

## ABSTRACT

Protein energy malnutrition remains a huge burden in Sub-Saharan Africa. Principally, it is due to children being fed on millet gruels which are high in carbohydrates, and low protein. Moreover, they contain significant amounts of anti-nutrients such as phytates, phenols and tannins. Compositing of malted finger millet flour with other flours has potential for improving the nutritional quality and sensory attributes of these foods. The objective of this study was to determine the effect of compositing malted finger millet flour with cowpea on the anti-nutritional contents and sensory properties of formulated baby weaning food. Mixing selected improved finger millet varieties with precooked cowpea flour was based on WHO recommended levels. There was a significant ( $p < 0.05$ ) reduction in total phenolic content, tannin content and phytic acid by 41%, 50%, and 44%, after compositing with malted finger millet and precooked cowpea at 10.32%, 21.26% and 32.75%, respectively. Cooking process significantly reduced amount of trypsin inhibitors, and other anti-nutrients both in cowpea and complementary porridge. Loadings from principal component analysis (PCA) of 17 sensory attributes of porridge showed that approximately over 80% of the variations in sensory attributes were explained by the first four principal components. Reductions in texture attributes (stickiness and viscosity) and astringency aftertaste corresponded to increase in overall aroma and flavour of the porridge in terms of malty flavour and aroma. Although inclusion of 32.75% precooked cowpea gave the highest reduction in anti-nutrients, it resulted in cooked cowpea flavour. For consumer acceptability, it may require masking by use of commercial flavours. Therefore this work shows that malted finger millet-pre-cooked cowpea have potential to be used in formulating cultural acceptable complementary food.

### **Keywords**

Finger Millet, Cowpea, Malting, Anti-Nutrients, Weaning Food