

Original Article

Mothers' Knowledge on Neonatal Jaundice attending a Neonatal Intensive Care Unit of a Tertiary Care Hospital in Dhaka, Bangladesh

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Abstract

Background: Neonatal jaundice is one of the commonest conditions which require hospital admission in newborns. **Objective:** To assess the baseline knowledge and attitude of mothers about jaundice in newborn who attended Neonatal Intensive Care Unit (NICU) of a tertiary care hospital. **Methods:** This descriptive, cross-sectional study was conducted on 324 mothers who attended the Neonatal Intensive Care Unit (NICU) of Dr. M R Khan Shishu (Children) Hospital, Dhaka, Bangladesh, with their sick neonates. A face-to-face interview was done based on a pre-designed structured questionnaire. **Results:** Mean age of the respondents was 26.17±4.93 years. Most of them (76%) have heard about neonatal jaundice before the survey. Forty two percent mothers thought that it is a mild condition and does not require treatment (45%). Sunlight is the known treatment by most of mothers (65%). **Conclusion:** There is a serious knowledge gap among mothers regarding the perception, severity and treatment of neonatal jaundice. Education program is needed for pregnant women to increase awareness on this important neonatal issue.

Keywords: Neonatal jaundice, mother's knowledge, perception, attitude

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Introduction

Neonatal jaundice is defined as yellowish discoloration of skin and mucous membrane in newborns¹. It is one of the commonest causes of hospital admission and requires medical attention. Around 60% of term and 80% of preterm neonates develop jaundice during first 28 days of life²⁻³. There are sporadic data on incidence of neonatal jaundice for individual countries. It usually varies with race and geography. Incidence is higher among Asians and American Indians than Africans⁴. The overall incidence of neonatal jaundice as reported

by various Indian workers varies from 54.6% to 77%⁵. From Bangladesh, there is limited data. In India, Dutta et al. reported that 15.3% of neonatal admissions, were due to neonatal jaundice with a case fatality rate of 6.7%, leading to 4.4% of the deaths related to jaundice⁶. In a prospective cohort of neonatal admissions to the Khulna Medical College Hospital, in Bangladesh, over 36 months in 2005–2008 reported that 15.7% of infants presented with severe jaundice⁷.

It is also noteworthy that, with improvement in prevention and treatment, the number of cases

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with severe jaundice have been decreased in high income countries. But the picture is different for low-and -middle income countries⁸. Several factors are responsible for this such as blood group incompatibilities, G6PD deficiency, sepsis, lack of routine maternal and neonatal blood testing⁹⁻¹⁰, lack of universal screening protocol as well as screening tool for jaundice, lack of public awareness and parental training etc¹¹⁻¹². If there is delay in diagnosis, serum bilirubin can rise and excessive unconjugated bilirubin can accumulate in brain. This may lead to kernicterus and eventually may lead to long term sequel. Neonates with significant neonatal jaundice have increased risk of infantile cerebral palsy, hearing loss, and developmental delay¹³.

It is evident in many studies that, mothers have inadequate understanding on jaundice of their babies¹⁴. Gaps in knowledge were found among mothers regarding causes, treatment and complications of neonatal jaundice¹⁵. There is paucity of study in this aspect from Bangladesh. So, this study aims to assess the baseline knowledge and attitude of mothers about jaundice in newborn who attended NICU of a tertiary care hospital.

Methods

This descriptive, cross-sectional study was conducted in the Neonatal Intensive Care Unit (NICU) of Dr. M R Khan Shishu Hospital & Institute of Child Health, a Pediatric teaching hospital in the center of North Dhaka city, Bangladesh. It has a 30 bedded NICU with all standard treatment facilities for sick newborns including management of neonatal jaundice. This study was performed from July to October of 2021. Mothers of admitted newborns during the study period who gave consent, and who were available during baby's admission, were the study participants. A pre-formed structured questionnaire was used to take a face-to-face interview of the mother to assess her knowledge regarding neonatal jaundice. Interview was taken by a post graduate medical student working in the NICU. There was a total of 7 variables for maternal demographic (maternal age, education, religion, occupation, parity) and socio-economic status (area of living and socio-economic class). Maternal age and education level was also categorized into small groups. Socio-economic status was classified into three groups based on monthly family income (low: <20,000-taka, middle: 20,000-40,000 taka and high: >40,000 taka). To identify mother's understanding on neonatal jaundice, questions were asked in two subsets. One set of questions was to address knowledge and attitude about the disease (site of appearance, whether they know

the condition) and another set was about treatment and severity of the condition (whether severe or mild condition, whether treatment is required or not, what treatment options they know). All responses were documented. Data were compiled and analyzed using SPSS version 21.0 and were expressed in percentage and mean±standard deviation.

Results

A total of 324 mothers were interviewed during the study period. Mean age was 26.17 ± 4.93 years and 70% of them were within 21-30 years of age range. Majority completed higher secondary class and 75% were housewives as shown in the table 1. Table 2 showed that 79% of the respondent mothers were from city (urban area) and most of them belong to low (46.2%) and middle (48.1%) income society respectively. Table-3 revealed mothers' knowledge about the disease. Among 324 mothers, 76% had heard about the condition and 61% of those from family. Only 19% mothers knew that jaundice is the yellow discoloration of eyes and skin. In table 4, mothers' knowledge about disease severity and treatment was observed. It showed that majority of respondents thought jaundice in newborn is a mild condition and does not require treatment (45%). Sunlight is the known treatment by most of mothers (65%).

Table1. Baseline characteristics of the study participants

Variables	Number (n=324)	Percentage (%)
Mean Maternal Age (years)	26.17 ± 4.93	
Maternal age category:		
< 20 years	44	13.5
21-30 years	226	70
31-40 years	48	15
>40 years	6	1.8
Maternal education status:		
Can't read or write	10	3
Primary (up to class 5)	56	17.2
Primary (up to class 8)	52	16
Secondary	66	20
Higher secondary	78	24
Graduation	58	18
Post-graduation	4	1.2
Religion		
Muslim	282	87
Hindu	36	11.2
Christian	6	1.8
Mother's occupation		
Housewife	242	75
Working	82	25
Parity		
Primiparous	144	44.4
Multiparous	180	55.5

Table2. Socio-economic features of the study population

Variables	Number (N=324)	Percentage (%)
Area of living		
Urban	256	79
Rural	68	20.9
Socio-economic class		
Low	150	46.2
Middle	156	48.1
High	18	5.5

Table3. Knowledge and Attitude of Mothers about neonatal jaundice (n=324)

	Maternal perception on neonatal jaundice	Number (%)
1.	Whether you have heard about jaundice in newborn	
	yes	246 (76)
	no	78 (24)
2.	Where you have heard about it?	
	Family	150 (61)
	Relatives	78 (32)
	School	9 (2.7)
	Working place	3 (1)
	Health care provider/ hospital	6 (1.9)
3.	What is meant by neonatal jaundice?	
	Yellowness of eyes	225 (70)
	Yellowness of eyes and skin	63 (19)
	Do not know	36 (11)
4.	At which part of body jaundice appears first?	
	Face	100 (31)
	Eyes	168 (52)
	Hands and feet	34 (10.4)
	Do not know	22 (6.8)

Table4. Knowledge of Mothers about treatment and severity of neonatal jaundice (n=324)

	Maternal concerns on neonatal jaundice	Number(%)
1.	What type of condition neonatal jaundice is?	
	Mild	136 (42)
	Severe	86 (27)
	Don't know	102 (31.4)
2.	Whether jaundice in newborn require any treatment?	
	Yes	138 (43)

	Maternal concerns on neonatal jaundice	Number(%)
	No	146 (45)
	Sometimes	26 (8)
	Do not know	14 (4.3)
3.	If answer of question 2 is 'yes' what treatment is required?	N=138
	Sunlight	90 (65)
	Phototherapy light in hospital	48 (35)
	Herbal remedies	0

Discussion

In this study, majority of mothers belonged to 21-30 years of age. This finding is consistent with the findings of Olatunde et al.¹⁵, where 50.8% of study participants were in this age group. Only 24% of our study population have completed their higher secondary school. This finding is also close to the study results, conducted in 2018 at Jessore, Bangladesh, where 57.27% respondents completed secondary and 15.46% had above secondary educational level¹⁶. Similarly, only 7.3% of the study participants completed higher secondary in another study done in Dhaka Medical College Hospital in 2015-2016¹⁷. There may be an increase in the female educational status over time in Bangladesh for which our result is slightly higher than others¹⁸.

Alike other studies, large percentage of respondents in our study have heard about neonatal jaundice before their participation in the study¹⁵. They have been informed about this by family members and relatives mostly (61% and 32% respectively). Only 1.9% had the information from health care provider during antenatal period. This finding does not match with other study where high percentage of women got the message from hospitals¹⁵. Less or no antenatal visits can be a possibility for this which was not explored in the study.

Most of the respondents do not have clear perception on jaundice. To 70% of them, it is the yellowish discoloration of eyes only whereas 19% understand jaundice when both eyes and skin become yellow in newborns and 11% still do not know about the condition. This finding of respondent's knowledge to look eyes for jaundice is comparable with the 70.8% reported by Olatunde et al. in Dhaka City and 77.4% by Egube et al. in Benin City¹⁹.

This study reported 42% mothers think that jaundice in newborn is a mild condition and treatment is not required. Whereas 43% mothers have good attitude for treating the condition. But to majority of them(65%), sunlight is the

treatment option and 35% have some knowledge that babies may need admission to hospital for getting phototherapy lights. Several studies have been conducted before, to portrait the perception of mothers regarding neonatal jaundice, and still the result is the same^{16-17,20}. The only exception is that, in our study no respondents answered for herbal remedies whereas in previous studies it was found quite significant (62.7%)¹⁷.

This study demonstrated that there is a huge gap in the existing knowledge of mothers regarding jaundice which is a commonly encountered condition during first 28 days of life. Though few studies have been conducted so far in home and abroad, still the perception is poor. Nationwide educational intervention is mandatory to improve the situation. This will be beneficial to increase parental awareness about this as well as harmful effect of unaddressed neonatal jaundice can be

minimized.

Conclusion

There is a knowledge gap among mothers regarding the perception, severity, and treatment of neonatal jaundice. Effective educational intervention is needed to increase maternal knowledge and understanding of the condition.

Conflict of interest: None declared by the authors.

Ethical Approval: The study was approved by the Ethical Review Committee of Dr. M R Khan Shishu (Children) Hospital, Dhaka, Bangladesh.

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