

Impact of quality improvement bundle on neonatal mortality in a district hospital in Tanzania

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Objective. The poor quality of care received by mothers and neonates in many limited resource countries represents a main determinant of newborn mortality. Small and sick hospitalized newborns are the highest-risk population, and they should be one of the prime beneficiaries of quality-of-care interventions. This study aimed to evaluate the impact on neonatal mortality of quality improvement interventions which were implemented at Tosamaganga Council Designated Hospital, Iringa, Tanzania, between 2016 and 2020.

Materials and Methods. A retrospective comparison between pre- and post-intervention periods was performed using the chi-square test and Fisher's exact test. Effect sizes were reported as odds ratios with 95% confidence intervals.

Results. The analysis included 5742 neonates admitted to the Special Care Unit (2952 in the pre-intervention period and 2790 in the post-intervention period). A decrease in mortality among infants with birth weight between 1500 and 2499 g (overall: OR 0.49, 95%CI 0.27-0.87; inborn: OR 0.50, 95%CI 0.27-0.93) was found. The analysis of cause-specific mortality showed a decrease in mortality for asphyxia (OR 0.33, 95%CI 0.12-0.87) among inborn infants with birth weight between 1500 and 2499 g.

Conclusions. A quality improvement intervention was associated with decreased mortality among infants with birth weight between 1500 and 2499 g. Further efforts are needed to improve prognosis in very-low-birthweight infants.