Letter to the Editor

Reply to Letter to the Editor by Robertson *et al.*

In their letter to the Editor, Robertson and colleagues state that biodiverse food solutions hold great potential for improving complementary feeding and oppose the use of lipid-based nutrient supplements (LNS) for improving nutritional quality of diets of young children (De Pee, 2015).

The focus of my editorial was on solutions to improve complementary feeding as studied by the papers that were contained in the December 2015 supplement of *Maternal and Child Nutrition*. Collectively, these papers dealt with special nutritious foods or formulations that were designed to complement diets of young children, mainly aged 6–23 months, with specific (micro)nutrients. These solutions are required when the local diet, as accessed, prepared and consumed by a large proportion of the population, is unlikely to provide young children with sufficient amounts of all the nutrients they require. As some of the papers referenced by Robertson *et al.* also report, some nutrient needs are very difficult to meet, such as iron, zinc and calcium, by 6–11-month-old infants (Kuyper *et al.* 2014; Termote *et al.* 2012).

The authors' arguments are not supported by the publications they have cited. Bogard *et al.* (2015) and Kuyper *et al.* (2014) identified nutrient-rich local foods, i.e. specific fish species and underutilized crops, respectively, that can contribute to meeting nutrient needs of young children, and Waswa *et al.* (2014) show that nutrition education can improve the diversity of complementary feeding diets. However, these papers have not shown, as claimed by Robertson *et al.* (2016), how to overcome some practical constraints of feeding young children that I listed in the editorial, including distance and frequency of market days, ability to keep foods cool and time to prepare and feed frequent, balanced meals. Johns and Powell discuss how food sovereignty and supporting biodiversity can improve diversity of diets at household level, but they do not present evidence of an impact on chronic undernutrition (i.e. stunting). Neither Parlesak *et al.* (2014) nor Shrimpton and Rokx (2016) assessed, or even discuss, whether LNS can contribute to increasing prevalence of childhood obesity and double burden of malnutrition. And last but not

least, the paper on linear programming by Parlesak *et al.* (2014) fails to discuss whether daily addition of a combination of beef heart, beef liver, moringa leaves and/or small dried fish to young children's diet, which could meet their nutrient requirements, would be feasible.

It appears that the authors oppose efforts to ensure that children have access to nutrients required to grow, develop and remain healthy, when these include the use of specific fortified solutions, however small they are (i.e. micronutrient powder and LNS-SQ are provided in quantities of 1–20 g/day, for 10–30 days/month). It should be noted that food fortification has been implemented for almost a century and was identified by the Copenhagen Consensus as having the highest benefit-cost ratio for improving human development.

Robertson *et al.* (2016) also mix up the terminology and use of different fortified spreads. RUTF is a ready to use therapeutic food for the treatment of severe acute malnutrition (SAM), which is provided in amounts of 500–1000 kcal/day, whereas LNS refers to lipid-based nutrient supplements that are added to diets (as small or medium quantity, i.e. 120 kcal/day (SQ) or 250 kcal/day (MQ)) to ensure that the diet contains adequate amounts of essential nutrients for prevention of undernutrition (LNS-SQ) or wasting more in particular (LNS-MQ) (De Pee *et al.* 2011). While LNS for improving complementary feeding is provided in amounts of 20 g/day, the authors approximate its cost by referring to quantities used for SAM treatment (i.e. almost 14 kg, 150 × 92 g). Their claim that LNS can displace breastmilk is not substantiated, and they did not acknowledge that a carefully conducted study showed otherwise, i.e. there was no difference of breastmilk intake among groups that received 0, 10, 20 or 40 g/day of LNS (Kumwenda *et al.* 2014).

To achieve Zero Hunger and the Sustainable Development Goals, efforts to improve child nutrition should be held against a high standard, i.e. it is not enough to make any improvement in nutrient intake; an adequate level should be reached. While I have always been of the opinion, like Robertson *et al.* (2016), that local solutions

should be optimized to the extent possible, we should also critically assess whether that is sufficient to achieve an adequate nutrient intake among key target groups, and if not, do more. For children aged 6–23 months, this may include adding specific, complementary, nutritious commodities, while strategies for increasing biodiversity and dietary diversification should continue, also for the benefit of other target groups in the population.

Saskia de Pee^{*,†}

^{*}Nutrition Division, World Food Programme, Rome, Italy

[†]Friedman School of Nutritional Science & Policy, Tufts University, Boston, Massachusetts, USA
saskia.depee@wfp.org, depee.saskia@gmail.com

References

- Bogard J.R., Thilsted S.H., Marks G.C., Wahab M.A., Hossain M.A.R., Jakobsen J. *et al.* (2015) Nutrient composition of important fish species in Bangladesh and potential contribution to recommended nutrient intakes. *Journal of Food Composition and Analysis* **42**, 120–133. DOI: 10.1016/j.jfca.2015.03.002.
- De Pee S. (2015) Special nutritious food solutions to enhance complementary feeding. *Maternal & Child Nutrition* **11**, i–viii. DOI: 10.1111/mcn.12265.
- De Pee S., Manary M. & Ashorn P. (2011) The devil is in the details. *Nutrition Reviews* **69**, 116–117.
- Kuyper E., Vitta B. & Dewey K. (2014) Novel and underused food sources of key nutrients for complementary feeding. Available at: <http://aliveandthrive.org/wp-content/uploads/2014/11/Technical-brief-Insight-6-Novel-and-underused-food-sources-of-key-nutrients-for-complementary-feeding.pdf> (accessed 28 January).
- Jones A.D., Shapiro L.F. & Wilson M.L. (2015) Assessing the potential and limitations of leveraging food sovereignty to improve human health. *Frontiers in Public Health* **3**, 263. Published online 2015 Nov 23. DOI: 10.3389/fpubh.2015.00263.
- Kumwenda C., Dewey K.G., Hemsworth J., Ashorn P., Maleta K. & Haskell M.J. (2014) Lipid-based nutrient supplements do not decrease breast milk intake of Malawian infants. *American Journal of Clinical Nutrition* **99**, 617–623.
- Parlesak A., Geelhoed D. & Robertson A. (2014) Towards the prevention of childhood undernutrition: diet diversity strategies using locally produced food can overcome gaps in nutrient supply. *Food and Nutrition Bulletin* **35**, 191–199.
- Powell B., Thilsted S.H., Ickowitz A., Termote C., Sunderland T., Herforth A. (2015) Improving diets with wild and cultivated biodiversity from across the landscape. *Food Security* **7**, 535–554.
- Robertson A., Parlesak A., Greiner T., Kent G. & Cattaneo A. (2016) Biodiverse food solutions to enhance complementary feeding. LTE. *Maternal & Child Nutrition*.
- Shrimpton, R. & Rokx, C. (2012) The double burden of malnutrition : a review of global evidence. Available at: <http://documents.worldbank.org/curated/en/2012/11/18004669/double-burden-malnutrition-review-global-evidence> (Accessed 26 January 2016).
- Termote C., Raneri J., Deptford A. & Cogill B. (2014) Assessing the potential of wild foods in reducing the cost of a nutritionally adequate diet – An example from eastern Baringo District, Kenya. *Food and Nutrition Bulletin* **35**, 458–479.
- Waswa L.M., Jordan I., Herrmann J., Krawinkel M.B. & Keding G.B. (2015) Community-based educational intervention improved the diversity of complementary diets in western Kenya: results from a randomized controlled trial. *Public Health Nutrition* **18**, 3406–3419.