Original Article

SOCIO-ECONOMIC FACTORS AND KNOWLEDGE INFLUENCING NEWBORN CARE PRACTICES: EXPERIENCE AT DHAKA SHISHU HOSPITAL

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Abstract

Reducing maternal and neonatal mortality remains a big challenge for a developing country like Bangladesh. Mothers' knowledge in neonatal care plays an important role in bringing down the mortality as well as morbidity. This study was conducted in Dhaka Shishu Hospital during the period of December 2007 to February 2008 and was based on primary data collected on socioeconomic status, knowledge and practice of mothers of neonates attending the hospital. A total of 400 mothers were interviewed. More than fifty percent mothers had an appropriate knowledge on feeding neonates, hand washing before handling neonates, care of eye, care of umbilicus and they were practicing as well. Where as less than fifty percent mothers had appropriate knowledge on keeping neonates warm, cutting hair, bathing, vaccination, oil massage and their practice rate also commensurate well with their knowledge level. Majority of the mothers were in the age group of 21-25 years, having completed primary education or passed SSC exam. They were house wives living in an urban area, with a monthly family income of 3000-7000 taka. Statistically significant association was found between socio demographic variables and knowledge and practices on neonatal care of the mothers.

Ibrahim Med. Coll. J. 2010; 4(1): 17-20

Key words: Socio-economic factors, knowledge and practices, neonatal care

Introduction

Neonatal mortality contributes to almost two thirds of infant deaths in Bangladesh. Infection, prenatal asphyxia, premature birth and low-birth are identified as major causes of neonatal mortality. These deaths can only be seriously addressed if there is informed demand for and provision of quality promotive, preventive and curative neonatal care services.[1] Skilled professional care during pregnancy, at birth and during the postnatal period is as critical for the newborn baby as it is for its mother. The challenge is to find a better way of establishing continuity between care during pregnancy, at birth, and when the mother is at home with her baby. While the weakest link in the care chain is skilled attendance at birth, care during the early weeks of life is also problematic because professional and programmatic responsibilities are often not clearly delineated.[2]

About 30% of the outdoor and emergency patients of Dhaka Shishu Hospital are neonates. Most of them require admission. But 50% of them finally get admitted. Of the admitted patients, 15% die. A sound knowledge on neonatal care and early detection of danger signs and seeking medical help from appropriate centers could lower the mortality and morbidity. Mother being the closest person to a neonate, her knowledge on neonatal care and practice of that knowledge properly can help avoid many unexpected situations. The aim of this study was to

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find out the level of knowledge and practices of the mothers and impact of socio-economic factors on the knowledge and practices.

Materials and Methods

This was a cross-sectional study among the mothers of the neonates attending Dhaka Shishu Hospital during the period of December 2007 to February 2008. Sampling was purposive and only willing mothers were interviewed. The sample size was determined by using the following formula for cross sectional study: $n = Z^2 (p \times q) / d^2$ where n= required sample size, Z = the standard normal deviate/ distribution 1.96 at 95% confidence level /interval. p=0.5; q= (1-p) = (1- .5) = 0.5; d = (error), degree of accepted allowable sampling error was 0.05 (5%) in this study. Based on this calculation the estimated sample size was 384. Data collection tool was a combination of structured type of questionnaire which was tested in the OPD and IPD of Dhaka Shishu Hospital. To find out the level of knowledge and practice appropriate answer was given score 1 and inappropriate answer was given score 0. Then they were computed and recoded and grouped in three categories; excellent (7-9), optimum (5-6), poor (0-4).

Results

The mean age of the father age was 30.5±4.4 years ranging from 20 to 40 years. The mean age of the mothers was 23.6±4.1 years ranging from 18 to 38 years. Almost half (50.8%) of the mother's age was 21-25 years followed by <20 years (23.8%), and 26-30 years (19.8%). Sixty percent of the fathers were service holders (59.8%), while 87.5% of the mothers were housewives. Only 7% were service holders and 1.5% was doing business. Regarding the level of education of the father, only 7.5% were illiterate, 15.8% had primary level of education 28.8% had passed the SSC level, 22.84% were HSC and 25.3% were graduates or above. On the other hand, 4.5% of the mothers were illiterate, 42.5% had primary level of education, 32.3% had secondary level of education, 8.3% had HSC and 12.5% had graduation and above. Majority (94.5%) of the respondents were Muslims followed by 4.3 Hindus and 1.3% was others. 65.3% of the respondents resided in urban areas and the rest 34.7.0% in the rural areas. Highest percentage (49.8%) of the respondents had family income in the range of Taka 3000 to 7000 followed by Taka 7000 to 15000 (22.8%) and less than 3000 (19.3%) (Table 1).

Table-1: *Socio-Demographic characteristics of the respondents (n=400)*

Characteristics	Number	Percent
Mother's age(yrs)		
<20	95	23.8
21-25	203	50.8
26-30	79	19.8
31-35	17	4.3
≥36	6	1.5
Mean±SD(yrs)	23.6±4.1	Range=18 to 38years
Father's age(yrs)		
<20	5	1.3
21-25	46	11.5
26-30	194	48.5
31-35	105	26.3
≥36	50	12.5
Mean±SD(yrs)	30.5±4.4	Range=20 to 40years
Mother's occupation		
House wife	350	87.5
Service	28	7.0
Business	6	1.5
Student	16	4.0
Fathers occupation		
Farmer	31	7.8
Service	239	59.8
Business	130	32.5
Religion of Parents		
Muslim	378	94.5
Hindu	17	4.3
Christian	5	1.3

Table 2 shows that only 5.8% mothers had excellent knowledge on neonatal care, 55.3% mothers had optimum knowledge, and 39% mothers had poor knowledge. The level of practice of the respondent mothers on neonatal care observed that only 5.5% mothers performed excellently where as 71.8% mother

Table-2: *Level of knowledge of respondent mothers on neonatal care (n=400)*

Level of Knowledge	Frequency	Percent
Excellent	23	5.8
Optimum	221	55.3
Poor	156	39.0
Total	400	100.0

performed poorly, only 22.8% mother performed optimally. 10.5% of the respondent mothers started breast feeding within 6hrs, 10.5% of the respondent mothers gave colostrum, 95.5% of the respondent's mothers exclusively breast fed for 6 months where as 4.3% of the respondent mothers did not feed colostrum.

Match box, iron sticks, brooms, shoes, scissors top the responses. 46.5% of the respondents mentioned these materials that ward off evil spirits. Significant number of the respondents (64%) had no idea on danger signs in neonates. 36% of the respondents mentioned little or no movement as one of the danger signs. 96.8% of the mothers got suggestion and information from relatives and guardians. Only around 5% mothers got information from books, radio, TV, posters etc.

There was significant association between knowledge and practice on care of the umbilicus, cutting hair, hand washing, massage oil, feeding (Tables not shown). The nature of association between knowledge and practice among the above mentioned variables need further study. But there were no significant associations between vaccinations of neonates, bathing the neonates, and care of the eyes of neonates.

Discussion

It was seen that only 42% of the respondents knew how to care for a neonate. Only 23.5% of the respondents kept neonates attached to mother with a head cover. Neonates can easily lose about one fifth of its body temperature through its head and become hypothermic going unnoticed and resulting in mortality. Interestingly 22.5% respondents knew that shaving off hair was harmful but around 65% respondents admitted that they shaved their neonate's hair. Those in favor of shaving hair argued that it was impure. Simple measures such as a warm room for delivery, immediate drying of the baby and skin-to-skin contact with the mother can prevent loss of body warmth.[3] A study was carried out in 11 slums of Indore, India. Body temperature of 152 babies born during December 2004–February 2006 was assessed by trained field investigators in slum homes using the WHO recommended method. Newborns adjudged warm, cold-stressed, and moderately hypothermic by the axillary method was 69.1%, 21.7%, and 9.2% respectively. Hypothermic newborns also had one or more other danger sign(s) of neonatal illness.[4] A number of midwifery practices might if properly applied, could prevent unnecessary heat loss in the newborn. The care of 62 normal newborns was observed following birth at four levels of institutions, the majority being at the University Teaching Hospital in Lusaka. At discharge after an average of 14 hours, half the babies had a body temperature below 36°C, i.e. mildly hypothermic. There was a significant decrease in body temperature between 30 and 120 minutes post-partum.[5] Statistically significant association was found between mother's age and knowledge on shaving hair of neonate in this study.

Although 90.8% of the respondents replied that hand washing was essential before handling a neonate, 51.8% of them admitted doing so. A 1 year prospective study on routine gowning before entering a neonatal unit was conducted in a maternity hospital in Singapore. The investigators recommend that routine gowning before entering a neonatal unit is not essential and cost effective for the purpose of reducing infection. Rather the focus should be on adequate hand washing by all hospital personnel and visitors before handling neonates.[6] During a study of pregnancy in a poor rural tropical area, a high prevalence of neonatal fever and umbilical cord infection was detected. Interim analysis showed that this was associated with subsequent development of neonatal sepsis The study demonstrates the importance of umbilical cord care in the etiology of life threatening neonatal morbidity in village births in a developing country and the effect of a simple intervention in reducing morbid episodes in the neonate.[7] As unhygienic newborn-care practices lead to continued high risk for omphalitis, in addition to topical antiseptics, simple, low-cost interventions such as hand washing, skin-to-skin contact, and avoiding unclean cord applications should be promoted by community-based health workers.[8] Present study found a statistically significant association between education of mother and shaving hair, hand washing, umbilical care, bathing, massage oil, vaccination, and proper eye care. Mothers had a fair knowledge regarding need for immunization but a poor knowledge regarding the diseases prevented and doses of the vaccines. Health workers were the major source of information and 76% knew the use and maintenance of immunization cards.[9] About 88% of the respondent agreed to consult a doctor for any kind of eye problem. But 11.8% applied *kajol*, 5.8% used homeopaths drugs, 2.5% applied oil, 13.5 applied breast milk. Mothers got information on neonatal care mainly from relatives/ guardians, books/ TV, posters, which played a very insignificant role.

Majority of the mothers (94%) thought oil (mustard) massage is good for the neonate and 87% of the respondents did so. This oil in particular may be very harmful for their tender skin. Mustard oil, used routinely in newborn care throughout South Asia, has toxic effects on the epidermal barrier that warrant further investigation.[10] Recent evidence suggests that this practice may have detrimental effects, particularly for preterm infants or for those whose skin barrier function is otherwise sub-optimal.[11]

There was significant association between occupation of mother and umbilical care, bathing and eye care. Residence of parents and bathing and eye care also had a statistically significant association. Income of parents and shaving hair and bathing had also been associated.

Conclusion

Effective media is to be used for creating awareness on newborn care practices. Programs may be taken to increase awareness on danger signs of the neonates so that early care can be provided. Proper knowledge on breast feeding and colostrum is still lacking. Appropriate knowledge on neonatal care and emphasis on appropriate practice on neonatal care may be included in the primary education.

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