



A holistic approach to malnutrition follow-up care

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We thank Dr Kuper for her insightful editorial regarding a more holistic approach to treating undernutrition in developing countries and hope it will further raise the profile of an important issue. The editorial correctly highlights poor post-discharge survival following severe acute malnutrition (SAM) found during a one-year follow-up of patients discharged from inpatient treatment in Malawi in 2006 (1). Subsequent introduction, both internationally and locally (2), of community management of acute malnutrition (CMAM), focuses on earlier and more proactive treatment of SAM and could plausibly improve post-discharge outcomes (3). However, even in CMAM programmes, many vulnerable children will still remain, including those with HIV and those with disabilities. These are at increased risk of death even following successful nutritional treatment compared to malnourished children with no underlying clinical problems (4).

One first step towards improving outcomes for SAM survivors is the better capture of data from vulnerable groups. Since their growth potential is often different to other children, especially for children with disabilities, they are often excluded from research trials and valuable data is hence never collected. A better approach would be to include all children at enrolment but exclude from primary analysis if needed (4). This has multiple benefits: results are more generalizable; subgroup analysis can look at disability/disease-specific growth and response to interventions; and more will be known about the outcomes of these groups and how to improve them.

Kuper’s editorial also mentions better preventative services for such vulnerable groups including access to feeding support services. We would also like to highlight

the need for better referral links between SAM treatment programmes and other services, especially community-based services for children living with disabilities; HIV-related services; and other social support services for vulnerable individuals and families. SAM is likely to be an important “red flag” for families not only with health issues and food insecurity but for other social issues such as parents with mental health problems (5). To ensure patients get the most benefit from their time in-programme, SAM treatment services should establish a wide range of post-discharge referral channels as a first step towards reduced post-SAM mortality. A recent review on malnutrition and disability called for strengthened links between these two disciplines (6,7). Disability services should know how to detect undernutrition and where to refer, and equally, SAM services should know who is providing disability support in their communities. For such links to work however, even at a basic level, resource commitments, policy changes and funding support are all needed (8).

Beyond mortality and disability, other long-term effects of SAM require attention, as highlighted by Kuper’s Editorial. Although it is unclear from our 7-year follow-up whether long-term effects are due to epigenetic changes [i.e., “developmental origins of health and diseases” (DOHaD) theory (9)] or whether they are simply due to a lost period of growth and development which could potentially be caught-up, it is clear that SAM survivors face adverse long-term health issues, most notably being more stunted (low height-for-age), having a weaker hand grip strength, lower school achievement and lower levels of lean mass (10). We reiterate the call for more evidence regarding how to support these children to thrive in adulthood. One area

for possible intervention which became apparent from our follow-up results relates to stunting. Not only were the survivors of SAM still very stunted (mean height-for-age -1.8 z-scores from reference population) but their siblings and community controls also had low height-for-age (-1.5 and -1.3 z-score respectively) (10). As these children had a median age of 9 years at the time of measurement, they were well beyond the window of the 1st 1,000 days that is the focus of much current international attention (11). Their key remaining opportunity for catch-up in terms of both height, cognitive function, and non-communicable disease risk factors, might be during adolescence, another period of rapid development and a potential “2nd window” for intervention (12). Trialling an intervention during adolescence which aims to improve stunting and its associated functional impairments is one of the essential next steps in helping many individuals overcome early nutritional challenges.

Besides stunting, given evidence that SAM admissions are also likely to include relatively high proportions of children with disabilities, children living with HIV, and carers with mental health issues (1), interventions from a wide range of disciplines are relevant to undernourished children. A holistic approach to both prevention and post-treatment care for acutely malnourished children is required to help them not only survive, but thrive into adulthood.

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