Testing for malnutrition, South Sudan, 7 May 2016

WFP/Jonathan Dumont

Analysis of trends in SMART nutrition survey data from South Sudan between 2004 and 2016

Research snapshot[1]

Despite decades of nutrition and health interventions, emergency levels of global acute malnutrition (GAM) persist in former Northern Bar el Ghazal State in South Sudan; the reasons behind the persistently high levels have not been explored. This study aimed to identify and analyse changes in patterns of malnutrition and key factors associated with malnutrition in South Sudan from 2004 to 2016. Anthropometric data collected from children under five years of age through Standardised Monitoring and Assessment of Relief and Transitions (SMART) nutrition surveys from 2004 to 2016 were analysed to estimate seasonal differences in the prevalence of GAM (weight-for-height z-score (WHZ) <-2) and severe acute malnutrition (SAM) (WHZ <-3). Risk factors for GAM were explored using data collected in 2014 and 2015.

Results show that, in Aweil West and North, a reduction in GAM was observed between September 2004 (21.0%, CI 18.2-23.9) and No-

vember 2009 (16.2%, CI: 13.7-18.9). SAM prevalence remained largely unchanged, reducing by 0.9 percentage points from 3.2% (CI: 1.9-4.4) in 2004 to 2.3% (CI: 1.3-3.4) in 2009. The apparent decline in GAM likely reflects a seasonal difference, as the five-year overall mean GAM was 20.4% (SD: 0.403) and 17.5% (SD: 0.380) in pre- and post-harvest seasons respectively.

Data collected in 2014 and 2015 revealed that prevalence of undernutrition (weight-for-age) and stunting (height-for-age) were higher in males compared to females (p=0.008 and p=0.001 respectively); no significant gender differences were found in WHZ or GAM. Improvements were found in Aweil North in coverage of vitamin A supplementation (21.5% in 2014 to 57.7% in 2015); coverage of measles vaccination fell (51.6% to 41.4% during the same period). High morbidity rates were found, with almost two thirds of children reported as sick in the past two weeks (2015); however, the proportion of caregivers seeking treatment for sick children increased from 69% in 2014 to 81% in 2015. In multivariable linear regression

modelling, not having been sick in the past two weeks (aOR 0.78, 95% CI 0.61, 0.99, p=0.047) and not having consumed juice (possibly associated with consumption of unclean water and unhygienic juice preparation) (aOR 0.67, 95% CI 0.45, 0.99, p=0.045) were protective against GAM after adjusting for all potential confounders. Data are cross-sectional, so interpretations should be made with caution.

This study highlights the impact of instability on the nutritional status of a generation, with the high prevalence of GAM and SAM remaining unchanged since 2004. Results suggest that focusing on care-seeking behaviours and hygiene practices may be beneficial in this population. Results also strongly suggest that the causes of malnutrition in this setting should be examined more comprehensively and that effective prevention programmes are designed that address the underlying causes of malnutrition.

[1] Hogan et al. (2019) Analysis of trends in SMART Nutrition Survey data from South Sudan between 2004 and 2016. South Sudan Medical Journal 2019; 12(4):124-127

Defining, measuring and interpreting the appropriateness of humanitarian assistance

Research snapshot[1]

Measuring and reporting the appropriateness of humanitarian assistance is a matter of accountability and is critical for the assessment of impact and value for money. A recent review identified eight methods of assessing humanitarian response appropriateness and assessed the key features and limitations of each. This review is part of a broader project to enhance the accountability of humanitarian responses through developing auditing approaches for real-time monitoring. The methods were found to vary considerably in their definitions of 'appropriateness', provide insufficient guidance on measurement, be vulnerable to interpretive bias, and frequently report findings in an ambiguous manner. They do not allow for assessment of changes in 'appropriateness' of a given response over time, nor comparison between responses. A conceptual framework is proposed based on the premise that the appropriateness of a response or intervention is determined by the extent to which it is designed to save lives, alleviate suffering and maintain human dignity. Figure 1 shows the conceptual framework adapted to the health and nutrition sector.

The authors define 'appropriate humanitarian assistance' as a combination of (i) an intervention/

package of services that addresses objective needs and threats to the health or welfare of crisis-affected populations; (ii) a modality of delivery that reflects the context, enhances user acceptability and promotes sustainability where possible; and (iii) having a target beneficiary population that is clearly defined, sufficient in size and prioritised according to need. This framework includes a specific set of questions relating to the

'what/how/to whom' domains of a humanitarian project or response; a semi-quantitative scorecard to score each of the questions/domains; and a brief narrative contextualisation of the findings. A data-collection tool and operational guidance are now being developed to test the method in a number of ongoing health and nutrition responses. The approach is designed for self-assessment by response teams for early course-correction and real-time ongoing evaluation to ultimately enhance governance, accountability and transparency in humanitarian response.

[1] Abdelmagid N, Checchi F, Garry S and Warsame A. Defining, measuring and interpreting the appropriateness of humanitarian assistance. Journal of International Humanitarian Action (2019) 4:14 https://doi.org/10.1186/s41018-019-0062-y

Figure 1 Proposed conceptual framework adapted for the nutrition and health sector

"What"?

What is the potential or actual magnitude of excess mortality?

What is the response's contribution to addressing this excess morbidity mortality?

**"How"?
Modality of delivery**

To what extent does the response support the local health system?

To what extent does the response address local barriers to health care?

To what extent does the response engage the affected population and is accountable to it?

To what extent is the response prepared for new emergencies/sudden contextual changes?

**"For whom"?
Target population**

To what extent is the target population defined (by location and size)?

To what extent is the target population prioritised according to need?