

THE IMPLEMENTATION OF CONTINUOUS POSITIVE AIRWAY PRESSURE IN A HUMANITARIAN CONTEXT: THE EXPERIENCE OF MÉDECINS SANS FRONTIÈRES IN MOSUL, IRAQ

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Abstract

Background and objectives: Continuous Positive Airway Pressure (CPAP) is recommended for neonates with respiratory distress. CPAP is widely used in high-income countries, but less so in low- and middle-income settings. Here we assess key aspects of implementing CPAP in a humanitarian setting and describe the initial cohort of neonates treated, along with their clinical outcomes.

Methods: MSF implemented CPAP in a basic neonatal unit in Mosul following the request of the local medical team. Implementation of two bubble CPAP machines included initial training and refresher training one year later. Clinical data was recorded over 16 months (13 April 2021- 21 July 2022). Descriptive statistics were used to assess the feasibility and outcomes of using CPAP in this setting.

Results: CPAP was well accepted by most healthcare workers and parents. 93 neonates were placed on CPAP. 98% of patients had a birthweight >1.5Kg. The main indications were respiratory distress syndrome, pneumonia, transient tachypnoea, and meconium aspiration (46%, 22%, 16%, and 14% respectively). Average duration on CPAP was 53 hours. 63% of patients recovered, 8% were discharged against medical advice, 9% were referred, and 15% died. Among the 15 patients who died at our facility or at the referral facility, 7 had a contraindication to CPAP, and the initiation of CPAP was delayed in 9 patients. Complications included minor nasal lesions (17%), irritability (8%), and pneumothoraces (5%).

Discussion: Most patients improved with CPAP and were discharged home. 5% of patients developed pneumothoraces, which is in keeping with other reports. However, among patients who did not improve, a significant proportion had contraindications to CPAP initiation and/or were placed on CPAP in extremis, highlighting the importance of clear indication criteria and training. Using CPAP in a humanitarian setting may be feasible but is associated with high human resource needs for both training and practice.

Ethics

This study: Fulfils the exemption criteria set by the MSF ERB and was approved for submission by the OCG Medical Director.