

The Family MUAC Approach: The Click-MUAC Project

The Click-MUAC Project was developed by Action Against Hunger, in partnership with University of Tampere, Brixton Health and Humanitarian Innovation Fund. It builds on the Family MUAC approach but aims to reduce the potential of measurement error of MUAC tapes and the need to increase the sensitivity and the specificity of the diagnosis delivered by mothers and primary caregivers.

The study team developed three plastic prototype Click-MUAC bracelets [Figure 1] and tested their performance against a “uniMUAC” insertion tape [Figure 2]. This research study – a non-randomized, partially-blinded, clinical diagnostic trial– ran from September 2016 to January 2017 in Isiolo County, Kenya.

When using the bracelet, caregivers were told that if the bracelet fits, the child is sick. The tape is easy to use with minimal training, there is no need to adjust placement and tension of Click-MUAC. The approach also replaced the continuous measurement to a binary classification (SAM/not SAM).

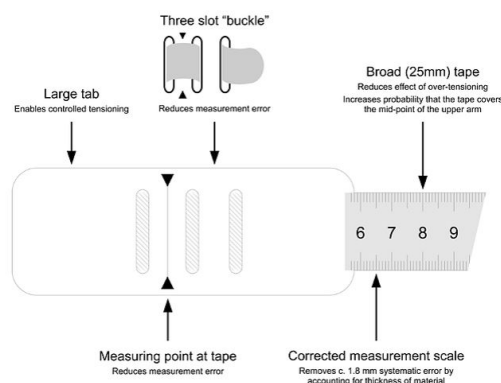


Figure 2: Features of the universal design MUAC insertion tape – “uniMUAC” – used in the study – Device 4.

		
Device 1 Internal circumference of 115 mm – classification of SAM only	Device 2 Internal circumference of 115 mm – classification of SAM only	Device 3 Internal circumference of 115 mm or 125 mm depending on latch- classification of SAM MAM

Figure 1: Click-MUAC prototype devices developed for the study.

The State of Acute Malnutrition

In results published in Archives of Public Health (2018), mothers demonstrated good sensitivity and excellent specificity in the classification of SAM with all four devices, and as well as in the classification of global acute malnutrition (comprising both SAM and MAM) with devices 3 and 4. These results indicate that mothers and/or caregivers can conduct sensitive and specific classifications of their child's nutritional status with better results than reported in previous studies. However, while the Click-MUAC prototypes performed well, the uniMUAC insertion tape performed comparatively for both mother-led and health clinic staff-led classifications of acute malnutrition.

Based on this evidence, Action Against Hunger also conducted an operational pilot (May - August 2017) in Isiolo County, Kenya, to test an even more simplified version of the uniMUAC tape: the centimeter scale was removed, and the tape was shortened. Results from this pilot confirm that the simplified tape can be used by mothers/caregivers to measure children's MUAC with minimal training and demonstration. Furthermore, results indicate that the use of the simplified tape may have also led to earlier detection of MAM, as the average MUAC on admission to MAM treatment was increased at the end of data collection, as compared to the start of data collection.

Given the evidence generated by the trial and operational pilot, Action Against Hunger has begun advocating for the adoption of the mother/family MUAC approach globally and is working to integrate the use of the simplified uniMUAC tape within their programs. The project also provided strong evidence for using the uniMUAC tape to scale up the mother/family MUAC approach at community-level. Action Against Hunger aims to train mothers on acute malnutrition detection in Kenya, and other countries, and will document the effect of giving mothers this knowledge and tool in terms of admissions and coverage.

More information

Grant et al (2018). Comparing performance of mothers using simplified mid-upper arm circumference (MUAC) classification devices with an improved MUAC insertion tape in Isiolo County, Kenya 2018



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