"Assess the level of cord blood albumin as a predictor of jaundice in healthy term new born in selected hospital of the city."

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ABSTRACT:
Health is defined as a state of complete physical, mental, and social wellbeing and not merely an absence of disease. Health is a fundamental human right. Infant mortality rate is one of the most universally accepted indicators of health status.1 Newborn with low levels of bilirubin glucuronosyl transferase and people with a severe genetic deficiency of this enzyme are at risk for developing bilirubin toxicity, which occurs when bilirubin levels in cells become sufficiently elevated to interfere with normal cellular functions. Neonatal jaundice is commonest abnormal physical finding during the first week of life. Neonatal jaundice affects nearly 60% of term and 80% of preterm neonates during first week of life During the first week of life, newborn jaundice is the commonest abnormal physical finding. 1-3 More than two third of the newborn babies develop clinical jaundice The objectives of the study were to assess the level of cord albumin as a predictor of jaundice in healthy term newborns in selected hospital of the city.To find association between levels of cord blood albumin as predictor in healthy term newborns and selected demographic variables. A quantitative, non-experimental descriptive research study was conducted among selected hospital of the city A pilot study was conducted on 3 sample to check the feasibility of the study, and it was found to be feasible to conduct main study The main study was collected over 30 A tool was made for data collection. The tool consists of two parts section – A part-1 demographic data of mother, section –a part-2 demographic data of child section – B clinical assessment tool of jaundices Content validity and the reliability of the tool was obtained by using method The result was analysed using descriptive and Inferential Statistics Reliability was assessed using Pearson's correlation coefficient interrated method. The score of level of cord blood albumin was found to be r=0.91, In order to establish the reliability of the tool Result revealed that At 24 hours, 50% of the healthy term new borns had normal jaundice and 50% of them had mild jaundice. At 48 hours, 53.3% of the healthy term new borns had normal jaundice, 43.3% of them had mild jaundice and 3.3% of them had moderate jaundice. At 72 hours, 83.3% of the healthy term new borns had normal jaundice and 16.7% of them had mild jaundice. This study concludes that ,.level of cord blood albumin as a predictor of jaundice in healthy term new born it is helpful tool This research can be utilized in the field of clinical nursing, nursing education, nursing administration and nursing research. Study recommends promoting concepts of jaundice

Index Terms: Umbilical cord blood albumin, prediction, newborn jaundice, healthy term newborns

ɪNTRODUCTION

> *"An ounce of preventation is better than an ounce of cure"*

Benjamin Franklin

Health is defined as a state of complete physical, mental, and social wellbeing and not merely an absence of disease. Health is a fundamental human right. Infant mortality rate is one of the most universally accepted indicators of health status.Physiological jaundice is a result of immature liver cell which have low uridine diphosphoglucuronosyl transferase activity when compared to mature hepatocyte, low concentration of albumin which is a bilirubin binding ligand and increased number of erythrocytes which have a shorter life span. Neonatal jaundice is commonest abnormal physical finding during the first week of life. Neonatal jaundice affects nearly 60% of term and 80% of preterm neonates during first week of life. Early discharge of healthy term newborns has become a common practice, because of medical reasons like prevention of nosocomial infections, social reasons like in early naming ceremony, and also due to economical constrains. In significant number (6.5%) of newborns, Neonatal jaundice is the most common cause for readmission during the early neonatal period. During the first week of life, newborn jaundice is the commonest abnormal physical finding. 1-3 More than two third of the newborn babies develop clinical jaundice. Newborn jaundice can be associated with multiple etiologies, the most common being physiological jaundice. It is a common practice nowadays that healthy term newborns born by normal vaginal delivery

are discharged early because of medical and social reasons and also due to economical constraints14. This study will help us to predict development of jaundice in healthy term newborns and plan the intervention accordingly. This can also act as future referral to set a protocol to evaluate newborns and prevent readmission due to newborn jaundice. This would be cost effective and reduce the burden on family and hospital

PROBLEM STATEMENT
"Assess the level of cord blood albumin as a predictor of jaundice in healthy term new born in selected hospital of the city.''

OBJECTIVES OF THE STUDY
1. To assess the level of cord albumin as a predictor of jaundice in healthy term newborns in selected hospital of the city.
2. To find association between levels of cord blood albumin as predictor in healthy term newborns and selected demographic variables.

ASSUMPTION
Cord blood albumin level can be a predictor of jaundice in healthy term newborns.

CONCEPTUAL FRAMEWORK
The conceptual framework used in this study is Levels of Health Prevention model by Leavell and Clarke. Leavell and Clarke model explains various levels of prevention of disease in human being. It gives four level of prevention. They are primordial, primary, secondary and tertiary prevention. Health prevention theory has been used frequently in medical and nursing prevention. The aim of medical and nursing profession is not only to treat disease but also to prevent occurrence of disease. Health prevention model have a structure that is defined by its parts and process.
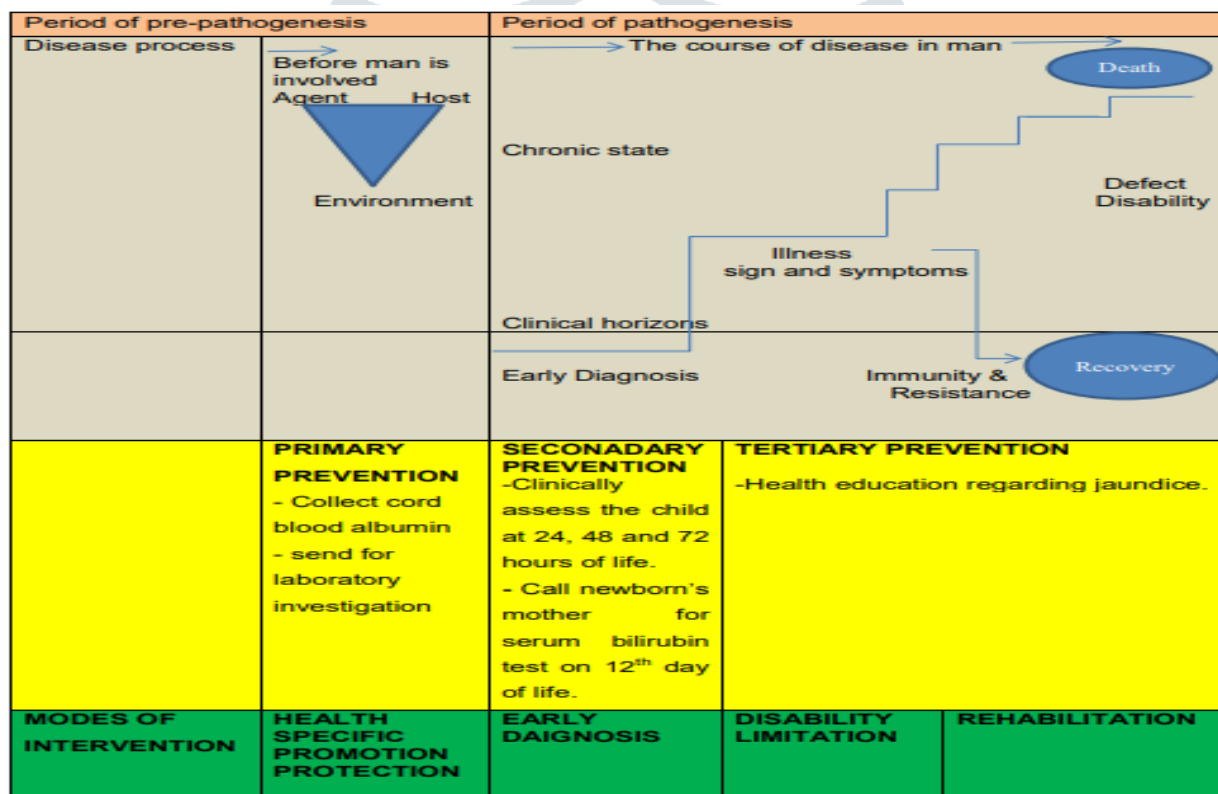
METHODOLOGY
Research methodology refers to the process by which a research conducts a study to answer a research question. This is a quantitative study which explores. level of cord blood albumin as a predictor of jaundice in healthy term new born To understand the background of the problem and also what necessitates. Therefore, the Researcher chooses to adopt the descriptive form of research

- **Research Approach**: Quantitative, Non-experimental approach.

- **Type of study design**: Descriptive research design

- **Setting of the study**: The selected hospital

- **Study population:** . Population for the study was healthy term newborn.

- **Sampling technique**: Non-probability consecutive sampling

- **Sample of the study**: Sampling size for the present study were 30 newborns in selected hospital of the city. Non-probability consecutive sampling method was used for study.

TOOL:
Section – A Part-1 Demographic data of Mother

❖   AGE OF MOTHER

❖   EUCATION

❖   Type of delivery

❖   Rh factor of mother

❖   Mode of labor

❖   History of neonatal jaundice in elder child

Section –A Part-2 Demographic data of child

❖   Gestational age

❖   Gender

❖   Birth weight

❖   Apgar score

❖   Rh factor of newborn

SECTION – B CLINICAL ASSESSMENT TOOL OF JAUNDICES

Descriptive statistics

• To describe the distribution demographic variables by using frequency, percentage.
• To determine the level of level of cord blood albumin by using mean, standard deviation

Inferential statistics

• To find out the association between levels of cord blood albumin as predictor in healthy term newborns and selected demographic variables

•   *DATA ANALYSIS AND INTERPRETATION*
The collected data is tabulated, analyzed, organized and presented under following heading: The data analyzed are presented under the following sections

SECTION I
•   Description of mothers of healthy term newborns based on their demographic characteristics in terms of frequency and percentages

•   Description of healthy term newborns based on their demographic characteristics in terms of frequency and percentages
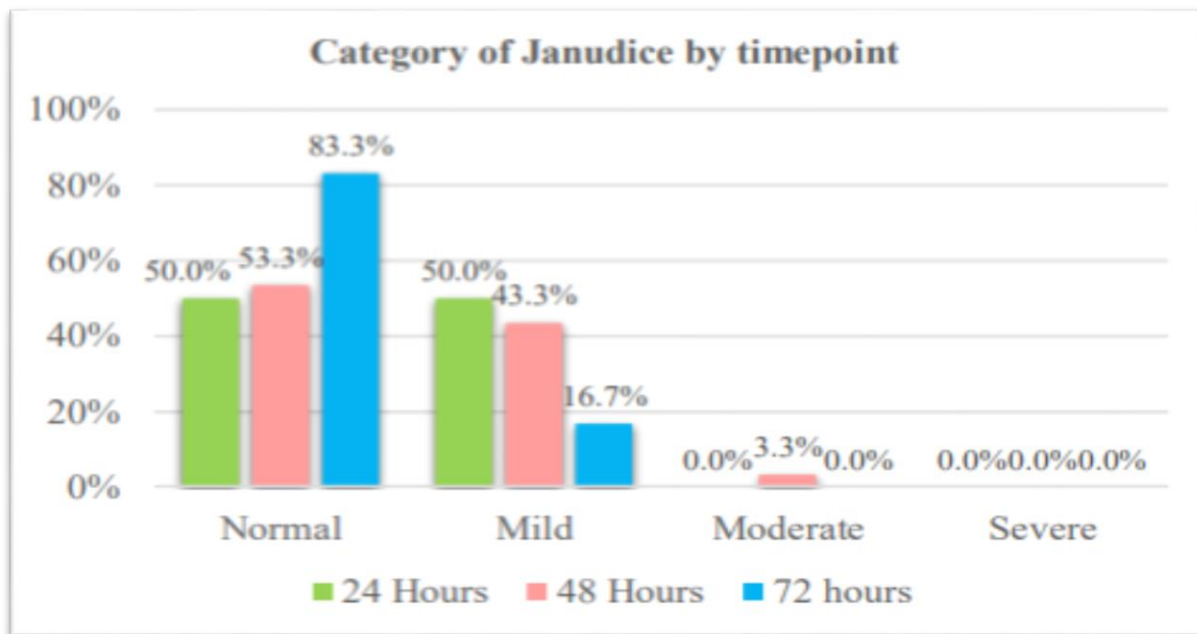
Section II
•   Analysis of data related to the level of cord albumin as a predictor of jaundice in healthy term newborns in selected hospital of the city
Section III
•   Analysis of data related to association between levels of cord blood albumin as predictor in healthy term newborns and selected demographic variables

Section II Analysis of data related to the level of cord albumin as a predictor of jaundice in healthy term newborns in selected hospital of the city
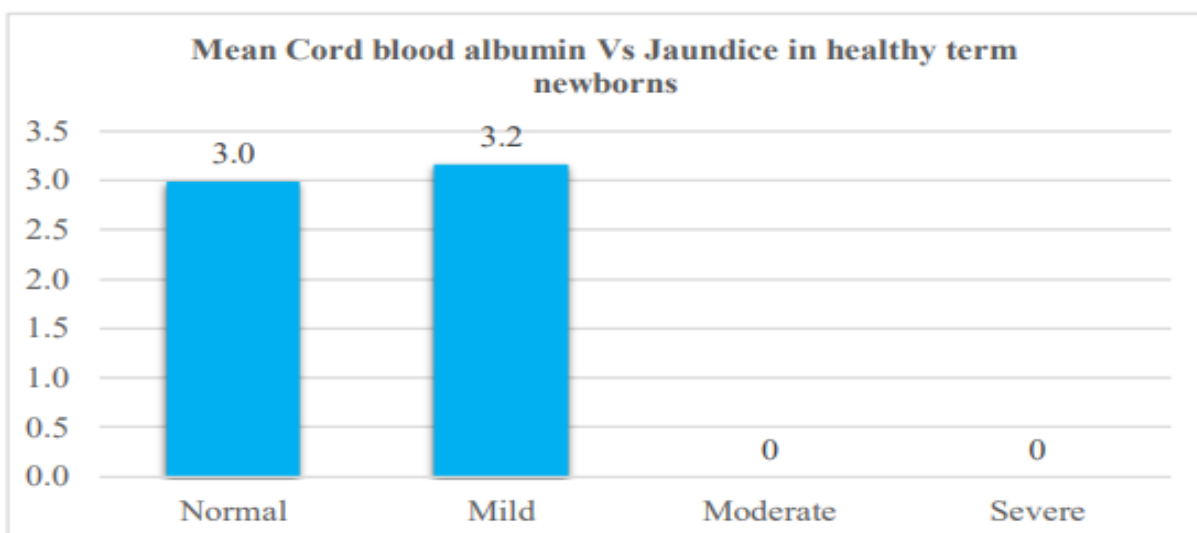
Category of Janudice by timepoint

At 24 hours, 50% of the healthy term new borns had normal jaundice and 50% of them had mild jaundice. At 48 hours, 53.3% of the healthy term new borns had normal jaundice, 43.3% of them had mild jaundice and 3.3% of them had moderate jaundice. At 72 hours, 83.3% of the healthy term new borns had normal jaundice and 16.7% of them had mild jaundice.

Mean Cord blood albumin Vs Jaundice in healthy term newborns

Healthy term new borns having normal jaundice were found to have mean cord blood albumin 3 with SD 0.47 and those having mild jaundice were found to have mean cord blood albumin 3.2 with SD 0.35. This indicates that the healthy terms new borns having higher values of cord blood albumin is the predictor of the Jaundice in healthy term newborns.

RESULT :

In this study level of cord blood albumin as a predictor of jaundice in healthy term new born At 24 hours, 50% of the healthy term new borns had normal jaundice and 50% of them had mild jaundice. At 48 hours, 53.3% of the healthy term new borns had normal jaundice, 43.3% of them had mild jaundice and 3.3% of them had moderate jaundice. At 72 hours, 83.3% of the healthy term new borns had normal jaundice and 16.7% of them had mild jaundice.

CONCLUSION:

This study concludes that,. level of cord blood albumin as a predictor of jaundice in healthy term new born it is helpful tool This research can be utilized in the field of clinical nursing, nursing education, nursing administration and nursing research.

NURSING IMPLICATION

The investigator has drawn the following implications in the field of, Clinically nursing nursing education, nursing administration and nursing research.

CLINICALLY NURSING

- Child birth is a normal process. Newborn jaundice has been a frequent cause for readmission of newborn in their newborn period. The process of readmission adds to the burden on hospital economy, parents as well. Nurse can be experts in diagnosing the development of jaundice in the newborn, thereby predict the extent of damage it can cause if it crosses the blood brain barrier. Midwives are experts in delivering the newborn and get the cord blood albumin sampling done for all the newborn. The present study finding reveal that a cord blood albumin level of >2.15 mg/dl is good enough to predict jaundice. Nurses can utilize this value and predict jaundice in the newborn. These findings are consistent with the previous studies which demonstrate high sensitivity and specificity to predict the level of cord blood albumin as a predictive tool for newborn jaundice. The researcher conducted the study to utilize cord blood after delivery which does not inflict pain in the subject, hence contribute to developmental care and thus can be made a routine practice in the labor room.

- The procedure if practiced can reduce the burden of readmission and decrease the level of psychological stress in the parents. This can also reduce risk for newborn infection caused due to readmission.

- The procedure of collection of cord blood is a simple procedure and requires minimal skills practice and hence can be done by all nurses.

- The procedure is cost effective. It reduces the cost family, hospital and community bears when a newborn is readmitted for any illness.

- This study strength the modern concept of preventive child health. The procedure of blood sample collection did not involve any invasive procedure hence; this reduced the risk of subject being exposed to pain. These study findings can be utilized in health care setting which has basic lab facility available.

NURSING EDUCATION

- Nursing students are future care providers and educators. The current study adds to the knowledge of the group with scientific and statistical significance that cord blood albumin can be a good predictor of newborn jaundice

- The technique of recording adequate history antenatal history has to be emphasized and thought so as to prevent many newborn diseases and complication occurring because of the same. Student can be taught to appropriately assess the newborn clinically as per the sign and symptoms for development of jaundice. Utilization of standardized tools in clinical field for early diagnosis of newborn illnesses. This will help in enhancement of the clinical assessment skills student nurses as a part of their training.

- The predictive value assessed with scientific investigation has contributed to the identification of risk and predication of jaundice in the newborn nursing practice. In the curriculum of update courses, in service education and staff development program this study is relevant to motivate.

- Classroom teaching can include different methods to predict jaundice in early newborn period. Guidelines and protocols can include the cord blood albumin value as a per predictor of jaundice in term newborn.

NURSING ADMINISTRATION

- The key findings of the study can be used in the continuing Nursing Education Programmes, staff development programme and in- service education programme for newborn units which will 90 improve the quality of nursing practice and nursing education.

- Nurse as an administrator of maternity and newborn unit can influence the quality of care rendered to mother as well as newborn. As a nurse administrator, one can take steps to include study findings in an institutional policy of collection of cord blood for albumin as a routine.

- Recommends procurement of bilirubinometer to be able to perform tests in the NICU settings itself and does not depend on the laboratory for the same. Include documentation of cord blood albumin level in the already existing documents of the newborn, which will help in future estimation and prediction.

- This can become a protocol for referral and follow up.

RECOMMENDATIONS

On the basis of the interred data, the following recommendations are drawn for further researcher and practice.

- The technique of conducting clinical examination of the newborn and collecting adequate feeding history can help in predicting jaundice.

- Nurses working in the same maternity ward should be taught to appropriately assess the status of mother as well as the newborn for development of jaundice and other newborn illnesses.

- A standard protocol can be prepared to collect cord blood albumin levels as a routine practice and prevent early discharged of the based on the cord blood value.

- Instead of discharging the newborn early, can detain those newborns with a cord blood albumin value of >2.15 mg/dl and follow up the child till 72 hours of life.

- A comparative study can be conducted between cord blood albumin and cord blood bilirubin as a predictor of jaundice.

- A prospective study can be done on the feeding of newborn and development of jaundice in the newborns.

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