

Falconoid content in ethanol extracts of selected raw and traditionally processed indigenous foods consumed by vulnerable groups of Kenya: antioxidant and type II diabetes-related functional properties

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Abstract

The present study evaluated the flavonoid content, antioxidant as well as type II diabetes-related enzyme inhibition activities of ethanolic extract of certain raw and traditionally processed indigenous food ingredients including cereals, legumes, oil seeds, tubers, vegetables and leafy vegetables, which are commonly consumed by vulnerable groups in Kenya. The vegetables exhibited higher flavonoid content (50–703mg/100g) when compared with the grains (47–343mg/100g). The ethanolic extract of presently studied food ingredients revealed 33–93% DPPH radical scavenging capacity, 486–6,389mmol Fe(II)/g reducing power, 19–43% α -amylase inhibition activity and 14–68% α -glucosidase inhibition activity. Among the different food-stuffs, the drumstick and amaranth leaves exhibited significantly higher flavonoid content with excellent functional properties. Roasting of grains and cooking of vegetables were found to be suitable processing methods in preserving the functional properties. Hence, such viable processing techniques for respective food samples will be considered in the formulation of functional supplementary foods for vulnerable groups in Kenya.