

Knowledge and Practice of Postnatal Mothers Regarding Newborn Care at Hospital Settings

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Abstract

Background: Although neonatal mortality rates have reduced in Bangladesh, still it's prevalent in high number in the country. Neonatal mortality can be reduced by providing proper antenatal newborn care. Newborn care can be improved if parents are knowledgeable on different areas of newborn care.

Objective: To evaluate the knowledge and practices of mothers on different areas of newborn care and factors that can influence the quality of newborn care.

Methods: This cross-sectional study was conducted among 100 randomly selected mothers at the Combined Military Hospital Savar, Bangladesh between 01 October 2022 and 30 September 2023. A structured, self completed, closed ended questionnaire was delivered to 100 mothers who visited the Pediatric outpatient unit of the hospital with their neonates due to different clinical conditions.

Results: Approximately 65% of mothers who filled out the form had good knowledge on neonatal care. Educational status of the mother, number of gravida and positive antenatal care visit were associated with better outcome. Mothers who had higher education and had opportunities to attend antepartum visit/visits were found to have good newborn care knowledge.

Conclusion: More than half of the mothers who participated in the study had good knowledge regarding postnatal care for their babies. Gaps between the knowledge and practices were also noticed. Therefore, we recommend that stakeholders of the health sector have a close follow-up on maternal and newborn care services and maintain a strategy that will incorporate maternal education service in essential newborn care practice.

Keywords: New born, Newborn Care, Postnatal Mothers, Practice, Knowledge.

Introduction

The first twenty-eight (28) days of life is called the neonatal period and this is the most vulnerable period for a child's survival.¹ In 1990, the neonatal mortality rate was 37

deaths per 1,000 live births globally, which reduced to 18 deaths per 1,000 live births in 2021. It was estimated that more than 2 million children died in the first month of their life in 2021.²

The global death rate of children in different geographical areas before five years of age proves that the chances of survival of children under five years depends on places where they were born and children born in developed countries have more chance of survival than the children born in poor countries.³ Prematurity, birth asphyxia, low birth weight, birth defects, serious infections such as pneumonia are the leading causes of deaths among children under-five years of age.^{1,4} Researchers found that many children who died within the first 28 days of their lives suffered from conditions that were associated with inadequate and/or insufficient quality of care they received during or after few days of their birth.¹

Last few decades health care system in Bangladesh improved tremendously which reduced the newborn mortality rate in Bangladesh. The newborn mortality rate in Bangladesh was approximately 64 deaths per 1,000 live births in 1990, which reduced to approximately 20 per 1,000 in 2016. The estimate is, in 2016, approximately sixty thousand children died before they turned to one month old, which was approximately two hundred forty thousand (240,000) in 1990. Although the reduction of the death rate of children in their neonatal period is inspiring, the high number of neonatal deaths is still unacceptable.⁵

The World Health Organization identified a few conditions, they believe that should be prioritized to reduce the negative outcomes of newborns, such as, all newborn should receive umbilical cord protection from infection with proper care and thermal protection (which can be achieved by the direct skin to skin contact with the mother). Breast-feeding should start as early as possible. Assessments of risks of neonatal health conditions such as risks of low-birth weight, risks of mother with infections and disease conditions should be done, and measures should be taken to reduce the complications such as immunization.¹ It is essentials that mothers' have adequate knowledge and understanding about the conditions mentioned above to reduce risks of neonatal death of their babies.

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Study also found that, a high percentage of neonate die within first 48 hours after the delivery and, prompt and adequate postnatal care of the neonate is important to reduce postnatal complications and death rates. It is also essential that mothers have adequate knowledge so that they can provide adequate postnatal care to their babies.⁶

This study was conducted to know the level of knowledge of mothers to different areas of newborn care and to identify the factors that are associated with the adequate quality of newborn care knowledge and practices. Findings of the study will help to develop a list of recommendations that can be exercised to improve the quality of mothers' knowledge on newborn care and that will subsequently raise the quality of mothers' practices and will reduce the neonatal death even more.

Materials and Methods

This cross-sectional prospective study was conducted in the outdoor of the Paediatric Unit at Combined Military Hospital (CMH) Savar, Savar Cantonment, Bangladesh between 01 October 2022 and 30 September 2023.

Inclusion Criteria: Participants of this study were mothers who came to the hospital's pediatric outdoor with their neonate for any reason during the time of data collection, mothers with neonates who agreed to participate in the study willingly and mothers with neonate who were able to read and write.

Exclusion criteria: Mother of neonates who were severely ill that they needed admission to the hospital and mothers who were unwilling to participate. Mothers who did not have the ability to read and write at all, were also excluded.

Mothers were informed the purpose of the study and were also informed that the study did not have any intervention phase or aspect. Mothers were also informed that their answers would be anonymous and their participation or lack of participants in this study would not affect any current or future treatments or services or opportunities to them or their children including the present newborn. After mothers completed the study questionnaires forms and gave back to the investigators, information regarding proper and adequate neonatal care and how to provide that care were explained to mothers.

A structured, self-completed, closed-ended questionnaire was provided to mothers to fill out. The questions were written as simply as possible so that the mothers could be able to understand. Mothers could only check off one box to answer each question. The questionnaire collected information on five variables: age and educational status of mother, present/absent of antenatal care visit, and parity, were independently associated with knowledge on

essential newborn care. Another variable "average monthly family income" was not possible to include as a variable due to many participants were not willing to disclose the family income.

Questions regarding cord care, exclusive breast feeding, colostrum feeding, thermal care, immunization were included. Participants obtained 1 point for one correct answer. There were no negative points for wrong answers. One open-ended question was asked to know if mothers can identify the danger signs. Mothers attended at least one antenatal visit were coded as "positive antenatal visit".

Definition of Good Knowledge: Mother who responded appropriately at least 50% of these questions were decided to have good knowledge.

Definition of Poor Knowledge: Mother who did not able to respond appropriately at least 50% of these questions were decided to have poor knowledge.

Data were recorded using Microsoft Excel Spread Sheets and the SPSS v20.0 for Windows, was used to analysis the statistics. A p-value <0.05 was considered to be statistically significant. Results are presented in this article using tables and texts.

Results

Out of 100 mothers who completed the forms, 4% mothers were 18 years of age or less. The majority (64%) of mothers were between 19-29 years old followed by 32% of participants were at least 30 years old. The highest education (55%) of mothers recorded to have class 11 and above education level followed by (40%) class 6 to class 10 level of education (Table-I).

Thirty percent of the mothers participated in the study were primigravida (this is their first child born alive) when 70% mothers were multigravida (mothers who previously gave birth to live children). It was noticeable that 30% of primi mothers contained good knowledge regarding postnatal child care when 70% of multi gravida mothers showed to have good knowledge on postnatal child care (Table-I).

When mothers were asked if they attended any antenatal visit to any health care facilities (local community health clinics or gynecologists) when they were pregnant with their current baby; 75% of mothers responded affirmative. 61.3% of among these mothers had good knowledge regarding postnatal child care. On the other hand, 25% never attended any antenatal visits and only 33% of those mothers had good knowledge regarding postnatal child care. Out of 100 mothers, 65% moths had good knowledge of postnatal care (Table-I). Univariate analysis showed that highest percentage of mothers who had good knowledge of

postnatal care of newborn babies were associated with the higher level of education, multi para and mother who had the opportunity to have prenatal care visit to a health care facility. P value was statistically significant (Table-I).

Table-I: Distribution of maternal age, educational level, number of gravida and antenatal visits among the participants (n=100)

Age of mothers (in years)	Frequency	Percentage	Mothers with good knowledge among the sub groups		
	n	%	n	%	p value
18 or less	04	04	2	50.00	<0.05
19-29	64	64	43	67.18	
30 and above	32	32	20	62.5	
Education of mothers (grade)					
Class 1-5	05	05	2	20%	<0.05
Class 6-10	40	40	24	60%	
Class 11 and above	55	55	39	71%	
Parity of mothers					
Primigravida	30	30%	16	53.33%	<0.05
Multigravida	70	70%	49	70.00%	
Attended Prenatal visits in healthcare institute (Local community health clinics or gynecologists)					
Yes	75	75%	53	69.33	<0.05
No	25	25%	12	48.00	

Questions to know the extent of mothers' knowledge and the application of that knowledge on various aspects of child care and answers of those questions are included in a table below. It is noticeable that there are differences of percentage of mother's knowledge and the application for the same content. 75% mothers mentioned that they knew the importance of colostrum for their babies, when 65% of mother gave colostrum to their babies in reality. 65% of mothers knew that maintaining baby's temperature is important, when only 40% of mothers applied skin-to-skin technique to maintain their baby's temperature. On the other hand, only 85% of mother's knew the importance of immunization, when more mothers (90%) mentioned that they would vaccinate their babies.

Table-II: Results regarding mother's knowledge and practices on various aspects of child care.

Breast Feeding and Colostrum	Answers	Answers in %
When do you think breast feeding should start?	As soon as possible after the birth of the baby	70
	Does not matter	30
When did you start breast feeding your baby	Within 1-2 hours	75
	After 2 hours	25
How the baby should be breast fed?	As per demand?	60
	Every few hours, as per schedule	40
What was the first thing that you gave to your baby's mouth after birth?	Breast milk	45
	Other (e.g., honey, water, sugar)	55
Do you know the importance of colostrum?	Yes	75
	No	25
Did you give your baby the colostrum?	Yes	65
	No	35
Thermal Care		
Do you know the importance of maintaining baby's temperature after birth?	Yes	65
	No	35
Have you heard of Kangaro technique/skin to skin technique to maintain baby's temperature/?	Yes	40
	No	60
Have you ever done the skin-to-skin technique to maintain baby's temperature?	Yes	20
	No	80
Cord care		
Do you know that cord care is important to save baby's life?	Yes	70
	No	30
Do you know that cord should be kept clean to prevent infection?	Yes	60
	No	40
Did you apply anything on baby's cord at home (such as vaseline, wet cloth etc.)	Yes	65
	No	45
Immunization		
Do you know the importance of immunization to save your baby's life?	Yes	85
	No	15
Will you vaccinate your baby?	Yes	90
	No	10

Table-III: Percentage of mothers who can identify the danger signs.

Signs	% of mothers' answer
Continuous vomiting	55
Not feeding well	80
Not breathing properly	75
Skin become blue	30
Skin become yellow	60
Bleeding from umbilical cord	80
Swelling or redness around umbilical cord	80
Diarrhea	75
Too hot or too cold	90

Discussion

Castalino et al in their 2014 study mentioned that almost 76% of mothers of neonate had good knowledge⁷ when Leta found in his 2022 study that approximately 57% mothers had good knowledge. In the current study, we found that 65% of mothers who participated in this study had good knowledge. The difference might be due to the different geographical areas where studies were conducted. This study was conducted in a suburb area of Bangladesh, while the other two studies were conducted in India and Ethiopia.

This study pointed out that mothers who are multigravida, or having higher education; had good knowledge. This finding is similar to findings Bhandari SD⁸ found in her study in 2016 and Leta M⁶ (in 2022) found in his study.

This study also found that mothers who received antenatal care during their pregnancies, had good knowledge compared to mothers who did not receive antenatal care during pregnancy. Hay et al⁹ in their study in 2022 reported that women recognized information they received from health care providers during their pregnancies, most useful. In Bangladesh, there are many community health care clinics where health care providers of different skills (such as physicians, health care field workers, midwives) provide information and free services to pregnant women.¹⁰ Women can also go to gynecologists for services and information during pregnancy. These services are generally achieved with payment.

This study found that 70% of mothers knew that baby should be breast fed as soon as possible and 75% mother's breast fed their babies within 1-2 hours of their birth. Gul et al¹¹ concluded that 43% mothers started to breast feed their babies within 2 hours of their birth. Geographical area and the time of the study were the reasons of difference of data. 90% babies of mothers who participated in this study mentioned that they would vaccinate their babies, which is higher number than the study Leta M conducted.

When mothers were asked to mention the danger signs they should observe to ensure the safety of their babies, they mentioned nine (9) danger signs. Similar signs were mentioned to investigator Bhandari SD when she conducted her study in 2016.

From this study, it is also noticeable that sometimes, when mothers had the knowledge for a specific content, they did not able to apply that knowledge while they took care of their babies. As for cord care, 60% of mothers knew the importance to keep the cord clean, while 65% of them applied something on the cord at home. 65% of mothers knew the importance of maintaining babies' temperature, while only 20% applied the skin-to-skin technique. It is important that mothers not only know the information how to keep their babies safe and healthy; they also need to be educated on how to use their knowledge in reality.

Antenatal visit at the health care facilities can be a great resource for mothers to obtain knowledge and application. Health care workers who are involved with mother and baby care can take the responsibility to ensure that mothers are knowledgeable enough to apply their knowledge when they take care of their babies.

Limitations

Sample size of the study was small and was conducted only on 100 mothers. Many mothers declined to participate due to time constraints. "Family income" could not be able to add as a variable as many mothers did not wish to disclose their family income or were unaware of their family income. More questions regarding knowledge and practices were needed to use for the study to know the extent of mothers' knowledge. As many mothers came to the hospital from a far location and they wanted to leave the hospital as soon as possible after their babies received the required medical attention, limited questions were prepared for them. Also, as a cross-sectional study, this study cannot conclude the temporal association. The researchers understand that a greater study with larger group of study participants is needed.

Conclusion

Many mothers who have babies do not have adequate knowledge about how to care for their babies properly. Besides that, although some mothers who know the care process, they do not practice their knowledge while caring for their babies. All health care professionals must take this responsibility. Antenatal visit (s) can be an excellent media to provide information to future mothers on baby care and to show how to apply their knowledge in reality while they care for their babies. Health care providers can educate mothers during pregnancy on how to care their babies. Pediatricians can be a good source of knowledge after the baby was born.

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