OBJECTIVE: To assess the knowledge of mothers regarding Neonatal Jaundice.

STUDY DESIGN: A Cross sectional study.

PLACE AND DURATION: At Paediatric Department of Rawal Institute of Health Sciences (RIHS) Islamabad from 1st July 2014 to 30th June 2015.

METHODOLOGY: A total of 200 mothers presenting with jaundiced neonates within first two weeks of life were enrolled. Data was collected through a structured questionnaire. Each question was scored and maternal knowledge was categorized as "Adequate" and "Inadequate".

RESULTS: The mean (SD) age of all mothers was 27.3 (± 4.2) years. A substantial majority of mothers, 132 (66.0%) were aged younger than 30 years. Out of 200, 175 (86.5%) mothers lived in urban areas. The mean (SD) age of neonate was 8.7 (± 3.3) days. Majority of neonates, 93 (46.5%) were aged between 6 and 10 days. Out of 200, 106 (53.0%) mothers had 1 to 2 children, while 80 (40.0%) mothers had 3 to 4 children. 111 (55.5%) mothers had education up to graduation, whereas 35 (17.5%) mothers had primary level education. 150 (75.0%), were housewives, 149 (74.5%) mothers reported that their previous child also had neonatal jaundice. 10 was the total knowledge score and the mean (SD) knowledge score was 6.2 (± 1.9). 105 (52.5%) mothers had inadequate knowledge score, while 95 (47.5%) mothers had adequate knowledge score.

CONCLUSIONS: The mother’s knowledge regarding neonatal jaundice (NNJ) is quite poor.

KEY WORDS: Neonatal Jaundice, Knowledge, Neonate.

INTRODUCTION

Neonatal jaundice (NNJ) occurs in 60% of term and 80% of preterm infants. A study conducted in Bangladesh reveals that out of 426 neonates with NNJ the most common cause was physiological jaundice (26.7%) followed by jaundice of prematurity (20.9%) and haemolytic jaundice (11.3%). Severe hyperbilirubinemia can lead to encephalopathy in 2.1% Other complications include sensorineural hearing loss, paralysis of upward gaze and dental enamel dysplasia. The severity of neurological complications depends on duration of exposure to high bilirubin levels. Khalesi et al found that the risk progressively increased from 2.3% in neonates with exposure of six hours to high bilirubin levels to 26% when the exposure time increased to >12 hours. Mezaal et al reviewed 50 young adult men with cerebral palsy through their medical records and found kernicterus to be the most common cause resulting in cerebral palsy. It occurred in 14 (28%) of cases. So timely intervention can prevent acute complications and long term morbidity. However, there is often a delay in seeking medical advice and parents and family usually do self-medication with herbal medicines and homemade remedies due to inadequate knowledge. Maternal diet is often restricted with avoidance of raisins, dates and nuts. Other misconceptions include the beneficial role of sunlight in reducing severe jaundice. Aladag et al report that out of 118 parents interviewed, 12.7% considered sunlight to be useful for neonates with jaundice.

The mean (SD) knowledge score about NNJ was found to be 7.25 (± 2.1) (out of 13.5) in a study conducted in Iran. Only 37% mothers had information about all symptoms of jaundice, about 1/5 mothers were not at all aware of complications of jaundice and others had poor knowledge. Similar results were obtained from a study conducted on Malaysian mothers who had a poor knowledge regarding onset, causes and complications of jaundice. The mean of knowledge score was 7.4 out of 15. Moreover 83.1% of multiparous mothers were in practice of putting their babies under direct sun for neonatal jaundice and only 27.1% were aware that it can lead to dehydration and worsening of NNJ. Sutcuoglu et al found that out of 300 Turkish mothers, 161 (56.3%) had inadequate knowledge and 46.3% had adequate knowledge regarding neonatal jaundice. The knowledge of mothers was dependent on education level and having a previous offspring with NNJ.

This study was conducted to identify misconceptions prevailing in our set up about NNJ, which result in late presentation to health care facilities as knowledge correlates directly to behaviour and practices. As a result, a number of babies suffering from this apparently benign condition, end up having lots of complications.

METHODOLOGY

The cross sectional study was done at the outpatient and inpatient of Paediatrics department of Rawal Institute of Health...
DISCUSSION

More than 50% of newborns clinically have jaundice during the first week of life. Babies affected by severe neonatal hyperbilirubinemia are increasing in number and cases of cerebral palsy resulting from hyperbilirubinemia increasing in frequency in Europe and North America. Timely recognition and prompt treatment of hyperbilirubinemia limit these sequelae so that cases of cerebral palsy resulting from hyperbilirubinemia may be preventable.

A cross-sectional study done to know about the knowledge, behaviour and attitude of mothers regarding neonatal jaundice at Ali-Ebne Abitaleb Hospital in Zaheban, Iran. Four hundred mothers were interviewed to complete a 21-point questionnaire. The mean (SD) knowledge score was 6.2 (± 1.9). The median knowledge score was 6.5. The minimum knowledge score was 2 while the maximum score was 9.5.

Figure - 2. Out of 200, 105 (52.5%) mothers had inadequate knowledge score (less than 7) while 95 (47.5%) mothers had adequate knowledge score (7 and above).

TABLE - I:KNOWLEDGE SCORE DISTRIBUTION OF ALL THE ENROLLED MOTHERS (n=200)

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FIGURE - 1: DISTRIBUTION OF ALL THE ENROLLED MOTHERS BY EDUCATIONAL STATUS (n=200)

FIGURE-2: DISTRIBUTION OF ALL THE ENROLLED MOTHERS BY KNOWLEDGE SCORE CATEGORIES (n=200)

DISCUSSION

More than 50% of newborns clinically have jaundice during the first week of life. Babies affected by severe neonatal hyperbilirubinemia are increasing in number and cases of cerebral palsy resulting from hyperbilirubinemia increasing in frequency in Europe and North America. Timely recognition and prompt treatment of hyperbilirubinemia limit these sequelae so that cases of cerebral palsy resulting from hyperbilirubinemia may be preventable.

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pregnancy about neonatal jaundice could be the first step towards improving healthy behaviours.

An ethnographic study from the United States of America (USA) evaluated maternal concerns regarding neonatal jaundice. Total 47 mothers were interviewed of healthy breastfeeding babies with jaundice. 27 years was mean maternal age. More than half of multiparous mothers had a previous baby with jaundice and three-quarters of them had breastfed a previous baby.

Neonatal jaundice was defined as serum bilirubin > 170 µM/L. Mothers were interviewed between 2.5 and 14.5 weeks postpartum. (55%) 26 mothers had believe that the quantity and quality of breastfeeding was responsible for this. (57%) 27 mothers assumed neonatal jaundice to be a dangerous condition. 10 out of 20 unconcerned mothers revealed that their baby were healthy and were feeding well inspite of being jaundiced. The remaining ten women had received prompt reassurance and proper information regarding jaundice.

Maternal anxiety was directly proportional to the severity of neonatal jaundice. Most women preferred to be informed prenatally about jaundice, while others were of opinion to get informed at discharge or only when their baby becomes jaundiced. Communicating sources for information were written pamphlets, videos, individual talk, and small group discussions. Mothers wanted more detailed information regarding causes of neonatal jaundice, potential effects of jaundice, expected jaundice duration, treatment options and remedies that mothers could take for prevention of jaundice and to take care of babies with jaundice.

Another study was conducted among Malaysian mothers to know the gaps of practices of neonatal jaundice care and their knowledge. Total 400 mothers from the obstetric outpatient or inpatient of a general hospital were enrolled in cross sectional study. They were assessed through a structured questionnaire. The results revealed that most (93.8%) of them were aware of neonatal jaundice, and 71.7% knew that jaundice extending beyond two weeks was abnormal, but only 34.3% knew that jaundice in first 36 hours of neonate's life was pathological. Only 20% knew about fetal-maternal blood incompatibilities and glucose-6-phosphate dehydrogenase deficiency. Mothers knew that severe jaundice could cause death and brain damage were 71.7% and 69.7% respectively. Only 38.4% of them knew that hearing impairment could be caused by severe jaundice.

A very low percentage (27.1%) knew that putting jaundiced infants in direct sunlight could cause worsening of jaundice and dehydration. Out of score of 15, the mean maternal knowledge score was 7.4. Most of the multiparous mothers (83.1%) with history of neonatal jaundice in previous baby practiced direct sunlight exposure to their infants. The study showed a wide gap regarding knowledge of care of neonatal jaundice among Malaysian mothers. Direct sunlight exposure was still a common practice.

A study conducted on 1666 Iranian mothers between June 2004 and February 2007 with icteric neonates hospitalised to a single centre in order to identify any wrong knowledge and faulty practices regarding neonatal jaundice. A knowledge score calculated on response basis. The mean (SD) knowledge score was 3.38 (±1.23) out of 6. About 77% of the mothers had moderate-to-high level of knowledge. Almost 1/3rd of the mothers visited a physician in 24 hour of jaundice appearance in neonate and 13.8% admitted that they waited and before they sought medical advices they managed their babies with traditional remedies. 32.2% of the mothers discontinued feeding their babies with colostrums and coloured foods. Hence, 42.8% of the mothers acted weakly regarding their jaundiced neonates. The health care workers were major source of information for participants regarding neonatal jaundice. The study concluded that the knowledge of Iranian mothers was inadequate.

In Turkey, researchers conducted a study on 161 mothers who had given birth to healthy newborns at Izmir Aegean Gynaecology and Obstetrics Hospital between January 2010 and April 2010 by questionnaire to assess the mothers' knowledge on neonatal jaundice. Knowledge was evaluated as "sufficient" or "insufficient" based on responses. 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 beforehand by a previous baby with jaundice increased the probability of the mothers' knowledge to be sufficient by 2 folds. It was concluded that the mothers' knowledge regarding neonatal jaundice was insufficient in Turkey.

Another observational cross-sectional study was conducted in Provincial General Hospital (PGH), Badulla, Sri Lanka to know the knowledge, behavior and attitude of postnatal mothers regarding neonatal jaundice. A total of 396 mothers from 1 May 2010 to 15 June 2010, were interviewed using a structured questionnaire. The mean (SD) knowledge score was 31 (±14), the mean (SD) attitude score 65.7 (±20.6) and the mean (SD) 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 behaviour scores with the knowledge score.

A study was conducted on perceptions of mother towards neonatal jaundice and its management in India. The results show that some mothers believed that they had caused the jaundice using phrases like “got it from me, did something wrong. Not being a good mother”. Most mothers informed that the blood testing was difficult procedure to watch and mothers used “screamed” or “suffered” to describe reactions of their neonates. Study showed that mother’s concerns increased as bilirubin levels increased and higher levels of interventions were needed. Mothers were concerned that neonate would become blind or overheat and that the lights would be insufficient in reducing bilirubin levels. Several mothers admitted that the yellow eyes of their babies made them worry about their infant's vision.

A study conducted by Eneh and Ugwu to know the knowledge of the mothers regarding causes, treatment and complications of neonatal jaundice attending Children Outpatient (CHOP) and Immunization clinics on at the Department of Paediatrics and Child Health, University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria by using structured questionnaire. Total 255 mothers were interviewed. (11.8%) 30 of them have never had heard anything about neonatal jaundice while (88.2%) 225 have
some knowledge and only those were further explored. The age ranged from 16 to 47 years with mean (SD) age 27.1 (±3.3) years. Median parity was 2. 122 (54.2%) women had tertiary education. 174 (77.3%) defined correctly neonatal jaundice, and in 114 (44.7%) source of information was from talk in the clinic. 75 (33.3%), and 50 (22.2%) believed that main causes of neonatal jaundice were eating too much groundnut during pregnancy and mosquito bites respectively, while 55 (24.4%) answered correctly that it was due to mother and baby’s blood mismatch. Only few were aware of fact that dusting powder use on baby’s cord, storing baby’s clothes in camphor and prematurity, were risk factors for NNJ. 114 (50.7%) and 60 (26.7%), believed wrongly that sunlight exposure and glucose drinks were the main source of treatment and 50 (22.2%) knew that brain damage was a possible complication. The study concluded that there was a misconception regarding causes, treatment and risk factors of neonatal jaundice among Nigerian women.13

Mothers’ level of knowledge about neonatal jaundice is unsatisfactory in our study. In order to enhance healthy behaviours, education programmes should be organized for mothers both during pregnancy and just before hospital discharge. At same time, preventive measures like administration of anti-D immune globulin at 28 weeks’ gestation to rhesus-negative pregnant women or during immediate post-partum period should also be discussed with primary health care workers and mothers. Moreover neurotoxic effect of unconjugated bilirubin should also be discussed with mothers as severely affected babies either die or have to live with severe mental and physical handicap.

CONCLUSION

The knowledge of mothers regarding neonatal jaundice (NNJ) is quite poor.

RECOMMENDATIONS

There is a need to conduct further studies, particularly using qualitative study design, to explore more about it. At the same time, a detailed strategy should be made to provide awareness about NNJ and its complication to all women during pregnancy, as well as and soon after delivery through community health workers programmes in Pakistan so that timely recognition and appropriate treatment of jaundiced babies limit sequelae especially hyperbilirubinemia associated cerebral palsy.

REFERENCES