

Proportions and Odds Ratio Analyses of Maternal and Perinatal Factors Associated with Neonatal Sepsis in a Developing Country

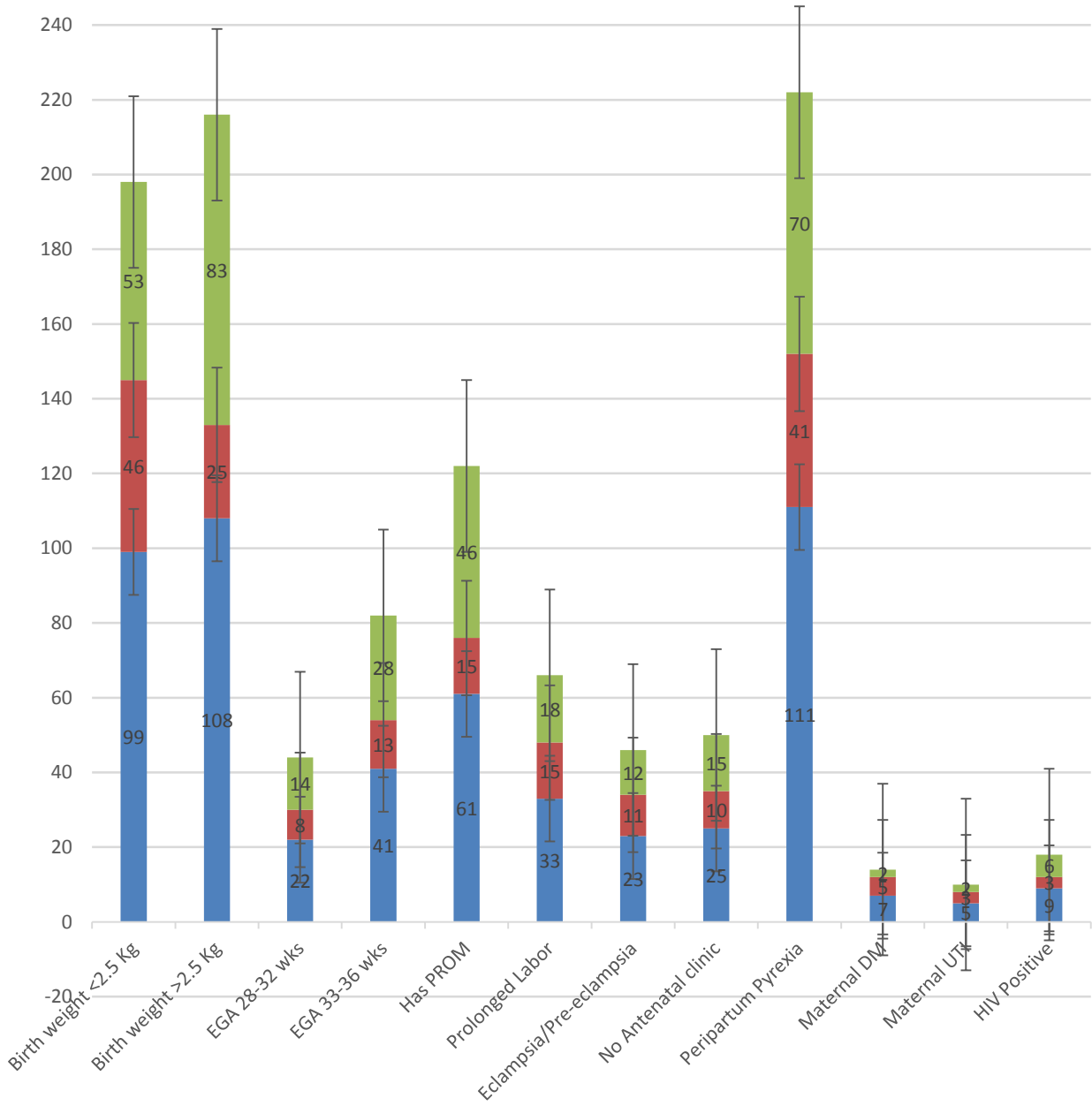
ABSTRACT

Background: Determination of perinatal risk factors of neonatal sepsis will enable prevention, early diagnosis and treatment especially in a developing country context. The aim of this study was to determine the predominant maternal and perinatal factors associated with neonatal sepsis.

Methods: This was a cross-sectional study conducted in a tertiary care hospital in Jos, Nigeria. Perinatal, maternal and demographic data were collected from mothers or care givers of 218 neonates suspected to have sepsis by a clinical criteria. Neonatal sepsis was confirmed by positive cultures from blood cultures and/or Cerebrospinal fluid samples collected from all the neonates and processed by standard methods in the microbiology laboratory of the hospital. Data obtained were analyzed using Epi info version 3.5.3 statistical software.

Results: Of the 218 neonates (109 males, 99 females), 75 (34.4%) had culture positive sepsis and 99 (45.5%) had a birth weight of less than 2.5Kg. There was a higher rate of culture positive sepsis in low birth weight neonates (weight < 2.5 Kg, 46.5% culture positive) compared to weight \geq 2.5 Kg (23.1 % culture positive). Fifteen (24.6%) of the mothers who had prolonged rupture of membranes (PROM > 24 hours), 15 (45.5%) of those with prolonged labor (> 14 hours), 11 (47.8%) of those with pre-eclampsia or eclampsia and 5 (71.4%) of those with Diabetes Mellitus (DM) had neonates with positive cultures. Maternal DM, birth weight, gestational age, prolonged labor, mode of delivery and history of pre-eclampsia or eclampsia were associated with neonatal sepsis with odds ratios greater than 1 while only maternal DM had a P value < 0.05.

Proportions and confidence intervals of culture positive sepsis in relation to maternal and perinatal factors in the neonates evaluated in Jos, Nigeria



EGA = Expected Gestational Age, PROM = Prolonged rupture of membranes,
DM = Diabetes Mellitus, UTI = Urinary Tract Infections

Conclusion: Based on proportions and odds ratio analyses, adverse maternal and perinatal factors directly correlated to the presence of neonatal sepsis in a large proportion of the neonates studied. Proper antenatal and peripartum care will go a long way in reducing the incidence of neonatal sepsis and the morbidity and mortality attributed to it in developing countries.