

# PREVALENCE RISK FACTORS AND EARLY OUTCOME OF HYPOGLYCEMIA IN NEONATES BORN AT MWANANYAMALA AND KAIRUKI HOSPITALS IN DAR ES SALAAM

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## ABSTRACT

**Introduction:** Neonatal hypoglycemia may not be detected unless routine measurements of glucose level are undertaken in all newborn babies in a particular hospital, due to the fact that many neonates may present with asymptomatic hypoglycemia. The aim of this study was to determine precisely at what time after delivery neonates develop hypoglycemia.

**Objective:** The broad objective of the study was to determine the prevalence, risk factors and early outcome of hypoglycemia among neonates born in two health facilities in Dar Es Salaam, Tanzania.

**Methodology:** This was a descriptive cross-sectional hospital based study carried out in neonates in the labour, postnatal and neonatal wards at Kairuki and Mwananyamala hospitals in Dar es Salaam, Tanzania. Two hundred and seventy two (272) neonates born at Kairuki and Mwananyamala hospitals from May to July 2019 were enrolled in the study after obtaining written informed consent from their mothers by use of structured questionnaires administered by the author. Blood sample obtained from the heel prick at intervals of one, six, 12, 24 and 72 hours to determine blood glucose levels. A blood glucose level of 2.77 mmol/Lt was considered a cut off point for a normal blood glucose level.

**Results:** A total of 272 neonates were recruited in the study. The overall prevalence of hypoglycemia was 25.7%. The prevalence of Hypoglycemia at one, 6 and 12 hours after delivery were 8.5%, 16.5% and 0.7% respectively. None of the neonates had hypoglycemia after 24 hours of delivery. Neonates who were breastfed within one hour of delivery had a lower rate of hypoglycemia when compared to those who were not breastfed within the first hour of delivery adjusted Odd's ratio of 11.615. Out of the 70 children who had hypoglycemia 6 (%) developed seizures.

**Conclusions:** The overall prevalence of neonatal hypoglycemia in this study was 25.7%. The majority of neonatal hypoglycemia in this study was asymptomatic. The highest prevalence 16.5% of neonatal hypoglycemia was at six hours of life. The majority of neonates had presented with asymptomatic hypoglycemia.

**Recommendations:** Further studies are recommended to follow up on these findings with a large sample size that will allow understanding the problem of neonatal hypoglycemia in depth. Findings of which will support development of appropriate preventive measures of neonatal hypoglycemia. It is emphasized for mothers to initiate early breastfeeding at least

within the first one of delivery which should be coupled with breastfeeding lactation sessions. Meanwhile glucose monitoring should be carried out among high risk neonates and those with signs and symptoms of disease such as seizures. I