

Tools for working with small, nutritionally at-risk infants: A mixed-methods study

This is a summary of the following paper: Engler R, McGrath M & Kerac M (2023) *Training packages and patient management tools for healthcare staff working with small, nutritionally at-risk infants aged under 6 months: A mixed-methods study. Children, 10, 9, 1496. <https://www.mdpi.com/2227-9067/10/9/1496>*

Small or nutritionally at-risk children are especially vulnerable to mortality in the short term and to morbidity (including poor development) in the long term. However, specific training materials on working with this high-risk group are not widely available. There is a need to determine what exists and where the gaps are for these materials. This two-part study included: a) a scoping review of the literature surrounding existing training packages; and b) a qualitative study with semi-structured key informant interviews providing insights into how training was used and perceived.

Scoping review search terms included: “training tools”, “training manuals”, “training packages”, and “guidelines for training staff working with infants under six months”. Training was targeted at different levels, ranging from management staff to frontline healthcare workers. Operational guidelines were excluded. The ‘Consolidated Criteria for Reporting Qualitative Research’ (COREQ)¹ were used to ensure completeness of the research methods for the qualitative component. A total of nine interviewees were included in the study out of 17 invitations sent. Participants were able to share experiences outside of the key questions, if they seemed relevant to include. Questions revolved around three objectives: awareness of different training available and experience of its use, identification of perceived issues and gaps, and identification of how training could be improved.

The literature review revealed 14 relevant training programmes/patient management tools, which can be found in the original paper. Most were directed at trainers (n=4) and primary health workers (n=5). Three training programmes targeted emergency relief staff: ‘Harmonised Training Package’², ‘YCF-E Toolkit’³, and ‘Baby Friendly Spaces’⁴. All training programmes addressed mothers and infants, although cMAMI⁵ was the only tool that specifically targeted small and nutritionally at-risk infants under six months.

The main issues and gaps revolved around counselling skills for breast-feeding and mental health, ongoing monitoring, follow-up trainings, and emergency preparedness. There was also a lack of fixed, well-defined assessment criteria, which are important to identify admission and discharge cut-offs. It was outlined that changes in assessment criteria, from weight for height to MUAC or weight for age, still create confusion as to which measure should be used. Additionally, few training resources covered anthropometric assessment.

The authors acknowledge that this was not an exhaustive systematic review, and thus that their study can only provide an idea of the gaps in evidence and falls short of a comprehensive review of resources. Non-probability (purposive) sampling was used to select professional contacts via the MAMI Global Network⁶. This sampling method does introduce selection bias, but it was necessary for this specific research question to be addressed efficiently – so this was unavoidable. The sample size for interviews was small, although varied, and a larger group may have been impractical given the detail required from each participant. Nonetheless, there was a lack of interviewee experience with the ‘Baby Friendly Spaces’ tool, which would have been valuable.

The authors highlighted several themes for improvement, such as the need for training programmes to be comprehensive, context specific, and employ a variety of delivery methods (e.g., lectures, group simulations, clinical practice, etc.). The authors also concluded that:

“It would be useful to have a core curriculum and package endorsed by a respected and authoritative organisation. However, any such package should have options for adaptations and local adjustments”

¹ <https://academic.oup.com/intqhc/article/19/6/349/1791966>

² <https://www.ennonline.net/htpv2module17>

³ <https://resourcecentre.savethechildren.net/document/infant-and-young-child-feeding-emergencies-iyf-e-toolkit-rapid-start-emergency-nutrition/>

⁴ <https://www.actionagainsthunger.org/publications/baby-friendly-spaces-technical-manual/>

⁵ <https://www.ennonline.net/c-mami>

⁶ <https://www.ennonline.net/ourwork/research/mami>

Using SMS platforms to support ‘Family MUAC’ in Kenya

This is a summary of the following paper: Tickell K, Acheng C, Masheti M et al. (2023) *Family MUAC supported by a two-way SMS platform for identifying children with wasting: The Mama Aweza randomised controlled trial. The Lancet, 64. <https://www.sciencedirect.com/science/article/pii/S2589537023003954>*

This randomised controlled trial investigated the ‘Manually Administered Malnutrition Monitoring System’ (MAMMS) – a Family Mid-Upper Arm Circumference (MUAC) approach supported by a two-way SMS messaging platform – to determine whether this intervention affected time-to-diagnosis (wasting), the severity of illness, and the duration of treatment in children. Eligible participants were children aged 5–12 months with MUAC of 12.5–14.0cm. Children with MUAC <12.5cm and/or nutritional oedema were referred to nutritional services for treatment. The study period was between 1 August 2019 and 31 January 2022 and follow-up measurements were taken at six months.

The MAMMS group (n=599) received weekly automated texts, which included a validated, locally tailored health education message and a reminder to measure their child’s MUAC and send the result via SMS. Community health workers and nutritionists then reviewed these messages and requested any children with moderate or severe wasting to be taken to a clinic for treatment. The control group (n=601) received standard care based on existing “gold standard” community-based management of acute malnutrition treatment, with active and passive case finding, to ensure the MAMMS group was compared with a strong community screening programme.

Wasting incidence over six months was 37% lower in the intervention group (HR 0.63, p=0.02). For those who became wasted, the median number of days-to-diagnosis was comparable between intervention and control groups, at 63 and 58 days respectively. Average treatment coverage was different between intervention (83.3%) and control (55.6%) groups, but not significantly so (p=0.30) due to large, overlapping confidence intervals (95% CI 39.9-100 and 22.3-88.9, respectively). Mean MUAC at diagnosis and mean treatment duration were comparable between groups.

Anthropometric measurements were taken independently by researchers and caregivers to validate these measurements. This increases our confidence in the accuracy of these outcome variables, especially as all caregivers successfully passed this validation process. Caregivers were excluded from the study if they planned to move from the study area or if their child was acutely unwell and required hospitalisation. These are practical considerations, but it is plausible that children from those mothers had a particularly high risk of wasting and were not captured in this study. Dropout rates were broadly comparable for both study groups (≈10%), as were the various baseline health and demographic characteristics of each group, increasing the validity of this study.

Although this study occurred in a high-literacy, agriculturally productive Kenyan setting – which makes it hard to generalise these findings – the results of this trial show a clear benefit of the MAMMS intervention on wasting incidence. The study employs a robust methodology and there is a plausible mechanism for its success. Findings suggest that Family MUAC supported by two-way SMS offers an alternative or addition to door-to-door active screening as well as a potential method to reduce the risk of moderate wasting.

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