



Assessment Of Nurses Knowledge Regarding Neonatal Jaundice At Tertiary Level Hospitals At Dhaka City In Bangladesh

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ABSTRACT

Neonatal Jaundice (NNJ) is one of the most important conditions of neonatal mortality and morbidity in Bangladesh. Yellows discoloration of the white part of the eyes and skin and other tissues of a newborn is known as neonatal jaundice. However the present study has conducted to assess level awareness of the nurse's knowledge & management of Neonatal Jaundice at Tertiary Level Hospitals in Dhaka city, Bangladesh. It was a descriptive type of cross-sectional study and conducted at selected different Government-Dhaka Nursing College and private-Holy Family Red Crescent Nursing College in Dhaka City. From each nursing college 200 respondents were selected. So, total 400 respondents were selected for the study. Purposive sampling method was used for the study. Data were collected from primary and secondary sources. Primary data were collected by face-to-face interview by the investigator. Collected data were analyzed by computer program Statistical Package for the Social Sciences (SPSS). From the result it was found that most of the nurses have fair level of knowledge toward concepts, causes, and side effects of phototherapy, intervention of bilirubin level (phototherapy) and steps of management. Establishment of in-service educational program to provide continuous education for nurses working in the neonatal intensive care units NICU aiming to refresh their knowledge, practice for care hyperbilirubinemia in neonates and for the new assigned nurses to improve their knowledge and practice.

Keywords: *Neonatal Jaundice, Nurse, Knowledge, Skill, Total Serum Bilirubin, Unconjugated Hyperbilirubinemia, Red Blood Cell, Intensive care unit, Management, Training.*

INTRODUCTION

Jaundice is the most common condition that requires medical attention and hospital readmission 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 isoimmunization. In 1875, Orth first described yellow staining of the brain, in a pattern later referred to by Schmorl as kernicterus.

Neonatal Jaundice (NNJ) is a common condition of neonatal mortality and morbidity that needs medical evaluation and intervention. Yellows discoloration of the white part of the eyes and skin and other tissues of a newborn is known as neonatal jaundice (NNJ). The normal total serum concentration ranges between 0.2 mg/dl to 1.5 mg/dl. By this standard almost every neonate develops sub-clinical jaundice with a serum

concentration of unconjugated bilirubin exceeds more than 85 mmol/l (5mg/dl) in blood developed clinical jaundice.

Generally yellow color is seen on skin, sclera, face and chest on newborn. Other symptoms may include excess sleepiness or poor feeding. NNJ is caused by accumulation bilirubin in blood, it may occur from increased production of bilirubin is formed when RBC (Red blood Cell) breakdown and is normally metabolize in liver and excrete in urine and feces. The most common condition is physiological jaundice; however pathological jaundice is also common in some region. Sometimes may occur in newborns who are breastfed. Both types are usually harmless. Breastfeeding jaundice & Breast milk jaundice. Other causes of NNJ are small or large for gestational age, prematurity, use oxytocin in labor, cephalohematoma and family history of NNJ. Jaundice is a common, often temporary and relatively harmless development in newborn babies, but sometimes it can be a sign of a more serious problem. The neonatal period is the first 28 days of life, when the neonate is at maximum risk.

OBJECTIVES OF THE STUDY

The specific objectives of the study are as follows:

1. To identify the level of diagnostic knowledge of nurses on neonatal jaundice at Tertiary level hospital at Dhaka city in Bangladesh.
2. To find out level of attitude of nurses on neonatal jaundice at Tertiary level hospital at Dhaka city in Bangladesh.

RESEARCH QUESTION

1. What are the level of awareness of the nurses about Knowledge and Management of Neonatal Jaundice at Tertiary level hospital in Dhaka city?
2. Are the attitudes of nurses at Tertiary level hospital in Dhaka city satisfactory on neonatal jaundice management?

OPERATIONAL DEFINITIONS

Awareness: Awareness is the capacity to see, hear, feel, taste and smell things as pure sensual impressions, in the way a new born infant does.

Knowledge: Knowledge is a range of information gained from experience about technology environment and farming related condition. (Hedja, 1999)

Management: Management the treatment or control of diseases or disorders, or the care of patients who suffer them.

Attitude: Attitude means a feeling or opinion about neonatal jaundice.

Neonate: A neonate is also called a newborn. The neonatal period is the first 1-28 days of a child's life. It is a time when changes are very rapid. Many critical events can occur in this period.

Jaundice: Jaundice is an important and common symptom of liver disease. It is a clinical term used for the yellowish discoloration of the mucus membrane and skin due to increase blood bilirubin level.

Neonatal jaundice: Neonatal jaundice is a yellowish discoloration of the white part of the eyes and skin in a newborn baby due to high bilirubin levels. Other symptoms may include excess sleepiness or poor feeding. Complications may include seizures, cerebral palsy, or kernicterus.

Nurse: A person involved in the care of sick persons. A registered nurse is a person who has passed General nursing and Midwifery examination after training in a recognized school of nursing and has been granted a license to practice nursing profession

Nursing: Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well, and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe

environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles.

METHODOLOGY OF THE STUDY

Study design: It was a descriptive cross sectional study which assesses the level of awareness of the nurses Knowledge and Management of Neonatal Jaundice at Tertiary level hospital in Dhaka city.

Study area: The study was conducted in selected hospital in Dhaka city.

Study place: The study was conducted at Holy Family Red Crescent Medical College hospital and Dhaka Medical College Hospital.

Sampling method: Purposive sampling method was used for the study.

Sample Size: Total 400 nurses were selected for the study. From each hospital 200 respondents were selected.

Sources of Data: Data were collected from primary and secondary sources.

Sources of Primary data: Primary data were collected from the respondents of study area.

Sources of secondary data: Secondary data were collected from books, research report, journals and internet.

Instruments of data collection: Questionnaire was used for data collection.

Media of language: Data were collected in English Media.

Methods of data collection: Data were collected through face to face interview with questionnaire and secondary data were collected by reviewing books, research report, journals and internet etc.

Data processing and Analysis: Data were computerized, analyzed and interpreted using of SPSS (Statistical package for social science) Windows software program version 16.

RESULTS AND DISCUSSION

Table 1: Some of the Most Common Symptoms of Jaundice

Symptoms of Jaundice	Frequency	Percent	Cumulative Percent
Yellowing of Skin, Sclera and Darkening of Urine	400	100.0	100.0

Some of the Most Common Symptoms of Jaundice has shown in the above table. From the result it was found that all the respondents replied that yellowing of skin, sclera and darkening of urine is the most common symptoms of jaundice.

Table 2: Name of Jaundice Diagnosis

Name of diagnosis	Frequency	Percent	Cumulative Percent
Blood Test	363	90.8	90.8
Clinical Examination	37	9.2	100.0
Total	400	100.0	

Name of Jaundice Diagnosis has shown in the above table. From the result it was found that 90.8% respondents replied that jaundice is diagnosed by doing blood test and 9.2% respondents replied that jaundice is diagnosed by clinical examination

Table 3: Types of Neonatal Jaundice

Types of Neonatal Jaundice	Frequency	Percent	Cumulative Percent
Physiological Jaundice	220	55.0	55.0
Pathological Jaundice	180	45.0	100.0
Total	400	100.0	

Types of Neonatal Jaundice have shown in the above table. From the result it was found that 55% respondents replied that Physiological Jaundice is type of neonatal jaundice and 45% respondents replied that Pathological Jaundice is type of neonatal jaundice

Table 4: Features of Physiological Jaundice

Features of Physiological Jaundice	Frequency	Percent	Cumulative Percent
Jaundice Visible After 24 Hours of AGE	253	63.2	63.2
Disappearance of Jaundice by 2 Weeks in Preterm Infant	147	36.8	100.0
Total	400	100.0	

Features of Physiological Jaundice have shown in the above table. From the result it was found that 63.2% respondents replied that features of physiological jaundice is jaundice visible after 24 hours of age and 36.8% respondents replied that features of physiological jaundice is disappearance of jaundice by 2 Weeks in preterm infant.

Table 5: Causes of Physiological Jaundice

Causes of Physiological Jaundice	Frequency	Percent	Cumulative Percent
Low UDPGT Actively	290	72.5	72.5
Relatively High Red Cell Mass	110	27.5	100.0
Total	400	100.0	

Causes of Physiological Jaundice have shown in the above table. From the result it was found that 72.5% respondents replied that Low UDPGT Actively is the causes of physiological jaundice and 27.5% respondents replied relatively high Red Cell Mass is the causes of physiological jaundice.

Table 6: Danger Sign of Neonatal Jaundice

Danger Sign	Frequency	Percent	Cumulative Percent
Fever	217	54.2	54.2
Refusal of Feeds	73	18.2	72.5
High Pitched Cry	36	9.0	81.5
Lethargy	74	18.5	100.0
Total	400	100.0	

Danger Sign of Neonatal Jaundice has shown in the above table. From the result it was found that 54.2% respondents replied that fever is the danger sign of neonatal jaundice, 18.2% respondents replied that refusal of feeds is the danger sign of neonatal jaundice, 9.0% respondents replied that high pitched cry is the danger sign of neonatal jaundice and 18.5% respondents replied that lethargy is the danger sign of neonatal jaundice.

Table 7: Preventive Measure of NNJ

Preventive Measure of NNJ	Frequency	Percent	Cumulative Percent
Nutrition Maintain	217	54.2	54.2
Phototherapy	183	45.8	100.0
Total	400	100.0	

Preventive measure of NNJ has shown in the above table. From the result it was found that 54.20% respondents replied that nutrition maintain is the preventive measure of NNJ and 45.80% respondents replied that nutrition maintain is the preventive measure of NNJ

Table 8: Name of Specific Treatment for NNJ

Name of Specific Treatment for NNJ	Frequency	Percent	Cumulative Percent
Nutrition Maintain	111	27.8	27.8
Phototherapy	181	45.2	73.0
Blood Transfusion	108	27.0	100.0
Total	400	100.0	

Name of Specific Treatment for NNJ has shown in the above table. From the result it was found that 27.8% respondents replied that nutrition maintain is the specific treatment for NNJ, 45.2% respondents replied that nutrition maintain is the specific treatment for NNJ and 27.0% respondents replied that nutrition maintain is the specific treatment for NNJ.

Table 9: Side Effect of Phototherapy

Respondent's opinion	Frequency	Percent	Cumulative Percent
Yes	400	100.0	100.0

Side Effect of Phototherapy has shown in the above table. From the result it was found that all the respondents replied that phototherapy has side effect.

Table 10: Name of Side Effect of Phototherapy

Name of Side Effect of Phototherapy	Frequency	Percent	Cumulative Percent
Bronze Baby Syndrome	256	64.0	64.0
Hyperthermia	36	9.0	73.0
Dehydration	72	18.0	91.0
Electrolyte Disturbance	36	9.0	100.0
Total	400	100.0	

Name of Side Effect of Phototherapy has shown in the above table. From the result it was found that 64% respondents replied that bronze baby syndrome is the side effect of phototherapy, 9% respondents replied Hyperthermia is the side effect of phototherapy, 18% respondents replied Dehydration is the side effect of phototherapy, 9% respondents replied that Electrolyte Disturbance is the side effect of phototherapy.

Table 11: Complication of Neonatal Jaundice

Complication of Neonatal Jaundice	Frequency	Percent	Cumulative Percent
Fever	110	27.5	27.5
Paralysis	73	18.2	45.8
Mental Retardation	73	18.2	64.0
Hearing Disability	144	36.0	100.0
Total	400	100.0	

Complication of Neonatal Jaundice has shown in the above table. From the result it was found that 27.5% respondents replied that fever is the complication of NNJ, 18.2% respondents replied that paralysis is the complication of NNJ, 18.2% respondents replied that Mental Retardation is the complication of NNJ and 36% respondents replied that Hearing Disability is the complication of NNJ.

Table 12: Nursing Intervention for Infant Receiving Phototherapy

Nursing Intervention	Frequency	Percent	Cumulative Percent
Assure Effective Phototherapy	37	9.2	9.2
Provide Eye Protection	144	36.0	45.2
Assess Skin Exposure	37	9.2	54.5
Assess and Adjust Thermoregulation Device	73	18.2	72.8
Provide Gonadal Protection	109	27.2	100.0
Total	400	100.0	

Nursing intervention for infant receiving phototherapy has shown in the above table. From the result it was found that 9.2% respondents replied that nursing intervention for infant receiving phototherapy is to assure effective phototherapy, 36% respondents replied that nursing intervention for infant receiving phototherapy is to Provide Eye Protection, 9.2% respondents replied that nursing intervention for infant receiving phototherapy is to Assess Skin Exposure, 18.2% respondents replied that nursing intervention for infant receiving phototherapy is to Assess and Adjust Thermoregulation Device and 27.2% respondents replied that nursing intervention for infant receiving phototherapy is to Provide Gonadal Protection.

CONCLUSION

According to the results of the study the researcher concluded that most of the nurses have fair level of knowledge toward concepts, causes, and side effects of phototherapy, intervention of bilirubin level (phototherapy) and steps of management. So most nurses have good knowledge regarding clinical manifestations, complications, Investigations required for diagnosis of hyperbilirubinemia, and nursing care for neonate receiving phototherapy. Moreover, demographic factors significantly affect the knowledge and attitude of nurses, and most nurses held neutral attitude toward neonatal hyperbilirubinemia. Based on the results of the present study, it can be concluded that there had no statistical significant relation between nurses level of practice, and their marital status, residence, age, years of experience and educational level.

RECOMMENDATION

Based on the results of the current study, the following recommendations are suggested:

1. Periodical educational programs for nurses working at NICU are mandatory, for the purpose of raising and updating the knowledge and practice of nurses regarding hyperbilirubinemia.
2. Films and audiovisual conferences about practical procedures should be done for nurses during these programs.
3. Providing nurses with procedure manual hand books containing all necessary information about nursing procedures related to quality of nursing care for neonates with hyperbilirubinemia will be beneficial.
4. Establishment of in-service educational program to provide continuous education for nurses working in the neonatal intensive care units NICU aiming to refresh their knowledge, practice for care hyperbilirubinemia in neonates and for the new assigned nurses to improve their knowledge and practice.

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