Prevalence and factors associated with late-onset neonatal sepsis among neonates in Dar es salaam, Tanzania: A hospital based prospective observational study

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Abstract

Background: There is unstable decrease in neonatal mortality in Tanzania despite necessary effort to improve quality of neonatal care. Neonatal sepsis is among the top three causes of mortality, therefore understanding the magnitude and factors associated with it is crucial for management and prevention.

Objectives: To determine prevalence and factors associated with late-onset neonatal sepsis among neonates in Dar es Salaam.

Methods: A hospital-based observational study was conducted in Dar es Salaam Public Regional Referral Hospitals. Neonates with a presumptive diagnosis of late onset neonatal sepsis based on the national guideline for neonatal care and establishment of neonatal care unit by the united republic of Tanzania formed the study population. Data were collected using a pre-designed questionnaire. Data were analyzed using SPSS version 23. Binary logistic regression analysis was used to determine factors associated with late onset neonatal sepsis. Adjusted odds ratio and respective 95% confidence intervals were computed. The p-value of 0.05 or less was regarded as statistically significant.

Results: The study recruited and analysed 427 neonates. Prevalence of late-onset neonatal sepsis was 61.6%. Grunting (p-value <0.001, AOR=10.377 (95% CI:2.179-12.817)), and history of foul-smelling liquor (p-value =0.036, AOR=10.377(CI:1.161-92748)) were independently associated with late-onset neonatal sepsis. Furthermore, among neonates with late-neonatal sepsis, 238 (90.5%) recovered and were discharged home within 7 days after admission while 22 (8.4%) died, and 3 (1.1%) were referred to Muhimbili National Hospital. Early neonatal mortality was high among neonates with late-onset neonatal sepsis compared to neonates with other diagnoses (x2 = 3.65 (1); p=0.04).

Conclusions: Late-onset neonatal sepsis was highly prevalent in this study. Compared to neonates admitted with other diagnoses, late-onset neonatal sepsis was linked to increased neonatal mortality. Grunting and fouls-smelling liquor were discovered to be linked to late- onset neonatal sepsis.

Recommendations: Additional research is required to determine the underlying determinants that predispose neonates to develop late-onset neonatal sepsis and ultimately leading to neonatal deaths. Meanwhile special attention should be directed to neonates who present with history of foul smelling liquor and other features of severe illness such as grunting; with emphasis of initiating prompt parenteral broad spectrum antibiotics (so as to reduce morbidity) and supportive care as well as monitoring response to treatment.

Keyword: Late- onset neonatal sepsis, Dar es Salaam, Tanzania.