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Title: Enabling and impeding factors for implementing kangaroo mother care for low birthweight infants in low-and middle-income countries – the user side. A realist review.

Keywords: kangaroo mother care, preterm birth, low birthweight, implementation, health care user, realist review

Executive summary

Background:

Kangaroo mother care was initiated in 1978 in Bogotà, Colombia in as an alternative care method for low birthweight or preterm neonates, where the baby is held skin-to-skin against the mother's chest for thermal regulation. It was a response to high mortality rates among preterm neonates the context of insufficient conventional technology, such as incubators, and overcrowding of neonatal wards. While it was developed in and for resource-limited settings, its benefits are now widely acknowledged and kangaroo mother care is recommended for low birthweight or preterm infants in all settings. Despite the availability of a low-cost method with proven effectiveness to lower mortality among those neonates, mortality rates remain high in resource-poor settings. In the course of progress monitoring towards Millennium Development Goal 4 on reducing under-five mortality (MDG 4), the focus turned to neonatal mortality, low birthweight and preterm birth.

An estimated 15 million babies are born preterm every year; over 60% of these births take place in Sub-Saharan Africa and South Asia. The highest burden of preterm birth is in South-Eastern Asia, Southern Asia, and Sub-Saharan Africa. Further, 16% of babies born globally are low birthweight. However, over 80% of preterm births have very good chances of survival not requiring neonatal intensive care, and among all preterm births, 75% of deaths could be prevented without intensive care. This calls for urgent implementation of low cost, cost-effective and evidence-based interventions, such as kangaroo mother care (KMC).

Despite the widely agreed benefits among experts and many practitioners on facility-based KMC, there is low coverage in most low- and middle-income countries, and progress levels vary in countries that do implement KMC. Challenges and facilitators have been identified at all levels, on the provider side as well as the user side.

Study design and research question:

On the user side, a number of social, cultural and economic factors that have the potential to influence KMC practice are identified in the literature. In order to synthesize this information, a realist review was deemed the most appropriate method. Realist reviews aim to uncover underlying causal mechanisms that link the context of interventions with outcomes to explain what it is about an intervention that works (or not) for whom, in which context and how. Based on Andersen's Behavioural Model of Health Services Use (Andersen & Davidson 2001), literature on social determinants of health and social epidemiology as well as preliminary literature review on KMC implementation, five underlying mechanisms were selected for analysis: maternal age, maternal education, social networks, social and cultural norms and financial ability. The following research question was formulated: How do the underlying mechanisms *maternal age, maternal education, social networks, social and cultural norms* and *financial ability* influence the practice of kangaroo mother care by women in Sub-Saharan Africa, and Southern and South-Eastern Asia?

An extensive data search in 13 electronic databases and handsearch of systematic reviews on KMC was conducted. Ten studies of different designs were selected and included in the realist review and synthesis. The studies only covered countries from Sub-Saharan Africa; no study from the other focus regions met the inclusion criteria.

Findings:

This realist synthesis has highlighted that while many studies included some information on how an underlying mechanism may work, they usually did not provide enough substantial content to draw firm conclusions in terms of causal linkages.

Overall, results from the realist synthesis suggest that young maternal age is related to KMC practice in both contexts, facility and home, by characteristics and needs specific to young mothers, but causal pathways could only be assumed and not concluded from the information in the studies.

Regarding maternal education and health literacy, the importance of effective communication and appropriate information channels for behaviour change appeared. However, this also was relevant across the analysed context-mechanism-outcome constellations.

Social networks appeared in this synthesis as the underlying mechanism with more in-depth information from studies on how they can influence KMC practice through social support, social influence or negative social interactions.

One issue that came up throughout the synthesis: the biggest challenges for KMC practice lie in the period after facility discharge in the home context. Especially the underlying mechanisms 'social networks' and 'social and cultural norms' had at least the potential effect of stopping KMC.

Further, while the mechanisms were analysed separately, it is unlikely that they operate in isolation. More complex research studies to explore their interlinkages, or mutual reinforcement may be needed.