Review of: "Determinants of severe acute malnutrition among children aged 6–36 months in Kalafo district (riverine context) of Ethiopia"

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The authors Ahmed et al are to be congratulated for bringing out their publication titled ‘Determinants of severe acute malnutrition (SAM) among children aged 6–36 months in Kalafo district (riverine context) of Ethiopia’; considering that the riverine context of Ethiopia had not been similarly studied previously and the district had been struggling to achieve success through its Therapeutic Feeding Programme (TFP). As a piece of operational research using the method of an unmatched case-control study as well as a qualitative study, the authors were able to establish five determinants of significance quantitatively for SAM in this context; namely age group (6–11 and 12–17 months), inadequate dietary practices, experienced diarrhea within two weeks preceding the data collection, from household with three and more under-five children and not exposed to nutrition counseling during ANC visits. Poor childcare and polygamy were found to be determinants of SAM in qualitative findings. Based on their study, the overall recommendations for the on-going programme consisted of improvement in childcare giving practices including dietary diversity, water treatment, family planning interventions; integrated with community-based management of severe acute malnutrition (CMAM) programs.

The paper is valuable in reinforcing several values while examining contexts of SAM that have specific cultural and socioeconomic characteristics; the need for mixed methods in such examinations, the importance of operational research for course correction of programmes, the role of social determinants such as safe water, the importance of the life-cycle approach and focus on reproductive health, and the functioning of supportive services of overall child care. However, some improvements could be suggested. As far as the methods are concerned a major shortcoming and missed opportunity is the failure to include Weight for Height measurements and Z (WHZ) scores to provide nutritional status in addition to MUAC. It is well understood that the concordance between WHZ and MUAC is only about 60-70% - both identify partially overlapping but distinct groups of children with equally high mortality risk. Given that the study was centre-based and not community-based, WHZ measurements could easily have been included to evaluate the results more deeply for a larger catchment of enrolled children. Where results are concerned, it is well known that the demographic profile of prevalence of SAM clearly identifies associations with age, as noted as a finding of this study as well. While the sampling was unmatched for reasons perhaps of convenience, it might be relevant to adjust other determinants for age rather than accepting age differences between case and control groups as a primary finding. Since the age of young children has independent associations with many of the determinants being tested, it might have worked as a confounder, causing some lack of internal validity in this study. Lastly, the paper suffers from deficiencies of language and copy editing affecting readability and interpretation. This is a common problem for papers being received from the global South where English is not the primary language and greater editorial support should have be given by

publishing journals to encourage a more inclusive profile of papers, while at the same time maintaining quality. While on the subject of editorial issues, there is a mistake in Figure 2 where the case definition for controls is wrongly given as MUAC > 12.5 ***or*** no bilateral nutritional oedema rather than ***and*** no bilateral nutritional oedema (italics and bold added). Other than these comments, it is hoped that the authors will continue to evaluate their on-the-ground programmes and explore the gaps and challenges through continuing operational research; I wish them all the very best.