

Determinants of Selenium Intake in a High HIV Prevalence Fishing Community in Bondo District, Kenya

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Abstract : A study was done to establish determinants of selenium intake in a high HIV prevalence fishing community in the Pala Bondo district, Kenya. It was established that most of the respondents (61%) were small holder Farmers and Fishermen $\{\chi^2 (1, N=386) p<0.000\}$, and that most of them (91.2%) had up to college level education $\{\chi^2 (1, N=386) p<0.000\}$, while the number of males and females were not significantly different $\{\chi^2 (1, N=386) p=0.263\}$ and 83.5% of respondents were married $\{\chi^2 (1, N=386) p=0.000\}$. The study showed that adults take on average 2.68 meals a day (N=382, SD=0.603), while children take 3.02 meals (N=386, SD=1.031) a day, and that in most households (82.6%) food is prepared by the women $\{\chi^2 (1, N=386) p=0.000\}$ and further that 50% of foods eaten in that community are purchased $\{\chi^2 (1, N=386) p=0.6698\}$. The foods eaten by 75.2% of the respondents were *Oreochromis niloticus*, *Lates niloticus*, and *Sorghum bicolor*, 64.1% vegetables and that both children and adults eat same types of food, and further that traditional foods which have become extinct are mainly vegetables (46%). The study established that selenium levels in foods eaten in Pala sub-locations varies with traditional vegetables having higher levels of selenium; for example *Laurnea cornuta* (148.5 mg/kg), *Cleome gynandra* (121.5 mg/kg), *Vignia unguolata* (21.97 mg/kg), while *Rastrineobola argentea* (51 mg/kg), *Lates niloticus* (0), *Oreochromis niloticus* (0) *Sorghum bicolor* (19.97 mg/kg), and *Sorghum bicolor* (0). The study showed that there is an inverse relationship between foods eaten and selenium levels $\{RR=1.21, p=0.000\}$, with foods eaten by 75.2% of respondents (*Oreochromis niloticus*/*Lates niloticus*) having no detectable selenium. The four soil types identified in the study area had varying selenium levels with pleat loam (13.3 mg/kg), sandy loam (10.7 mg/kg), clay (2.8 mg/kg) and loam (4.8 mg/kg). It was concluded from this study that for the foods eaten by most of the respondents the selenium levels were below Daily Reference Intake.

Keywords : determinants, HIV, food, fishing, Selenium

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