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Prediction of mortality in NICU of tertiary care rural hospital by using Snappe- II

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***ABSTRACT**-- Neonatal mortality is very high in India. The complains of neonatal illnesses are not **that** obvious, so by the time an illness is diagnosed, the neonates become critically ill. Hence, an objective scale is required. To predict mortality of neonates in NICU by using SNAPPE II. To study correlation of snappe II score and mortality of neonates. The study was conducted in Neonatal ICU of Jawaharlal Neharu Medical College and AVBRH ,Sawangi (M) , WardhaDuration of study: 2 years .From August 2018 to June 2020Sample size : 50Type of study : Prospective observational studyEthical Committee approval : The Institutional Ethical Committee permission was sought to conduct this study before data collection.Inclusion criteria : All newborns coming to NICU with birth weight < 1500 gm Exclusion criteria :Neonates going discharged against medical advice and referred patients.Congenital malformationsProcedure of study : All patients getting admitted to NICU with <1500 gms were examined for following 9 parameters to award specific points depending on observations on neonatal reports within first 12 hours of NICU stay. Depending on those points we got cumulative score by summation **of points** of these 9 parameters. The neonates who had higher score was considered to be more prone for mortality. Our prediction and the actual outcome in the form of survival and **non-survival** was compared.*

Findings will be encouraging to use SNAPPE II Scores for assessments of neonates in NICU.

***Keywords**--SNAPPE II score, neonatal mortality*

I. INTRODUCTION

From the inception of modern medicine neonatal mortality remains cause for concern for many healthcare faculty. Efforts are put in to tackle fragile issue of neonatal mortality to bring some fruitful outcome. On the journey to accomplish this target we have received substantial success in form of statistical improvement in outcome.

Data published by WHO and supported by UNICEF[1]reflects reduction of neonatal mortality to 19 deaths per 1000 live births globally in 2016.

Most of the credit goes to realisation of the problems and its solution in form of trained staff, allocation of dedicated infrastructure, newer technologies and equipments to address the issues in setup[8]. Documentation remains the mainstay to compare the outcome from various parts of worlds [9].

Commonly used parameters of risk such as weight at birth, weeks of gestation at the time of delivery, and sex do not completely assess severity of illness[10]. In ICUs of pediatric and neonates, this problem has been addressed by many working members[11]. During recent years many of such scoring systems have evolved focusing on severity and prognosis of patients[12] .

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Of all these scores, clinical risk index for babies (crib), crib II, prism (paediatric risk of mortality), prism II, prism III[13], score for neonatal acute physiology (snap), snap II, SNAP-PE i.e, with Perinatal Extension [snappe-II]. The above scores help to predict mortality in low birth weight babies. It may help in assessing the outcome of low birth weight babies among different hospitals. Many neonates may have early onset sepsis of which streptococcus pyogenes may be one of the cause[7].

The score for neonatal acute physiology (snap) score was made by DK Richardson in the year,1993 for low birth weight babies and made official a predict early mortality. It is a physiology based score which uses thirty-four commonly used vitals[2-4] and lab values. The snap score was troublesome to use because of number of items. In the year,1998, DK Richardson, modified snap score, i.e, snap II. Later to above score, 3 more perinatal variables were added, such as birth weight, APGAR scores, and SGA[5] and was called as snap II with perinatal extension (snappe-II) [6]. The score was made easier by decreasing the no. of items to 6 from 34 and the duration to first twelve hours of admission from twenty-four hours of admission to decrease the effects of early intervention.

II. AIMS & OBJECTIVES

Aim: predict mortality of neonates in NICU by using SNAPPE II

Objectives:

To study correlation of SNAPPE II score and mortality of neonates

III. METHODS

Infrastructure: The study will be conducted in Neonatal ICU of JNMC, AVBRH, Sawangi (M) , Wardha

Duration of study: 2 years. From August 2018 to July 2020

Sample size: 50

Type of study: Prospective observational study

Ethical Committee aproval : The Institutional Ethical Committe permission will be saught to conduct this study before data collection.

Inclusion criteria: All newborns coming to NICU with birth weight less than 1500 gm

Exclusion criteria:

1) Neonates going discharged against medical advice and referred patients.

2)Congenital malformations

Procedure of study: All patients getting admitted to NICU in inborn section with less than 1500 gms will be examined for following 9 parameters to award specific points depending on observations on neonatal reports within first 12 hours of NICU stay. Depending on those points we will get cumulative score by summation of points of these 9 parameters . those neonate having higher score will be considered to be more prone for mortality. Our prediction and the actual outcome in the form of survival and non-survival will be compared with statistical software and checked with ROC curve analysis method.

IV. EXPECTED OUTCOMES/RESULTS

Findings will be encouraging to use SNAPPE II Scores for assessments of neonates in NICU.

V. DISCUSSION

We are doing this study, to find out that whether this score is reliable to assess mortality score. Variety of studies in this hospital and geographic region were accessed to study the factors and associated conditions [(13-72).]

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