

SUBTHEME I: Food Safety, Security and Agribusiness

I. Impact of fermented milk on the glycemic response of maize, millet and sorghum stiff porridges

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Abstract

Objective: 1.To determine the proximate composition of millet, maize and sorghum stiff porridges 2. To examine the impact of fermented milk (*mala*) on the glycemic response of maize, millet and sorghum *ugali*. Problem Statement: The prevalence of diabetes mellitus has been increasing over the years. Glycemic control is important in the management and control T2DM. Whole flour stiff porridge is advised for diabetic patients despite their medium to high glycemic response. Dairy products have an inverse relationship with the development of T2DM, but whether it lowers the glycemic response of stiff porridge is yet to be established. Methodology: Proximate analyses were determined using AOAC methods. Moisture, fat, protein, ash, dietary fiber content by oven drying method, soxhlet method, Kjeldhal method, dry ashing method, Hennenberg and Stohmann method respectively and carbohydrate by difference 100- (fat+protein+ash+dietary fiber+moisture content). Energy content was calculated using the Atwater formula. Glycemic index was determined using standard procedures. Results and Discussion: Whole maize, millet, sorghum had the highest fat, fiber and protein respectively. Maize, millet and sorghum had a medium, low and high glycemic index respectively. Maize, millet and sorghum stiff porridge alongside mala had high, high and medium glycemic index respectively. Application & Recommendation: In the diet planning of T2DM individuals, stiff porridge alongside *mala* should not be advised. Conclusion: Stiff porridge from maize, millet, sorghum is a source of fat, fiber and protein respectively. Mala increases the glycemic response of maize and millet stiff porridge.

Keywords: Diabetes mellitus, glycemic index, glycemic response, stiff porridge, mala, whole flours.