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A study to assess the practice of staff nurses regarding the care of newborn during phototherapy in selected hospitals of Jaipur

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Abstract

Introduction: Jaundice comes from the French word "jaune", which means yellow. When it is said a baby is jaundiced, it simply means that the colour of the skin appears yellow, which is often seen in the first few days after birth. The yellow colour is due to the bilirubin that is produced when red blood cells get old and are broken down by the body. Most often, newborns with hyperbilirubinemia are treated with phototherapy. The health personnel have the main role to protect the newborn from the adverse effects and ensure the effectiveness of the photo therapy.

Objective: To assess the practice of staff nurses regarding the care of newborn during phototherapy in selected hospitals of Jaipur Methods: A descriptive survey research design was conducted among the 50 staff nurses working in Government Jaipuria hospital, Jaipur. The samples were selected by non-probability convenient sampling technique.

Results: The mean of practice of the staff nurses is 11.57 with 67.86% mean percentage median is 12 and the SD is 1.98.

Discussion: On the basis of the results it is concluded that the level of 16% has good practice 40% average practice and 44% have poor practice.

Keywords: Assess, practice, new born, phototherapy

Introduction

Jaundice comes from the French word "jaune", which means yellow. When it is said a baby is jaundiced, it simply means that the colour of the skin appears yellow, which is often seen in the first few days after birth. The yellow colour is due to the bilirubin that is produced when red blood cells get old and are broken down by the body. Most often, newborns with hyperbilirubinemia are treated with phototherapy.

Phototherapy as a treatment modality has become the backbone of un-conjugated hyperbilirubinemia in the neonate. It's noninvasive in nature and has fewer side effects as reported until now. Photo therapy consists of the application of fluorescent light to the infant's exposed skin. Photo therapy is not a harmless intervention. It can produce adverse effects on the baby and may disturb medical and nursing personnel. It includes lethargy, loose green stool, increased insensible water loss, dark urine, temperature elevation, skin changes - greenish colour, rash due to capillary dilation - skin rashes - no need to discontinue photo therapy, priapism (persistent abnormal erection of penis) retinal damage, hypo or hyperthermia increased and hypocalcaemia.

The health personnel have the main role to protect the newborn from the adverse effects and ensure the effectiveness of the photo therapy. Among the health personal the nurses are main role to deliver the comprehensive care to the newborn some of the nurses' roles are like eye shielding during the phototherapy, protecting the genitals, fluid maintenance, regular monitoring of temperature, serum bilirubin, weight and other adverse such as loose green stools, lethargy, dehydration, hypocalcemia.

Need of the study

Neonatal morbidity and mortality remain very high in the developing countries and one of the important contributors to this is neonatal jaundice (NNJ) Jaundice due to un-conjugated hyperbilirubinemia is also the most common clinical problem in the neonatal period in many parts of the world. NNJ causes brain damage (kernicterus) when severe leading to neurological handicap and early death of affected infants. Fortunately however, these complications can be avoided by the appropriate use of phototherapy and exchange blood transfusion to control serum bilirubin levels. The prematurity also one of the commonest cause for the jaundice which require the phototherapy.

A prospective and randomized study has been underway with the aim of comparing phototherapy initiated between 12 and 24 hours of life, regardless of bilirubin concentration, and phototherapy indicated when the total bilirubin concentration is equal to or greater than 8 mg/dl in newborns with birth weight between 501 and 750 g and equal to or greater than 10 mg/dl in those weighing between 751 and 1000 g. Exchange transfusion has been indicated if

bilirubin levels are equal to or greater than 13 mg/dl and 15 mg/dl, in the first and second groups, respectively. The results of this study may provide important information about the risks and benefits of phototherapy in these patients, since neurological development will be evaluated at 18 and 22 months of corrected gestational age.

In India the neonatal statistics 2006 reported that the neonatal mortality rate till discharge was 15.7% in very low birth weight group and 33.3% in early low birth weight group were in neonatal jaundice 47.2% in ELBW and 24.2% very low birth weight.

According to neonatal experts, jaundice is one of the most common conditions requiring medical attention in newborns. There are 133 million newborn babies in the world diagnosed with jaundice annually. About 8-10% of term infants and 80% of pre-term infants are required to undergo phototherapy for 3-5 days either at hospital or home. As per the GE study, in India many of the birthing centers do not have a phototherapy system to cope with newborn jaundice. This is a critical problem given that there are 32 million babies born every year in India. Non-treatment can result in serious brain damage, paralysis, deafness and even death. According to WHO, India accounts for one of the highest infant mortality rates 54 deaths for every 1,000 babies born. Unfortunately, India is the largest contributor to the global under-five child death burden with 2.38 million and 64% of these coming from infant deaths. Emphasis on earlier detection and treatment of jaundice in newborns is the best way to counteract the increasing newborn mortality rate in India. The Lullaby, developed at GE's R&D centre as part of the "In India, for India" programme aims to make high end technology more affordable, reliable and more accessible to larger sections of society. The current technology recommended was the photo therapy.

Aim of the study

The main aim of the study is to assess the practice of staff nurses regarding the care of newborn during phototherapy in selected hospitals of Jaipur.

Research Methodology

The research design adopted for the present study was descriptive survey research design. In the present study it refers to the level of practice of staff nurses regarding the care of newborn on phototherapy. Demographic variables selected for this study are age, gender professional qualification, income per menthe, year of experience. The present study was conducted in Government Jaipuria hospital, Jaipur. The target population for the study was staff nurses working in Government Jaipuria hospital, Jaipur. Sample size is 50 staff nurses working in Government Jaipuria hospital, Jaipur. The sampling technique used for this study is Non-probability convenient sampling technique.

The instrument selected in a research should as far as possible be vehicle that would best obtaining data for drawing conclusions, which are pertinent to the data checklist used to asses the practice of staff nurses regarding care of newborn on photo therapy.

Tool: The following data collection instruments were constructed in order to obtain data.

- **Part I:** Socio demographic variables consist of age, gender professional qualification, income per menthe, year of experience.
- **Part II:** The checklist to assess the practice of staff nurses consist of 20 statements.

Reliability: The reliability was calculated by using split half method. Inter rated score was 0.85 and found to be highly reliable

Data collection procedure: The formal permission was taken from the authorized personnel in the Government hospital Jaipur. The data collected according to the convenience subjects. After obtaining the permission the investigator met the subjects and established rapport with them after ensuring the physical comforts. A written informed concerned was taken separately from each subjects. Appropriate orientation was given to the subjects about the aim of the study, Nature of the checklist and adequate care was taken for protecting the subjects from the potential risks including maintaining confidentiality, security and identity.

Results

Assess the level of practice of staff nurses regarding care of newborn during phototherapy

Table 1: Mean, Median, SD, Mean Difference and t Test Value

S. No.	Aspects	Max. Score	Practice Score		
			Mean	Mean %	SD
1.	Level of practice	20	11.57	67.86%	1.98

The overall mean of practice of the staff nurses is 11.57 with 67.86% mean percentage median is 12 and the SD is 1.98.

Association Level of practice regarding care of newborn during phototherapy of Staff Nurses with Their Demographic Variable

Table 2: Association Level of practice regarding care of newborn during phototherapy of staff nurses with their demographic variable

S. No.	Demographic Variable	DF	Tabulated Value	Calculated Value	Significant / Not Significant
1.	Age	6	12.59	15.67	Significant
2.	Gender	2	5.99	2.42	Not Significant
3.	Professional qualification	2	5.99	18.23	Significant
4.	Income per month	4	9.49	3.46	Not Significant
5.	Year of experience	4	9.49	10.49	Significant

Data presented in table 2 reveals that the demographic variables like gender (χ^2 2.42, p>0.05) and income per month (χ^2 3.46, p>0.05) was less than the table value, which indicates that there was no association with the practice of

staff nurses at 0.05 level of significance. The hypothesis H_1 is rejected.

The demographic variables like age (χ^2 15.67, p>0.05), professional qualification (χ^2 18.23, p>0.05), year of experience (χ^2 10.49, p>0.05) was more than the table value, which indicates that there was association with the practice of staff nurse at 0.05 level of significance. The hypothesis H_1 is accepted.

Conclusion

The following conclusion were drawn on the basis of the findings of the study.

The overall mean of practice was 11.57 with 67.86 mean percentage Based on the level 16% has good practice 40% average practice and 44% have poor practice. The demographic variables like age, professional qualification, year of experience were show the significant association with practice of staff nurses.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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