

Preliminary investigation on Selenium levels of some consumable food in Sri Lanka

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Small doses of selenium are essential for human body as it has a major role in metabolism and protection of body via oxidative stress. Selenium also plays an anti-carcinogen or chemo preventive agent role in human body. Selenium concentrations of major consumable food products (fish, meat, eggs and grains) in Sri Lanka were measured using Graphite Furnace Atomic Absorption Spectrophotometer (GF-AAS). Selenium concentrations found were: *Katsuwonus pelamis* (Skipjack Tuna) $0.328 \pm 0.024 \mu\text{g/g}$, *Sardinella gibbosa* (Salaya) $0.150 \pm 0.05 \mu\text{g/g}$, chicken $0.3978 \times 10^{-3} \pm 0.20 \times 10^{-3} \mu\text{g/g}$, Mutton $0.1548 \times 10^{-3} \pm 0.05 \times 10^{-3} \mu\text{g/g}$, brown rice $1.822 \pm 0.15 \mu\text{g/g}$, dhal $1.996 \pm 0.6 \mu\text{g/g}$, egg white $1.436 \pm 0.56 \mu\text{g/g}$, egg yolk $3.376 \pm 1.33 \mu\text{g/g}$. Selenium concentrations in beef and pork were below the instrument detection limit ($< 0.125 \times 10^{-3} \mu\text{g/g}$). In the meat samples analyzed, chicken had significantly higher concentration of selenium than mutton. Also, egg yolk had significantly higher concentrations of selenium than egg white. Results of the statistical analysis revealed that measured selenium concentrations between two fish varieties and two grains were not significantly different. The highest selenium concentration was detected in egg yolk and the lowest selenium concentration was detected in mutton. Among the food samples studied, brown rice, dhal and egg have the most favorable selenium levels, therefore, its consumption seems to be preferable as good sources of selenium in Sri Lanka.

Key words: Selenium, Graphite Furnace Atomic Absorption Spectrophotometer, recommended dietary allowances, *Katsuwonus pelamis*, *Sardinella gibbosa*

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