A Study to Assess the Efficacy of using Kramer's Rule to Assess Newborn in Phototherapy at SMVMCH, Puducherry

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ABSTRACT

Neonatal jaundice affects approximately 60 percent of full-term infants and almost every premature infant. For the vast majority of these newborns increased total serum bilirubin (TSB) levels are benign and transitory with only 5% reaching levels that require treatment. This study involves quantitative study approach and descriptive research design was adopted. This study was conducted in NICU at SMVMCH, Puducherry. A total of 30 newborns in phototherapy were selected for this study using purposive sampling technique. The results showed that the demographic variables such as mother's age, ABO incompatibility and Mode of delivery had shown statistically significant association between efficacy of phototherapy using Kramer's rule with chi-square value of χ^2 is 0.594, 0.589 and 0.524.The overall result shows that significant and non-significant relationship with the demographic variables the level of p<0.05.

Keywords: phototherapy, Kramer's rule, efficacy, jaundice.

INTRODUCTION

Neonatal jaundice affects approximately 60 percent of full-term infants and almost every premature infant. For the vast majority of these newborns increased total serum bilirubin (TSB) levels are benign and transitory with only 5% reaching levels that require treatment. Visible jaundice usually appears between 24-72 hours of age. Phototherapy has been shown in a large multicentre RCT to be a safe and effective method for lowering the SBR level. The following chart gives the SBR level for a given day of life and gestational age at which to commence phototherapy in well babies with uncomplicated jaundice.

STATEMENT OF THE PROBLEM

A study to assess the efficacy of using Kramer's rule to assess newborn in phototherapy at SMVMCH, Puducherry

OBJECTIVES
1. To assess the Efficacy of phototherapy using Kramer's rule among newborn.
2. To evaluate the efficacy of phototherapy using Kramer's rule among newborn.

ASSUMPTION
It is assumed that:
- The Kramer's rule may be effective in assessing the efficacy of phototherapy among newborns.

METHODOLOGY

The study involves quantitative research approach and descriptive research design was adopted. The study was conducted in NICU at SMVMCH, Puducherry. 30 samples of newborns in phototherapy were selected for the study. 30 newborns in phototherapy were

selected for the study by using convenient sampling technique.

DESCRIPTION OF THE TOOL:
Section A:
This section consists of demographic data such as Mother's age, religion, education, occupation, family income, age of the baby (in days), gender, Birth weight, weeks of gestation, type of jaundice, ABO incompatibility.

Section B:
This section consists of Kramer's rule for assessing the efficacy of phototherapy in Newborn Visual assessment of NNJ (Kramer's rule)

SCORE INTERPRETATION:

Area of the body	Score	Range of serum bilirubin (mg/dl)
Head and neck	1	4-8
Upper trunk (above umbilicus)	2	5-12
Lower trunk and thighs (below umbilicus)	3	8-16
Arms and lower legs	4	11-18
Palms and soles	5	≥18

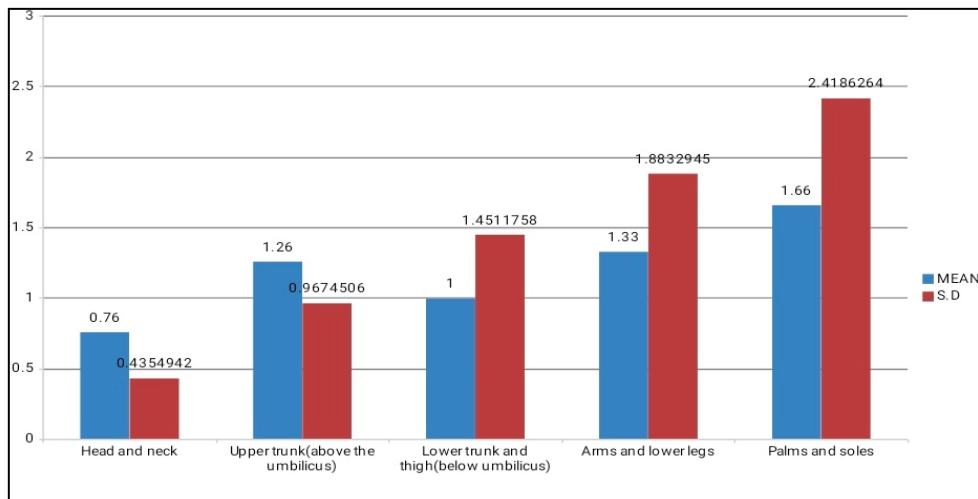**Table 1.2: Mean and standard deviation of Kramer's rule among newborns**

Table1.2 mean and standard deviation of Kramer's rule among newborns with the mean value of 0.76 and standard deviation of 0.4354 in head and neck. In upper trunk the mean and standard deviation is 1.26 and 0.96745. In lower trunk the mean and standard deviation is 1 and 1.45117.The mean and standard deviation in arms and lower legs is 1.33 and 1.8832945.In palms and soles the mean and standard deviation is about 1.66 and 2.418

Table 2: To evaluate the efficacy of phototherapy using Kramer's rule among newborns.
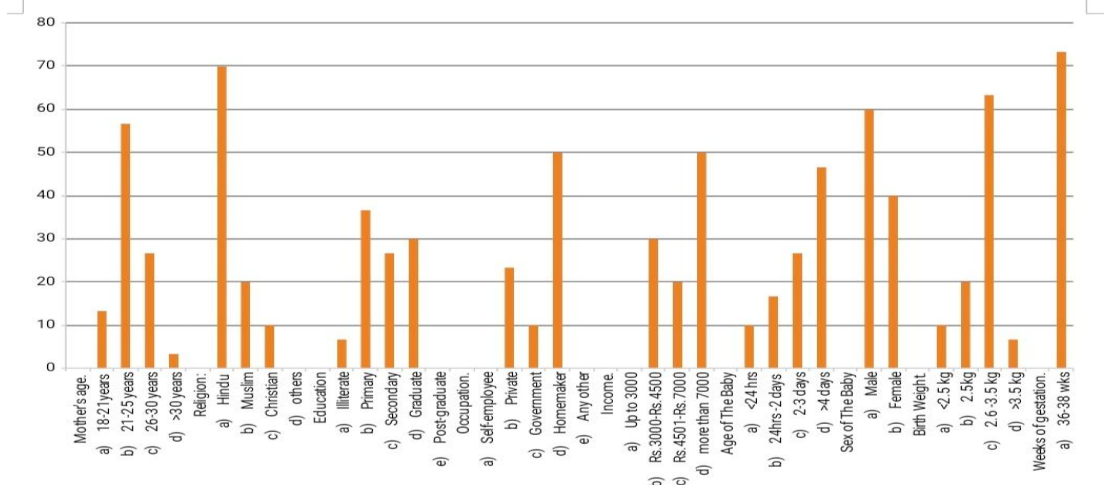
RESULTS AND RECOMMENDATION

The results showed that the demographic variables such as mother's age , ABO incompatibility and Mode of delivery had shown statistically significant association between efficacy of phototherapy using Kramer's rule with chi-square value of X2 is 0.594, 0.589 and 0.524.The overall result shows that significant and non-significant relationship with the demographic variables the level of $p<0.05$.

RECOMMENDATIONS

The study can do at the large number of samples.

The study can be done by using other professional therapist.

The study can be implemented at the various states of India.

The study results showed that there was a significant association for mother age group and increased bilirubin in baby. So a collaborative study can be conducted to assess the maternal age with Kramer's rule application.

CONCLUSION

Therefore, the findings reveals that demographic variables such as mother's age, ABO incompatibility and Mode of delivery had shown statistically significant association between efficacy of phototherapy using Kramer's rule with chi-square value of χ^2 is 0.594, 0.589 and 0.524. These results showed that the Kramer's rule is effective in assessing the efficacy of phototherapy.

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