also important reason for unplanned home deliveries (Table-IX).

Mother's Knowledge regarding neonatal sickness:

Less feeding (56%), vomiting (42%), less movement (32%), fever (29%) and cough (27%) were recognized by mothers as signs of sickness (Table-IX).

**Table-IX**

*Distribution of mothers/caregivers having knowledge regarding signs& symptoms of sickness (n=198)*

Symptoms	Number	Percentage
Less feeding	90	45.5
Vomiting	83	42
Less movement	62	31
Hot/ cold	57	29
Excessive crying	56	28
Respiratory distress	54	27
Convulsion	26	13
Bleeding	26	13
Jaundice in <24hrs	15	7.5
Conjunctivitis	10	5
Apnoea	10	5
Cyanosis	9	4.5
No urination after 48hrs	8	4
Oral thrush	6	3
No defecation after 24 hrs	6	3
Delayed cry at birth	4	2
Frothing	3	1.5
Conjunctivitis	2	1
Chocking	2	1

**Discussion**

Home deliveries are common in Bangladesh like other developing countries. Our study was in urban area where facilities for institutional delivery are more available than rural area even then home deliveries were 36 % and in another 22% cases deliveries were tried at home first but when they could not manage mothers were taken to nearby hospital for delivery. Studies done in Nepal and India also showed that home deliveries are common even in urban area.<sup>5,6</sup>

Out of 198 cases 114 mothers had no education or only upto primary level. But it was seen that mothers who were highly educated (graduation) there deliveries mostly took place at institution (P<0.01), which is very significant and indicates that education of mothers is very much needed for institutional delivery.

Home deliveries were mostly conducted by traditional birth attendants/Dai (79%) and in few cases deliveries were conducted by trained attendants. Similar reports

were found in a study in Delhi, they found 91.3% home deliveries were conducted by Dai.<sup>7</sup> These finding of extremely low presence of skilled birth attendants at home delivery also supported by other studies done in different countries.<sup>8,9</sup> These suggests that traditional birth attendants should have some basic training regarding delivery process and care of newborn baby as they are attending majority of home deliveries. Training of traditional birth attendants has been shown to be effective in reducing perinatal mortality, showed in a study done in Pakistan.<sup>10</sup>

A new/ boiled blades or scissor were used to cut the cord by 96% of home deliveries, which is encouraging and similar to other studies .<sup>5,6</sup> Such a good practice is found to be more common in the present study than earlier studies .<sup>11,12</sup> We have found that in 4% cases household knife was used. So mothers and attendants should be made aware of the adverse consequences of using such instrument for cutting the cord.

It is very encouraging that in 65% cases umbilical stump was kept dry and 17% cases antiseptic was used. But still in 14% cases oil was used. This practice of using unsterile substances like oil was similar to the reports from earlier studies done in Nepal and Pakistan.<sup>8,13,14</sup> This practice of using unsterile substances is a important risk factors for sepsis and tetanus.<sup>15</sup>

Thermal control of newborn is an essential newborn care. We have found that in 32% of home deliveries and 15% of institutional deliveries, babies were bathed immediately within one hour of birth. This is much less than previous study done in different countries,<sup>5,6</sup> but it should be discouraged as it can lead to hypothermia. None of the birth place of home delivery were heated during delivery. Only in 17% of home delivery babies were wrapped immediately (<5 minutes) and rest of the cases it was delayed. This delayed wrapping may cause hypothermia of just born baby.

We have found breast milk as first feed in 52% cases as compared to 47.5%, 32.9%, 79.2% in studies done in Vietnam, Delhi and Nepal respectively.<sup>5,6,16</sup> Use of breast milk as first milk was higher in hospital deliveries( 59%) in comparison to home deliveries (35%, P<0.002). Practice of prelacteal feed is common in both but more common in home deliveries (51%). This difference is significant (P<0.01). Interestingly we found in our study that infant formula was given as first feed only in hospital cases ( 18%).



This is probably a bad effect of illegal visit by the milk companies to the hospitals. Such practices like prelacteal feeding and giving artificial milk are a cause of concern. Such practices delay the initiation of breast feeding and may adversely affect establishment of lactation.<sup>17</sup>

Most mothers in hospital (65%) and home (50%) deliveries did not initiate breast feeding within one hour of birth. This is similar to other studies.<sup>17,18,19</sup> Usefulness of early initiation of breast feeding against the risk of neonatal mortality was established in a study in rural Ghana which showed that 16% of neonatal death could be avoided if all infants were breast fed from day 1 and 22% if breast feeding started within 1<sup>st</sup> hour.<sup>20</sup> So appropriate counseling to the mothers and care givers regarding early initiation of breast feeding is very important.

In our study reasons for home delivery were related to preferences (41%) for home delivery followed by fear about facilities and cost related to delivery. Experiences of previous deliveries at home of family members may be the reason for preference of home delivery and also decision making process in the family about the place of delivery is important. In this study we have also found that educated (graduate) mothers prefer hospital delivery rather than home delivery. So mother's education is very important to reduce home deliveries. Identification of signs of sickness of newborn by mothers or caregiver was poor as found in this study. Less feeding was identified by 56% of mothers as danger sign. Other signs like vomiting, less movement, fever could be recognized by one third of mothers.

In conclusion, we can say home deliveries and poor newborn care practices are common. Traditional birth attendants should be adequately trained as they are conducting majority of home deliveries. Female education is very important to reduce home delivery as it is seen that deliveries of educated mothers are taking place in hospital. High risk traditional newborn care practices like delayed wrapping, early bathing, use of oil in umbilical stump and prelacteal feeding need to be addressed. Knowledge of mothers to identify sickness in newborn is still poor.

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