ABSTRACT

Protein-energy malnutrition is one of the leading causes of death for children under-five in developing countries and Kenya is no exception. These children rely on starchy weaning foods such as finger millet (*Eleusine coracana*), which have poor protein digestibility. Cowpea (*Vigna unguiculata)*, a locally available nutritious legume, could be an excellent complement to lysine-deficient millet diets. The present study thus aimed at innovatively improving protein digestibility of a baby weaning food, by evaluating the effect of malting on improved finger millet genotypes (U15, P224, KNE741, KNE629 and Snapping green) to enable selection of the best varieties with superior nutritional credential post process. Blending of selected finger millet with precooked cowpea flour followed the WHO recommended level at 10.32%, 21.26%, and 32.75% with 0% as control. Extractable phenols, condensed tannins, phytic acid, protein content, and protein digestibility were determined using recommended methods. Extractable phenol, condensed tannin, and phytate notably decreased by 44%, 47%, and 29% respectively after malting. Additionally, compositing with precooked cowpea increased protein content and protein digestibility in flour by about 6–39%. Cooking resulted in a 10% increase in protein digestibility in the complementary porridge. Malting of finger millet and compositing it with precooked cowpea has the potential to address PEM as it results in reduced anti-nutritional content with a concomitant improvement in protein digestibility of the baby weaning food.

Keywords: Finger millet, Malting, In vitro protein digestibility, Phytate.