

# **PRACTICE AND OUTCOMES OF NEONATAL RESUSCITATION FOR NEWBORNS WITH BIRTH ASPHYXIA AT KAKAMEGA COUNTY GENERAL HOSPITAL, KENYA: A DIRECT OBSERVATION STUDY.**

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**Background:** Three - quarters of all neonatal deaths occur during the first week of life, with over half of these occurring within the first 24 hours after birth. The first minutes after birth are critical to reducing neonatal mortality. Successful neonatal resuscitation (NR) has the potential to prevent these perinatal mortalities related to birth asphyxia. This study described the practice of NR and outcomes of newborns with birth asphyxia in a busy referral hospital.

**Methods:** Direct observations of 138 NRs by 28 healthcare providers (HCPs) were conducted using a predetermined checklist. Descriptive statistics were computed and chi - square tests tested the associations between the newborn outcome at 1 hour and the NR processes for the observed newborns. Logistic regression models assessed the relationship between the survival status at 1 hour versus the NR processes and newborn characteristics.

**Results:** Nurses performed 72.5% of the NRs. A warm environment was maintained in 71% of the resuscitations. Only 40% of newborns were correctly cared for in case of meconium presence in airway. Bag and mask ventilation (BMV) was initiated in 100% of newborns who did not respond to stimulation and airway maintenance. About 86.2% of resuscitated newborns survived after 1 hour. Removing wet cloth ( $P = 0.035$ ,  $OR = 2.90$ ,  $CI = 1.08 - 7.76$ ), keeping baby warm ( $P = 0.018$ ,  $OR = 3.30$ ,  $CI = 1.22 - 8.88$ ), meconium in airway ( $P = 0.042$ ,  $OR = 0.34$ ,  $CI = 0.12 - 0.96$ ) and gestation age ( $P = 0.007$ ,  $OR = 1.38$ ,  $CI = 1.10 - 1.75$ ) were associated with newborn outcome at 1 hour.

**Conclusions:** Mentorship and regular cost - effective NR trainings with focus on maintaining the warm chain during NR, airway maintenance in meconium presence; BMV and care for premature babies are needed for HCPs providing NR.