TREATING MALNUTRITION IN THE COMMUNITY:

A feasibility study of low-literate community health workers treating severe acute malnutrition using simplified tools and protocol in Northern Bahr el Ghazal State, South Sudan

A research officer trains low-literate community health workers on the adapted patient register.

Objective

To assess the feasibility of low-literate community health workers (CHWs) in South Sudan providing treatment for uncomplicated cases of severe acute malnutrition (SAM) in their homes.

Background

Estimated 270,000 children in South Sudan are currently suffering from SAM. A coverage survey conducted by the International Rescue Committee (IRC) in Aweil South found that roughly 60% of severely malnourished children were not receiving treatment for SAM through static facilities, with caregivers identifying the main barriers to accessing care as distance to facilities, the rainy season, and high opportunity costs. To address this gap, the IRC developed a simplified SAM treatment protocol and a set of tools adapted for low-literate CHWs to enable treatment of uncomplicated SAM as part of the integrated Community Case Management (iCCM) program.

Methods

The IRC trained a cadre of 57 CHWs in Aweil South to identify uncomplicated SAM cases using a MUAC-only protocol and to treat those children using adapted tools. We assessed their ability to follow the treatment protocol using a standardized performance checklist and deployed 44 high-performing CHWs to treat SAM cases in their home communities. Only CHWs who scored higher than the pre-determined cut off score of 80% qualified to pilot treatment in the community.

Between March and September 2017, CHWs admitted and treated 308 children with uncomplicated SAM between 6-59 months of age. Study staff conducted bi-weekly supervision visits during which they observed CHWs while they provided SAM treatment to admitted children. During each performance check, the study staff filled out the same, aforementioned standardized performance checklist to monitor the CHW's ability to follow the SAM treatment protocol. Data on child progress and treatment outcomes were extracted from the patient register. Following the treatment period, focus group discussions and in-depth interviews were conducted with key stakeholders, including the CHWs themselves, to learn qualitatively about program successes and challenges.

MUAC tape adapted for low-literate community health workers.
Dark red:<9.0cm; Red: 9.0-10.25cm; Pink: 10.25-11.5cm; Yellow: 11.5-12.5cm; Green: ≥12.5cm.

Results

Performance scores calculated from the standardized checklist were collected for all 57 CHWs immediately following the training. The participants had a mean performance score of 94%, 91% of the participants passed at the pre-determined cut-off of 80%, and 49% had a perfect score. For the 44 highest-performing CHWs selected for study implementation, the mean score dropped from 97% immediately after the training to 82% during the first supervised home treatment, but by the last supervised visit, the score had increased up to 94%. The number of performance checks had a statistically significant association with the performance score of the last supervisory visit completed (for each visit made, there was an increase in performance score of 2%). Eighty-four percent of the children admitted self-reported not having received any malnutrition treatment in the last four months.

A CHW uses a calculator to determine the weekly ration of Ready-to-Use Therapeutic Food.

The recovery rate from SAM to the moderate acute malnutrition (MAM) cut-off (≥11.5cm) was 91%, surpassing the 75% Sphere standard, and the remaining 9% defaulted. The median length of treatment among those who recovered to MAM was five weeks. The recovery from SAM to full recovery (≥12.5cm) was 75%. The median length of treatment among SAM cases who recovered fully was 8 weeks. Fifteen percent defaulted and 9% did not respond after 16 weeks of treatment. No deaths were reported. Thirty-seven percent of children admitted were referred, the majority (94%) for a protocol safeguard that the study team added for children staying in one MUAC color for four consecutive weeks (as proxy for potential underlying health conditions). Twenty-nine percent of children admitted for CHW treatment fell into the more severe red MUAC zone on admission versus the pink MUAC zone. In comparison, only 5% of children were admitted in the same red zone at the outpatient therapeutic program during the same period.

Table 1: Treatment outcomes of children treated by CHWs

	Recovery from SAM to MAM			Recovery from SAM to full recovery		
	n	**%, out of those discharged (95% CI)**	**%, out of all enrolled (95% CI)**	**n**	**%, out of those discharged (95% CI)**	**%, out of all enrolled (95% CI)**
Recovered	222	91.3 (86.6-94.5)	71.8 (64.7-77.8)	147	75.4 (68.3-81.3)	47.8 (40.4-55.2)
Defaulted	21	8.8 (5.5-13.4)	6.8 (4.2-10.9)	30	15.4 (10.8-21.4)	9.7 (6.6-14.2)
Non-response	0	0	0	18	9.2 (4.8-16.9)	5.8 (3.1-10.7)
Death	0	0	0	0	0	0
Referred	65	-	21.4 (15.1-29.6)	113	-	36.7 (28.9-45.2)

Key Findings

1. Low-literate CHWs were able to follow the simplified SAM treatment protocol with high accuracy using simplified tools
2. CHW performance scores were higher among those that received more supervision
3. Child recovery rates met and surpassed Sphere standards, despite high levels of food insecurity
4. We suspect an improvement in access through earlier identification and timely treatment as compared to the health facility, based on the percentage of children admitted in the more severe MUAC zone and 84% of children claiming not to have received nutrition treatment recently
5. Further investigation is necessary to understand the most effective and efficient supervisory and supply chain mechanisms to operationalize this treatment model at scale and quantify its impact on access and coverage

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