The road ahead for immediate kangaroo mother care in resource-constrained health systems

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Prematurity is the leading cause of death in newborns and children younger than 5 years both globally and in sub-Saharan Africa.[1] Kangaroo mother care (KMC) is recommended as an effective intervention to reduce this mortality.[2–4] Originally defined as skin-to-skin contact between a mother and her newborn, frequent and exclusive or nearly exclusive breastfeeding, and early discharge from hospital, KMC has been proposed as an alternative to conventional neonatal care for low birthweight babies. Large randomised controlled trials, including the WHO iKMC trial[5] and the OMWaNA trial published in this issue of *The Lancet*,[6] provide varying evidence of the effect of KMC initiated before clinical stabilisation of the newborn on reducing the rate of neonatal mortality.

Conducted in Uganda by Victor Tumukunde and colleagues,[6] the OMWaNA trial represents a promising advancement in the management of sick and vulnerable newborns in low-resource settings. The study assessed the effectiveness of KMC initiated before clinical stabilisation (intervention group) compared with standard care (control group) in low birthweight neonates across five government hospitals. The primary outcome was all-cause neonatal mortality at age 7 days. A total of 2221 newborns were randomly assigned: 1110 (50·0%) to the intervention group and 1111 (50·0%) to the control group. 558 (50·3%) newborns in the intervention group and 561 (50·5%) in the control group were female; and 552 (49·7%) newborns in the intervention group and 550 (49·5%) in the control group were male. In both groups, mean birthweight was 1·5 kg and mean gestational age was 32·3 weeks.

The trial reported no significant difference in mortality rates at 7 days between unstable newborns who received immediate KMC and those who received standard care. Specifically, after 7 days, 81 (7·5%) of 1083 newborns in the intervention group and 83 (7·5%) of 1102 newborns in the control group died (adjusted relative risk [RR] 0·97 [95% CI 0·74–1·28]; p=0·85). From randomisation to 28 days, 119 (11·3%) of 1051 neonates in the intervention group and 134 (12·8%) of 1049 neonates in the control group died (RR 0·88 [0·71–1·09]; p=0·23). Notably, societal and provider economic costs associated with KMC were lower than standard care. The WHO iKMC trial also showed non-significant results in early mortality; however, a 25% relative reduction was observed in 28-day mortality, mainly driven by data from India.[5] In a meta-analysis of African trial sites only, including the iKMC and OMWaNA trials, Tumukunde and colleagues[6] reported a pooled significant relative reduction of 14% in 28-day mortality.

Overall, the evidence base makes it clear that we need to rapidly adopt KMC practice for small and vulnerable newborns, including unstable ones. Although we agree, the question remains: how do we implement KMC on a large scale? The solution remains a real challenge for policy makers, health managers, and practitioners in low-resource settings, such as Uganda.

Through investments in infrastructure adjustment and human resource inputs, the OMWaNA trial showed a notable reduction in neonatal mortality in both groups. This finding warrants serious consideration regarding current KMC recommendations for small and vulnerable newborns. Can positive impacts be sustained in typical resource-constrained public health facilities with high rates of infant mortality? Do we need to look beyond the regular strengthening of health systems?

As researchers based in the same facilities as the OMWaNA trial, we note that randomised controlled trials are often conducted with massive financial investment but are detached from the reality of a public health facility setting. Scaling up KMC has multiple challenges, given poor existing infrastructure, including small care units for newborns, inadequate staffing, supply and drug stock-outs, and low financing in the health sector.

While advocating for KMC scale-up, four things should be considered for settings such as Uganda. First, there must be commitment from political leadership and donors to increase investment in newborn care at the national level. Despite being a leading cause of death, funding for neonatal care interventions remains inadequate.[7] Evidence from Tanzania highlights the potential benefits of increased funding and scale-up of newborn care, indicating that it could reduce newborn mortality by almost 50%.[8]

Second, it is imperative to design an updated list of readiness assessment tools to guide the implementation of KMC for unstable newborns. Without sufficient capacity in facilities to routinely monitor parameters, such as oxygen saturation, heart rate, and respiratory rate, it might not come as shocking that immediate KMC could have a different outcome. In such cases, it could be plausible to maintain standard of care.

Third, there is a need for implementation research projects that document real-world implementation lessons. Several implementation research initiatives in Uganda have tested ideas in real-world settings; for example, our team worked with health managers in rural Uganda to improve newborn care units and data systems with little external support, instead mobilising and realigning local resources.[9]

Fourth, we notice the paucity of voices from the mothers and family members of vulnerable newborns in KMC studies and programmes. During our research, we have met many mothers grappling with psychosocial and financial challenges, thus struggling to implement KMC appropriately. Having a vulnerable newborn is distressing, but the strain of practising KMC with little support from families amplifies the emotional burden.[10] Many mothers in these situations often request early hospital discharge so that they can return home to other chores and fewer bills, usually amid the absence of a community follow-up programme.[11]

Efforts to roll out KMC for small and vulnerable newborns must consider the perceptions and psychological capacity of mothers and family members to follow recommended KMC practices. This consideration is crucial in establishing the duration of KMC in hospital and its continuation at home. The clear lack of consideration for maternal mental health in KMC and other neonatal interventions is concerning and must be addressed. There is no *omwana* (newborn) without consideration for maternal mental and physical wellbeing, which we cannot underscore the importance of further.

We emphasise that immediate KMC is not only an issue within health systems. Although the minimal requirements for facilities to implement immediate KMC must be clear, maternal mental health must be concurrently attended to. The voices of mothers and family members should be integrated into KMC design through creative co-creation methodologies. Scale-up must be monitored with quality data, including qualitative and implementation research data.

We declare no competing interests.

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