

P2447 Risk factors of neonatal sepsis from hospitals in South Asia and Africa: the Burden of Antibiotic Resistance in Neonates from Developing Societies (BARNARDS) - a group study

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Background: Neonatal sepsis and associated mortality is a global health concern that is not being effectively curtailed, especially within low-middle income countries. Risk factors for neonatal sepsis in Nigeria, Rwanda, Ethiopia, South Africa, Pakistan, India and Bangladesh were assessed to provide data to help tackling the high burden of sepsis and infant mortality in these countries.

Materials/methods: BARNARDS incorporated two recruitment routes:

- i.) Mothers in labour admitted to the clinical sites involved in BARNARDS were recruited prospectively and, provided there was a livebirth, their infant(s) was followed up until 60 days old.
- ii.) Mothers who presented at hospital with their infant(s) showing signs of sepsis in the first 60 days of life were recruited and followed up until 60 days old.

Birth cohort included all infants in (i); sepsis cohort included infants who had a positive blood culture, with infants recruited via both routes eligible for inclusion as long as they met the diagnostic criteria.

We fitted two-level logistic regression models, adjusting for the clustered nature of infants within sites, to investigate the risk factors of sepsis and mortality from sepsis. Infant, maternal and environmental risk factors have been analysed.

Results: Significant risk factors were associated with distinct categories analysed as shown in table below:

Category	Significant Risk Factors (p<0.01)
Infant	<ul style="list-style-type: none"> • Delivery type • PPRM • Perinatal Asphyxia • Prematurity
Maternal	<ul style="list-style-type: none"> • Comorbidities • Hospitalisation (past 12 months) • Private healthcare (past 3 months) • Used antibiotics (past 3 months)
Hospital Environment	<ul style="list-style-type: none"> • Ward type • Number of beds • Bathroom on ward
Living Environment	<ul style="list-style-type: none"> • Household income • Quality/availability of water • Quality/availability of electricity • Rurality

Conclusions: For culture confirmed sepsis cases, infants born prematurely were 4.5 times more likely to develop sepsis compared to full-term births. Infants of mother's who were hospitalised (past 12 months) or used antibiotics (past three months) were at increased risk of developing sepsis. Infants on neonatal ward were over 10 times more likely to develop sepsis than those on maternity ward. Those with limited or no access to electricity or water were more likely to develop sepsis than those with regular access. Increased levels of mother's education had a positive correlation with being protective against sepsis.

