

TITLE: ASSESSMENT OF THE USE OF CONTINUOUS POSITIVE AIRWAY PRESSURE IN NEWBORN CARE IN KENYA

Authors: Nabwera HM¹, Dickinson F¹, Godia PM², Sammy MK³, Naimoi BC⁴, Gichuru S², Maina O², Mutuku J², Ochieng B⁵, Maua J², Warfa OH⁵, Murila F⁶, Aminu M¹, Dewez MJ⁷, Manu A¹, van den Broek N¹, Mathai M¹

Affiliations:

1. Liverpool School of Tropical Medicine, Liverpool
2. Liverpool School of Tropical Medicine, Nairobi
3. Gertrude's children's hospital, Nairobi
4. Kajiado County referral hospital, Kajiado
5. Ministry of Health, Nairobi
6. University of Nairobi, Nairobi
7. London School of Hygiene and Tropical Medicine, London

Background: Severe respiratory distress is a serious complication common to the three major causes of neonatal death. Continuous Positive Airway Pressure (CPAP) in newborn care saves lives and has the potential for large scale implementation in low resource settings, but is not free of adverse events. This study aimed to describe how CPAP is used in newborn care in Kenya and explore barriers and enablers of implementation.

Methods: All health facilities in Kenya that use CPAP in newborn care were included. A mixed method approach using questionnaires, key informant interviews and focus group discussions was employed. Descriptive statistics are used to analyse quantitative data. A thematic framework is used to analyse the qualitative data.

Results: To date the study has been conducted in (17/19) 89% of the facilities that use CPAP in newborn care in Kenya. The majority use commercial bubble CPAP that is predominantly donor funded, with ≤ 3 machines per newborn care unit. The main indications for initiating CPAP were respiratory distress and suspected pneumonia. Inadequate training of health care providers on the use of CPAP, health care provider strikes and staff shortages, and lack of maintenance of equipment once donors had withdrawn support were barriers to its use. The enablers were good leadership at the facility that supported the sustainability of CPAP use in newborn care and peer support from carers whose newborns had survived following CPAP use.

Conclusion: CPAP use in newborn care in Kenya is well accepted by health care providers, but there are significant challenges with the sustainability and safe use of this intervention. Going forward, implementation strategies should ensure that all staff working in newborn care units are trained adequately to safely administer CPAP and that the health facilities are empowered to maintain the CPAP machines or have ready access to this support.