



**Dr. Ngugi Louise** attended Thogoto Primary School from 1980 to 1987 for her primary school education and emerged top in her school in the Kenya Certificate of Primary Education (KCPE). She joined Alliance Girls High School for her high school education between 1988 and 1991. After high school she joined Kenyatta University for a Bachelor of Education in Home Economics from 1993 to 1997. She was posted under the Teachers Service Commission to teach at Bahati Girls Secondary School and later at Moi Girls Kamangu High School. In the year 2002, she joined The University of Nairobi to pursue a Master degree in Applied Human Nutrition until 2004. She was later hired by the World Vision ARK program until the year 2006. Dr. Ngugi joined The University of Nairobi for PhD studies in Applied Human Nutrition in the 2009. She got an in-country scholarship from DAAD German Academic Exchange program.

Dr. Ngugi works for Karatina University and is currently the Acting Head of Department in the Department Food Science and Nutrition, in The School of Agriculture and Biotechnology. She is also a lead consultant for the Lampstand Consultancy and has successfully completed over ten (10) research engagements for leading institutions in Kenya.

Dr. Ngugi's PhD research focused on the role of nutrition and health education; and vegetable production and consumption for the sustainable management of HIV/AIDS. She has co-authored in peer reviewed journals and participated in international conferences on nutrition for sustainable development. Dr. Ngugi is married and a mother of three children

#### **Thesis Title**

**NUTRITION AND HEALTH EDUCATION COMBINED WITH CONSUMPTION OF SELF-PRODUCED VEGETABLES IN THE MANAGEMENT OF HIV/AIDS**

#### **Thesis Abstract**

Sub-Saharan Africa continues to host over 75% of PLWHA. Interventions, even those involving supplementary feeding have not been adequately evaluated. Most of these interventions are donor dependent and therefore not sustainable, considering the economic status of most victims, in the situation that donor funding is withdrawn. This study was designed to assess the effect of nutrition and health education combined with consumption of self-grown vegetable. The study was a combined cross-sectional and longitudinal design in two sites in Kenya, Nakuru and Thika Counties. Cross sectional design was used to determine the current status of the PLWHA and the health care providers with regard to nutritional and HIV knowledge, and the socio-demographic, socio-economic status of the study groups. The longitudinal component involved nutrition and health education alone in Nakuru, which served as the control and education combined with vegetable production and consumption in Thika as the study group. A total sample of 133 was used with 72 in Nakuru and 61 in Thika. The nutritional, health and knowledge status were assessed initially and

then after 6 months, during which the PLWHA were trained, grew and consumed the vegetables.

Results showed that up to 78% had the highest level of education as upper primary. The mean age of PLWHA was about 46 and 42 years in the Nakuru and Thika respectively and was significantly different in the two counties. Nutrition and HIV/AIDS knowledge was low among both the PLWHA and health care providers. Majority of PLWHA indicated having been trained mainly on behavioral changes. After the intervention, the mean knowledge score in nutrition and HIV significantly increased from 15.9 and 17.8 to 21.0 and 17.3 ( $p < 0.05$ ) scores in Nakuru and Thika respectively. Knowledge of diarrhoea as a direct consequence of poor nutrition in HIV/AIDS was by 27.8% and that of correct weight for height by 54.1 % of PLWHA. These proportions were not significantly different between the two counties. The prevalence of under-nutrition increased in Nakuru (10.7 to 12.9 %) and in Thika (20.3 to 27.6 %) significantly whereas over nutrition increased in Nakuru (11.6 to 20 %) and decreased in Thika (27.1 to 19 %). Caloric intake significantly increased from 1607Kcal and 1439 Kcal to 1976 Kcal and 1817 Kcal in Nakuru and Thika respectively. The intakes however remained below the RDA for PLWHA in both counties. Intakes of selenium and zinc were above their RDI in the two counties but below the upper tolerable limits, with 108 $\mu$ g in Nakuru and 76.8 $\mu$ g in Thika. Zinc intake was 14.8mg and 10.2mg in Nakuru and Thika Counties respectively. The mean individual dietary diversity score (IDDS) were low but increased significantly in Nakuru and Thika from 3.7 and 3.8 to 4.8 and 5.0 ( $p < 0.05$ ) in that order.

Over 75% of the PLWHAs were consuming more of refined foods and exotic vegetables. The commonly consumed foods were maize and wheat products, rice, sweet potatoes, Irish potatoes and green bananas. In management of co-morbidities in HIV/AIDS, less than 20% of PLWHA sort treatment in hospitals. About 30% bought off-the-counter drugs, while 70% did nothing. Very few adjusted their diets at baseline and after the intervention. Those with knowledge of oral rehydration salts for management of diarrhea increased to 57% from 20%. Proportion with knowledge of appropriate hand washing techniques was low at less than 20%.

The study concludes that malnutrition, morbidity and hygiene practices of people living with HIV/AIDS can be improved through nutrition and health education, when combined with consumption of self-produced vegetables. Key Words: Nutrition knowledge, nutrition education, nutritional status, people living with HIV/AIDS.