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A Study of Neonatal Jaundice or Neonatal Hyperbilirubinemia

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INTRODUCTION

Neonate or a new born is the first four (4) weeks of extra uterine life of a child. It is also considered as the 0 to 28 days life of a child. At the age, many critical events of life happen in the child's life, which includes establishment of feedingpattern, bonds parents, high risk of infection, neonatal jaundice and most casesof birth defects are identified during this period. (WHO, 2021)Jaundice is one of the most common conditions that affect over half of new- born babies in the first week of life which requires medical attention to prevent future complications in the neonate or even death. Jaundice is either Physiological or Pathological. Neonatal Physiological jaundice occurs to 60% of term babies and 80% of preterm babies of 140 million yearly newborns worldwide experience jaundice in their first early stage of life approximately, it generally appears after 24hours of birth and disappears usually at 7 days if age, which is typically harmless. Whereas Pathological jaundice occurs within 24 hours of birth and last for morethan 7 to 10 days of age. (Olusanya, Kaplan and Hansen, 2018).

Jaundice occurs due to excessive break down of the red blood cells in the neonate because of low life span of erythrocyte, inability of the enzyme glucurony transferase to bind with bilirubin to glucuronic acid to make it watersoluble, so that it can be excreted into the liver then into the colon. Hence a buildup in the serum causing hyperbilirubinemia. (Maisels, 2006).

Neonatal Jaundice can also occur as a result of low or inadequate breastfeeding, causing a lack of fluids, and nutrients which aid in intestinal movement to actually prevent reabsorption of unconjugated bilirubin from being absorbed inthe intestines back into circulation, this is common in mothers who were not able to establish breastfeeding as early as possible. (Maisels, 2006).It can also occur as a result of blood group incompatibility thus RhD, and ABO.Although Rh is immunization is not really common in Europe due to Rh prophylaxis in the treatment of Rh-negative mothers, it's common in the underdeveloped countries or low-Neonatal jaundice occurs to 60% of term babies and 80% of preterm babies of 140 million yearly,

newborns worldwide experience jaundice in their first earlystage of life, the rate of new born mortality raises due to negligence.

The aim of this study is to use different available research on Interventions for neonatal jaundice. The purpose of the study is to provide information that can be use by health professional to control and care for neonate with Jaundice.

. The result indicated the need for effective education, communication, maternal awareness, treatment to reduce neonatal jaundice.

Neonatal Jaundice is a condition that needs adequate care and attention most especially because it's actually difficult to distinguish a healthy baby who does not need active treatment and unhealthy baby who require serum bilirubin testing. Complications of Jaundice should be prevented as much as possible. Neonatal jaundice is either physiological or pathological. Physiological jaundice is a normal transitional stage which affect majority of term newborns who have a constant increase of unconjugated bilirubin levels and jaundice on the third day.(Cohen, 2006)

Increased erythrocyte breakdown Newborns have a higher bilirubin production than adult. The fetus depends on hemoglobin F which has unlimited oxygen saturation in hypoxic environment than hemoglobin A. At birth when pulmonary system begins to function, the large red cells are destroyed and cause an overload in the system.

During the first 24hours after birth, there is a decline in bilirubin conjugation asa result of

Reduced level in the enzyme uridine diphosphoglucuronosy transferase (UDP- GT). This enzyme is responsible to conjugate unconjugated bilirubin to a conjugated bilirubin. The deficiency of these enzyme contribute to neonatal jaundice (Frank, 2021).

Increase enterohepatic reabsorption In the newborn both mono and diglucuronides are excreted into the bile and gut, the conjugated bilirubin in the intestine are hydrolyzed into unconjugated bilirubin by beta glucuronide in the intestine due to lack of bacteria in the colon, then the unconjugated bilirubin is then again reabsorbed into the enterohepaticcirculation contributing to Breastfeeding and jaundice This is jaundice as a result of breastfeeding which happens 2-4days postnatal orappears 47 postnatal, this conflicting jaundice has been called human milk jaundice, as it's revealed that few fluid and colostrum causes' slow intestinal movement causes exposure to beta glucuronides which converts conjugated bilirubin to unconjugated. (Cohen, 2006)

MATERIAL AND METHODS

A prospective observational study was conducted for a period of 6 months in the

Patients visiting pediatric department of a tertiary care teaching hospital.

The relevant data were collected on the day of admission in a specially designed data

. The laboratory data were noted down on follow-up

STUDY DESIGN

Cross Sectional study

STUDY SITE

This study was conducted in Department of pediatric in, SHER-I-KASHMIR

INSTITUTE of Medical Sciences Srinagar.

SAMPLE SIZE: 40 patients

STUDY PERIOD: The present study was 6 months

PATIENT SELECTION

Inclusion criterion: all new born babies

RESULTS

This prospective study was conducted over a period of six months. Out of

40Patients,. - The age of females ranged from 32-40 years. The overall age of the study

group Ranged from 18-40 years The identified factors that promote effective management in caring for jaundice in neonate were described in three analytical themes namely roleof a nurse, treatment and maternal challenges. In all, three main themes were developed and the table illustrates the intervention for neonatal jaundice.

Main themes and sub-themes of intervention for neonatal jaundice.

Role of a Nurse	Effective education Effective Communication Follow up
Maternal challenges	Lack of knowledge Emotional and physical difficulty Unclear information
Treatment	Phototherapy treatment

Role of a nurse

Effective education: Were a significant intervention to help reduce infant death cause by jaundice. Government with the help of healthcare professionals to promote awareness through campaign, in the form of educative advert on electronic media and where large population mostly gathered such as place of worship, schools, market places, communal and social meetings. (Onyearugha, Chapp-Jumbo& George,2016). Furthermore, (Dharel & Bhattarai ,2016) stated that nurses education should not be limited,but also educate the whole family including mother in-laws who have strong influence on mothers with neonatal jaundice, to avoid traditional method of treating jaundice by giving their infant sun bath which may cause shivery, eye problem and skin exposure.

Effective Communication: Communication improved the interactions between health care professionals and family members, with neonatal jaundice to reduced feelings such as insecurity, guilt and fear towards the treatment.

DEMOGRAPHIC PROFILE OF PATIENTS

The demographic profile of the patients include the parameters like gender, age

Group, risk factors, past medical history, marital status, educational qualification,

Area of living, and occupation.

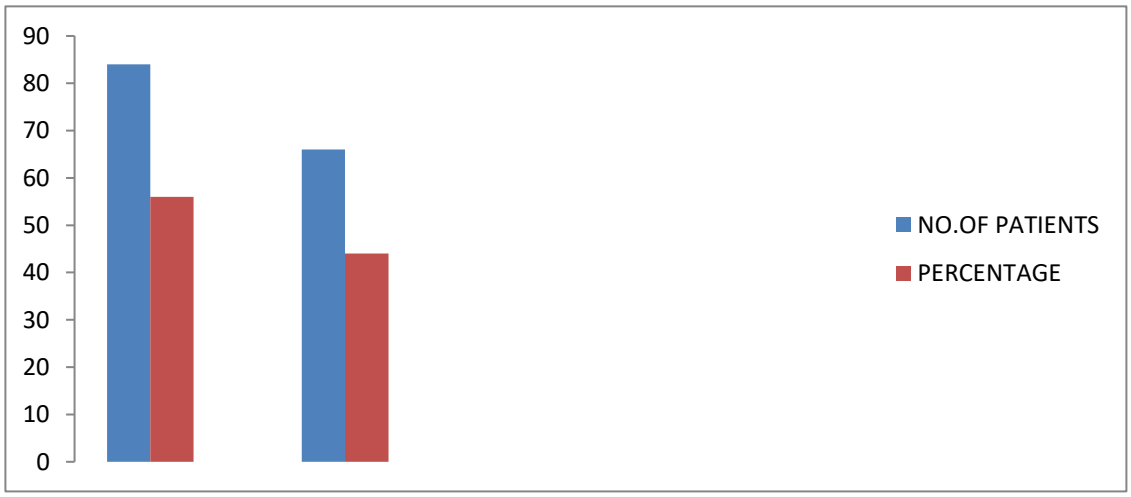
1. Gender distribution among the patients: On analyzing the demographic pattern of

Patients, the data represent that diabetes is more prevalent in males.

n = 150

SEX	NO.OF PATIENTS	PERCENTAGE
Female	40	100

Table1



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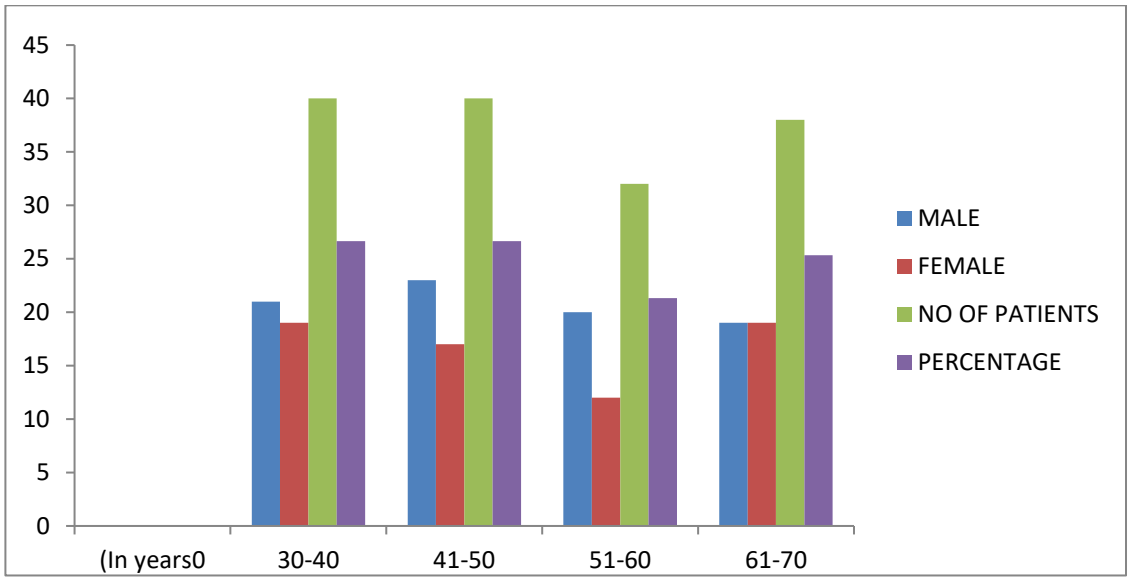

DISCUSSION

Health workers plays an important role in preventing and improving health conditions of the population. For a successful recognition, development and implementation ofhealthcare management programs regarding care plan for neonatal jaundice, it is effective that we consider the experience of nurses in this field. They are responsible for identifying, diagnosing, treating and follow-up. The objective of the study is to make use of available literature reviews to provide information that can be useful for healthcare professionals in assessing and caring for neonates with jaundice.

Comparing, contrasting and carefully evaluating literatures helps identify literatures that contributes to the topic or best answers to the question of the studies. (Rowley & Slack, 2004)

The 7 articles selected for this study was based on the inductive content analysis method as this qualitative method enables the researcher to generate theories and themes by examining and comparing them.

According to UNICEF, there is a high probability of neonatal mortality in the veryfirst month of their life. Although the rate has decreased, 2.4 million died globally (UNICEF Sept, 2020). The selected literatures reviews that inadequate knowledge for nurses, lack of communication and follow-up were among the

challenges healthcare providers face in terms of dealing with families. Nurses education should not be limited. They should have up-to-date information regarding the sector they are in and acquire working skill of communicating. Government must provide the necessary equipment for dealing with patients assoon as possible. Obtaining blood samples for laboratory investigation and continuous 48 hrs monitoring for possible signs of jaundice prior to discharge helps in early detection and reduction of newborns death. Healthcare practitioner should be able to assess, diagnose and suggest which treatment (pharmacological, intravenous immunoglobulin, exchange transfusion phototherapy) best suit the patient. Mothers need to feel secured with the treatment ongoing. Nurses should be certain bilirubin is below 14mg/dl before discontinuing treatment.

As supported by the result of this study, although nurses are primarily responsible for intervening in caring for neonates with jaundice, families of the patient and the government play a role in the care plan. As noted in the findings, lack of maternal awareness of jaundice and its signs and symptoms has contributed to late treatment and follow-up. Having no knowledge of the condition of neonates may affect a mothers behavior in identifying the illness, causing a set backs in seeking medical treatment according to a study in China (Zhang, Hu,Wang, Zhang, Zhang, & Hu, 2015).

The discovery of such behavior can influence the development in healthcare professionals in controlling and managing the care plan of newborns withjaundice as this study aimed to achieve. Education and counselling is significantat this point to help parents get adequate knowledge on the type of jaundice and the implications of late treatment. Discussion of measures including how parent can assess the newborn, home care plans, adequate feeding, explanation of different approaches available in treating the newborn may relieve parent from fear and misconception

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