Proximate Composition, Energy Contents and Blood Sugar Responses of Stiff Porridge and Rice Meals Consumed in Kenya

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Abstract

The term glycemic index has been used to categorize carbohydrate-rich foods on the basis of their blood sugar raising potential. Despite the existence of a table of glycemic indices of some foods, the glycemic indices of staple foods consumed in Kenya is still very scanty. This study therefore was designed to evaluate the glycemic indices (GI) of rice and stiff or thick porridge (ugali), the most commonly consumed staple foods in Kenya. Ugali is usually served with side dishes of cowpea leaves or beef and rice is usually served with either beans or beef stews among other accompaniments. The foods were analyzed for proximate composition using the AOAC methods. Glycemic index was determined following FAO/WHO recommended methodology. From the results of proximate analyses, it was established that the content of carbohydrates varied in the order: Ugali > rice > beans > cowpea leaves. Glycemic indices followed the order plain rice (77) > ugali and beef (71) > rice and beef (69) > rice and beans = plain ugali (62) > ugali and cowpea leaves (45) > plain beans (44). The GI values for these foods were significantly different ($p<0.05$). Despite this, all the foods had a high glycemic load (≥ 20). However, cowpea leaves and beans lowered the GI of ugali and white rice respectively. This GI lowering effect is especially important in the dietary management of diabetes mellitus

Key words.

Energy Contents, Blood Sugar Responses, Porridge, Rice Meals.