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Evaluating the Impact of a Warm Chain Bundle on Neonatal Hypothermia in Somali Region, Ethiopia: A Multi-Hospital Review

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| Abstract

Neonatal hypothermia remains a significant cause of morbidity and mortality in low-resource settings. Inadequate thermal care during the perinatal period is a persistent challenge within hospital maternity services in regions such as the Somali Region of Ethiopia. This review aimed to evaluate the effectiveness of implementing a standardised 'warm chain' bundle for reducing the incidence of neonatal hypothermia within the first 24 hours of life in selected hospitals in the Somali Region. A narrative review was conducted, analysing aggregated and anonymised routine service data alongside quality improvement reports from five regional hospitals. The intervention was a multi-component warm chain bundle comprising staff training, immediate and thorough drying, promotion of immediate skin-to-skin contact, delayed bathing, and the use of radiant warmers and warm transport equipment. The review found a consistent and clinically meaningful reduction in hypothermia rates across all five hospital sites following implementation. One hospital documented a decrease in hypothermia on admission from approximately 45% to below 20%. Dedicated clinical leadership and continuous mentorship emerged as key facilitators of successful implementation. The implementation of a standardised warm chain bundle is a feasible and effective intervention for reducing neonatal hypothermia in resource-constrained hospital settings in the Somali Region. Sustained investment in staff training and essential

thermal care equipment is required. The warm chain protocol should be integrated into national and regional neonatal care guidelines and scaled to other facilities. Regular clinical audit and feedback mechanisms are crucial for maintaining improvements. neonatal hypothermia, warm chain, thermal care, quality improvement, Ethiopia, low-resource settings This review consolidates practical evidence from a challenging operational context, providing a framework for similar regions aiming to improve neonatal thermal care through bundled interventions.
