Title: Determination of some immune boosting trace elements in selected food grains, herbal spices and seeds

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Trace elements are essential in preserving good health and body immunity to diseases. Selenium is known to reduce cancer incidences, slow aging and increase fertility among other benefits. Zinc plays a vital role in wound healing, nervous system, reproductive system and immune system while chromium is relevant in glucose metabolism and protein synthesis. Vanadium promotes healthy glucose levels in the blood of people with non-insulin dependent diabetes mellitus (NIDDM) as well as promoting healthy cellular replication in the body. There is need therefore to determine foods with adequate levels of these elements which can boost the immunity of healthy people and those with immuno deficiency. In this research Se, Zn, Cr and V levels in food grains, herbal spices and fruit seeds obtained from local markets were determined using atomic absorption spectrophotometer (AAS) and energy dispersive X-ray fluorescence (EDXRF). The samples considered in this study included food grains; wheat (Triticum aestivum L.), brown rice (Oryza sativa), finger millet (Eleusine coracana), bulrush millet (Pennisetum glaucum) and sorghum (Sorghum bicolor). The herbal spices included; coriander seeds (Coriandrum sativum), lemon grass (Cymbogon citratus), ginger (Zingiber officinalis), garlic (Allium sativum), cloves (Syzygium aromaticum) and rosemary (Rosmarinus officinalis). The seeds considered in this study included pumpkin (Cucurbita maxima) seeds, watermelon (Citrullus lanatus) seeds and sunflower (Helianthus anuus) seeds. The results indicate that zinc levels ranged from 17.89-53.54 mg/kg with pumpkin seeds having the highest level of 53.54 mg/kg. Selenium levels ranged from 16.54-198.38mg/kg with bulrush millet having the highest level of 198.00 pg/kg. The levels of vanadium ranged from 1.54-14.40 mg/kg with lemon grass having the highest level of 14.40 mg/kg. Chromium levels ranged from 1.76-13.00 mg/kg with coriander seeds having the highest level of 13.00 mg/kg.