

Knowledge regarding Physiological Jaundice among Postnatal Mothers Admitted in Postnatal Wards of Selected Hospitals

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Abstract: Background: Jaundice is the most common condition that requires medical attention in newborns. The yellow discoloration of the skin and sclera in newborns with jaundice is the result of accumulation of unconjugated bilirubin. Neonatal jaundice may have first been described in a Chinese textbook 1000 years ago. Medical theses, essays, and textbooks from the 18th and 19th centuries contain discussions about the causes and treatment of neonatal jaundice. Several of these texts also describe a lethal course in infants who probably had Rh iso-immunization. In 1875, Orth first described yellow staining of the brain, in a pattern later referred by Schmorl as kernicterus. Objectives: 1) To assess the knowledge regarding physiological jaundice among post natal mothers in post natal wards of selected hospitals. 2) To associate the knowledge score with selected demographic variables. Material and Method: A quantitative non experimental descriptive research design was used to arrive at results and thereby conclusions. The study was conducted in postnatal wards of selected hospitals. Survey research approach was used in this study. 100 postnatal mothers were selected for the study. Structured knowledge questionnaire were used to collect the data. Result: Findings revealed that, Majority of postnatal mothers (58%) had average and (26%) of had good knowledge and (15%) had poor knowledge and only (1%) had very good knowledge regarding physiological jaundice. Conclusion: After detailed analysis, it was found that significant difference was found in knowledge and So, it is concluded that post natal mothers have average knowledge regarding physiological jaundice.

Keywords: Knowledge; Physiological jaundice; Postnatal mothers

1. Introduction

Neonatal period is the period until 28 days after birth. This is the most critical period of life. Many complications and death may occur, if the neonates get deprived of its vital needs. The neonates need to adjust to extrauterine life to maintain normal physiological activity.¹

About 50% of term and 80% of preterm babies develop jaundice which usually appears 2-4 days after birth and bilirubin disposition in the skin. Most jaundice in new born infants is a result of increased red cell breakdown and decreased bilirubin excretion.²

Neonatal Jaundice is a major clinical problem globally, specially in the Asian and South. East Asian Regions. G6PD deficiency, ABO incompatibility, low birth weight and sepsis are common cause of Neonatal Jaundice. Genetic factors may also be responsible for ethnic differences in the ability to eliminate Bilirubin, while unidentified environmental factors may also play role in the prevalence of Neonatal Jaundice.³

Jaundice is a common problem affecting the over half of all full term and most pre term infants. Jaundice describe the Yellow, Orange hue of the skin caused by excessive circulating levels of bilirubin which accumulates in the skin. In most of the healthy full term new born babies jaundice is noticed during the first week of life.⁴

Treatment of choice for jaundice remains close observation and frequent feeding followed by phototherapy and finally exchange transfusion for severe or refractory cases. Phototherapy can be administered in several settings, but

should only be administered by a knowledgeable trained individual.⁵

Jaundice is the most common condition that requires medical attention in newborns. The yellow coloration of the skin and sclera in newborns with jaundice is the result of accumulation of unconjugated bilirubin. In most infants, unconjugated hyperbilirubinemia reflects a normal transitional phenomenon. However, in some infants, serum bilirubin levels may rise excessively, which can be cause for concern because unconjugated bilirubin is neurotoxic and can cause death in newborns and lifelong neurologic sequelae in infants who survive (kernicterus). For these reasons, the presence of neonatal jaundice frequently results in diagnostic evaluation.

Neonatal jaundice may have first been described in a Chinese textbook 1000 years ago. Medical theses, essays, and textbooks from the 18th and 19th centuries contain discussions about the causes and treatment of neonatal jaundice. Several of these texts also describe a lethal course in infants who probably had Rh iso-immunization. In 1875, Orth first described yellow staining of the brain, in a pattern later referred by Schmorl as kernicterus.⁶

Neonatal hyperbilirubinemia is the most common reason for admission in the neonatal period (first month of life) worldwide and at SMRU. The skin of the newborn baby becomes jaundiced, which is caused by a high level of bilirubin in the blood. In some neonates the level of bilirubin increases to a level that can cause brain damage or even death. There are different causes known that can lead to higher levels of bilirubin, for example G6PD deficiency and prematurity. In case of neonatal hyperbilirubinemia the neonate needs to be treated with phototherapy (blue light

therapy). If there is prolonged jaundice (≥ 21 days), further investigations needs to be done.⁷

Objectives of the Study

- 1) To assess the knowledge regarding physiological jaundice among post natal mothers in post natal wards of selected hospitals.
- 2) To associate the knowledge score with selected demographic variables.

2. Methodology

A quantitative non experimental descriptive research design was used in this study. The study was conducted in postnatal wards of selected hospitals. Survey research approach was used in this study. 100 postnatal mothers were selected for the study. Structured knowledge questionnaire were used to collect the data and the non-probability convenience sampling used to collect samples from the population.

3. Results

Table I: Distribution of subjects according to their demographic variables

Sr. No.	Demographic variable	Frequency	Percentage (%)
1	Age		
	18-22 years	23	23
	23-27 years	51	51
	28-32 years	26	26
	33-37 years	0	0
2	Parity		
	Primipara	44	44
	Multipara	56	56
3	Education		
	Primary education	28	28
	Secondary education	49	49
	Graduate	16	16
	Post graduate	07	07
4	Occupation of mothers		
	House maker	43	43
	Laborer	39	39
	Self employed	11	11
	Service	07	07
5	Type of family		
	Nuclear	41	41
	Joint	59	59
6	Residential area		
	Urban	37	37
	Rural	63	63
7	Family income		
	Rs. 3000-8000	58	58
	Rs. 8001-13000	21	21
	Rs. 13001-18000	09	09
	Rs. 18001 & above	12	12

n=100

The above table no. I shows that the distribution of postnatal mother according to their age shows that 23% of them were belonging to the age of 18-22 years, 51% of them were in the age of 23-27 years, 26% of them were in the age group of 28-32 years and remaining 0% of them were belonging to the age of 33-37 years respectively. Distribution of postnatal mother according to their parity shows that 44% of them were belonging to the primipara

and 56% of them were belonging to Multipara respectively. Distribution of postnatal mother according to their educational qualification shows that 28% of them educated up to primary ,49% of them educated up to secondary standard, 16 % of them were educated up to graduate, 07% of them were educated up to post graduated respectively. Distribution of postnatal mother according to their occupation shows that 43% of them were house makers , 39% of them were laborer ,11% of them were self employed , 07% of them were service respectively. Distribution of postnatal mother according to their family type shows that 41% of them were belonging to the nuclear family and 59% of them were belonging to the joint family respectively. Distribution of postnatal mother according to their residential area shows that 37% of them are from urban area and 63% of them are from rural area respectively. Distribution of postnatal mother according to their monthly income shows that 58% of them were Rs.3000-8000, 21% of them were Rs 8001-13000, 09% of them were Rs.13001-18000 and 12% of them were Rs. 18001 & above respectively.

Table II: Knowledge score of postnatal mothers regarding physiological jaundice: n=100

Level of knowledge score	Score	Percentage score	Knowledge score	
			Frequency	Percentage
Poor	0-4	0-25%	15	15%
Average	5-8	26-50%	58	58%
Good	9-12	51-75%	26	26%
Very good	13-16	> 75%	1	1%
Minimum score	1			
Maximum score	13			
Mean score	7.00 \pm 2.61			
Mean Percentage	43.75 \pm 16.31			

The above table no. II shows that 15% of them had poor level of knowledge, 58% of them were having average level of knowledge and 26% of them were having good level of knowledge score and 1%) of them were having very good level of knowledge. The minimum score was 1 and the maximum score was 13, the mean score for the test was 7.00 \pm 2.61 and mean percentage of knowledge was 43.75 \pm 16.31

4. Discussion

In this study, there is association between knowledge regarding physiological jaundice and there source of information and 58% of postnatal mother have a average level of knowledge.

The finding of the study show that mean and standard deviation was 7.00 and 2.61 respectively. And also the mean percentage of knowledge score of postnatal mothers was 43.75 \pm 16.31 respectively. So it is concluded that post natal mothers have average knowledge regarding physiological jaundice.

A study was conducted to evaluate maternal knowledge level about neonatal jaundice. This study was conducted on 161 mothers who had given birth to healthy newborns at Izmir Aegean Gynecology and Obstetrics Hospital between January 2010 and April 2010. A questionnaire was used to

assess the mothers' knowledge on neonatal jaundice. Knowledge was evaluated as "sufficient" or "insufficient" based on responses. Sufficiently informed mothers were compared with insufficiently informed group for the knowledge level about neonatal jaundice. The rate of insufficiently informed mothers was 53.6%. Low education level was found to increase the probability of the mothers' knowledge level to be insufficient by 2.1 folds. Being informed before hand by a previous offspring with jaundice increased the probability of the mothers' knowledge to be sufficient by twofold. It is found that the mothers' knowledge about neonatal jaundice is insufficient.⁸

An observational cross-sectional study was conducted to determine the knowledge, attitude & behavior on neonatal jaundice of postnatal mothers in Provincial General Hospital (PGH), Badulla. 396 mothers, who delivered at PGH Badulla from 1st May 2010 to 15th June 2010, were interviewed using a structured questionnaire. The questionnaire was used to assess the participant's knowledge, attitude and behavior. The mean knowledge score was 31 ± 14 , the mean attitude score 65.7 ± 20.6 and the mean behaviour score 66.1 ± 18.8 on neonatal jaundice. The knowledge of neonatal jaundice among postnatal mothers was low. There was significant correlation between mothers' attitude and behavior scores with the knowledge scores.⁹

A cross sectional study was conducted on Malaysian mothers knowledge and practices on Care of Neonatal Jaundice. 400 mothers who attended the obstetric clinics or were admitted to the obstetric wards of a general hospital were included. They were surveyed with a structured set of questionnaire. The results showed that a majority (93.8%) of them knew about neonatal jaundice, and 71.7% knew that jaundice lasting more than 2 weeks was abnormal. However, only 34.3% of them were aware that jaundice appearing during the first 36 hours of life was abnormal. This study revealed that there was a wide knowledge gap among Malaysian mothers on care of neonatal jaundice. Placing infants under the direct sun was still a common practice.¹⁰

A cross-sectional study was conducted to identify level of knowledge, belief and attitude on neonatal jaundice among Malay pregnant mothers who live in Seberang Perai Utara state. A total of 150 mothers attended clinics in Seberang Perai Utara, were chosen by systematic random sampling and were interviewed using a pretested questionnaire. Results showed about 50.0% of the respondent had inadequate general knowledge on neonatal jaundice, especially the knowledge on complications and identifying the best method of jaundice detection.²⁰ A study was conducted to estimate the efficacy of hospital phototherapy for neonatal jaundice. From 2,81,898 infants weighing $> \text{or} = 2000 \text{ g}$ born at $> \text{or} = 35$ weeks' gestation at 12 Northern California Kaiser hospitals from 1995 to 2004, they identified 22,547 infants who had a "qualifying total serum bilirubin level" within 3 mg/dL of the American Academy of Pediatrics 2004 guideline phototherapy threshold. Of the 22 547 eligible newborns, 5251 received hospital phototherapy within 8 hours of their qualifying bilirubin level within 48 hours. It concluded that while hospital phototherapy is effective, the number needed to treat according to current

guidelines varies considerably across different infant subgroups.¹¹

A study was conducted to estimate the effect of phototherapy on the risk of total serum bilirubin (TSB) $> \text{or} = 25 \text{ mg/dL}$ in infants with a TSB of 17 to 22.9 mg/dL at age $> \text{or} = 48$ hours. All infants exhibiting a TSB $> \text{or} = 25 \text{ mg/dL}$ were selected as cases for the study. From a cohort of 285295 infants $> \text{or} = 34$ weeks gestation and $> \text{or} = 2000 \text{ g}$ born between 1995 and 2004 in northern California Kaiser hospitals, they identified 17986 with a TSB of 17 to 22.9 mg/dL at age $> \text{or} = 48$ hours. All infants exhibiting a TSB $> \text{or} = 25 \text{ mg/dL}$ were selected as cases for the study. Four randomly selected controls were matched to each case based on the difference between their qualifying TSB and the American Academy of Pediatrics' phototherapy threshold. A total of 62 cases were identified. Six of these received in patient phototherapy within 8 hours. Phototherapy was 85% effective in preventing TSB $> \text{or} = 25 \text{ mg/dL}$.¹²

A study was Conducted to evaluate the effect of LED phototherapy as compared to conventional phototherapy in decreasing serum total bilirubin levels and duration of treatment in neonates with jaundice. Quasi-randomised method was used. The standard methods of The Cochrane Collaboration and its Neonatal Review Group for data collection and analysis were used. Six randomized controlled trials met the criteria. Four studies compared LED and halogen light sources. Two studies compared LED and compact fluorescent light sources. The duration of phototherapy (six studies, 630 neonates) was comparable in LED and non LED phototherapy group. The rate of decline of serum total bilirubin (STB) (four studies, 511 neonates) was similar in the two groups. The result was LED light source phototherapy is efficacious in bringing down levels of serum total bilirubin at rates that are similar to phototherapy with conventional (compact fluorescent lamp (CFL) or halogen) light sources.¹³

5. Recommendations

- 1) A similar study can be undertaken for large sample to generalize the findings.
- 2) A similar study can be conducted in staff nurses on a large population.
- 3) A study can be undertaken to identify the existing knowledge and attitude of postnatal mothers regarding physiological jaundice.
- 4) A comparative study to assess the knowledge of urban and rural postnatal mother.
- 5) A comparative study to assess the knowledge of the literate and illiterate postnatal mothers can be done.

6. Conclusion

Analysis of data shows that the most of the mothers were in the age group of 23-27 years of age and most of them were belongs to Multipara and also majority of them studied upto secondary education. Most of the postnatal mothers were house maker with monthly income of Rs. 3000-8000. The majority of mothers were belongs to joint family and living in rural area. Overall knowledge regarding physiological jaundice among postnatal mothers was average. The

association between variables likes parity of postnatal mother and type of family were found to be non-significant. Age, education, occupation, family income, and residential area were found to be significant.

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