

## STUDY BRIEF

# Improving Uptake of Skin-to-Skin Practice for Babies in Kangaroo Mother Care (KMC) in Malawi through the Use of a Customized Baby Wrap

## Background

KMC is an evidence-based approach recommended by the World Health Organization to reduce mortality and morbidity in low-birth-weight (LBW) and preterm infants.<sup>1</sup> Despite Malawi's success in scaling up availability of KMC services in all central and district hospitals, the quality of KMC services is still not up to standard.<sup>2</sup> The success of KMC depends on ability of mothers and caregivers to practice continuous skin-to-skin contact. Barriers to skin-to-skin practices reported by mothers in Malawi using traditional chitenje as wraps include the difficulty to hold a baby in the front, concerns about the stability of the baby, the requirement for two people to tie the wrap, thick wrap material that overheats, and irritation from the

large knot at the back.<sup>3</sup> In an effort to improve KMC practices, Lærdal Global Health (LGH) has developed an ergonomic baby carrier (a KMC wrap) that can be produced locally at low cost (see Figure 1). However, operations research is needed to determine whether the customized wrap improves KMC practices and whether it can be produced locally in a sustainable way.

To address these research gaps, a study will be conducted in three large hospitals in the southern and central regions of Malawi: Machinga district hospital, Thyolo district hospital, and Queen Elizabeth Central Hospital (Blantyre district).



Figure 1. A mother uses the LGH wrapper at Queen Elizabeth Central Hospital. Photo credit: LGH

## Study objective

The primary objective of the study is to evaluate the acceptability and effectiveness of introducing a custom KMC wrap to improve adherence to skin-to-skin practices within selected hospitals in Malawi. This study will test the hypothesis that a customized wrap will increase the duration of skin-to-skin contact among mother-baby dyads at facilities and post-discharge, leading to improved breastfeeding and weight gain. Secondary aims are to document the feasibility and cost of locally producing the KMC wrappers and introducing a recycling scheme.

## Methodology

This is an operations research study with a quasi-experimental cohort design with comparison group. Two consecutive cohorts of ~140 mother-baby dyads will be enrolled in each study site, with one group receiving the wraps and the other group receiving standard care and serving as a comparison. The primary outcome variable will be the average rate of weight gain among babies enrolled in KMC. Enrolled mother-baby dyads will be monitored daily while in KMC and seven to ten days post-discharge from KMC through a home visit.

During the intervention phase, mother-baby dyads will receive an LGH KMC wrap for use in the facility during inpatient stay. Upon discharge, families will take the study wraps home, proceed with routinely-scheduled follow-up visits at the facility, and receive Health Surveillance Assistant (HSA) home visits. Mothers will be requested to return the wrap when the baby has graduated from KMC. Once introduction of the new wrap and recycling scheme are underway, local production of the wrap will begin using the open source pattern provided by LGH, with careful documentation of cost and challenges to local production.

## Dissemination and use of results

Research results will be presented first to the participating study hospitals and then to district, national, and international stakeholders. Results will also be published in a peer-reviewed journal. The results of this study will inform Ministry of Health decision-making regarding investment in local production and recycling of the KMC wraps across Malawi and influence global efforts to identify cost-effective and sustainable approaches to scale up KMC.

## Study timelines

The study will be conducted in four phases. The anticipated timelines for each study phase are outlined below:

**Phase 1.** Study preparations and phase in: October 2015-December 2015

**Phase 2.** Comparison cohort enrollment and follow-up: January-March 2016

**Phase 3.** Intervention cohort enrollment and follow-up: April -June 2016

**Phase 4.** Data analysis and report preparation: June-August 2016

## Study partners

This study will be conducted as a partnership with Save the Children Malawi, the Ministry of Health (Reproductive Health Department), and LGH, with support from Save the Children US and Save the Children Norway. Save the Children will be responsible for overall implementation of the research and the analysis of the research findings.

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- 1 World Health Organization. WHO recommendations on interventions to improve preterm birth outcomes. Geneva: World Health Organization, 2015. [http://www.who.int/reproductivehealth/publications/maternal\\_perinatal\\_health/preterm-birth-guideline](http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/preterm-birth-guideline).
  - 2 Bergh A-M, Banda L, Lipato T, Ngwira G, Luhanga R, Ligowe R. Evaluation of kangaroo mother care services in Malawi. MCHIP, 2012
  - 3 Dube Q, Seidman G, Unnikrishnan S, Cairns-Smith S. KMC Analysis in Malawi: Findings from Interviews and Focus Group Discussions. Boston Consulting Group, 2013.

### FOR MORE INFORMATION:

Lydia Chimtembo, Save the Children Malawi,  
Lydia.Chimtembo@savethechildren.org



**Save the Children**

Save the Children Malawi  
Ngerengere House, Off Mchinji Road  
P. O. Box 30374  
Lilongwe, Malawi  
Tel: + 265 1 762 667  
[www.savethechildren.net](http://www.savethechildren.net)