

## ABSTRACT

**Introduction:** The most common cause of neonatal mortality in the developing countries is neonatal sepsis, the diagnosis of which depends on blood culture, which has low sensitivity and takes time. We hypothesize that demonstration of elevated NRBC levels in neonatal sepsis might help in predicting an adverse neonatal outcome and hence we can improve the care by prioritizing them.

**Aim of the study :** To measure the nucleated RBC levels in blood samples of neonates with sepsis and to analyse whether it can serve as a prognostic marker for neonatal sepsis and an increased risk for adverse neonatal outcome.

**Materials and methods:** This is a hospital based prospective study done in neonates who are admitted in NICU of Madurai Medical College with risk factors or clinical features of sepsis. After getting informed consent, the maternal details and examination findings were recorded and blood sample taken for sepsis screen, blood culture and peripheral smear for NRBC.

**Results:** The sensitivity of NRBC in identifying sepsis was 81.5%, its specificity was 61.76%, positive predictive value was 70.4% and negative predictive value was 75%. In the neonates who expired, serial NRBC counts (mean – 22.4) were significantly increased from baseline value (mean 17.3).

**Conclusion:** NRBC is significantly elevated in the neonatal sepsis and is a predictor of adverse neonatal outcome

**KEYWORDS:** neonatal sepsis, NRBC, outcome