

ORIGINAL ARTICLE

# Determinants of dietary diversity among women of reproductive age in two different agro-ecological zones of Rongai Sub-County, Nakuru, Kenya

Maureen Wanjiru Gitagia<sup>1</sup>, Rose Chepchirchir Ramkat<sup>2</sup>, Dorothy M Mituki<sup>1</sup>, Celine Termote<sup>3</sup>, Namukolo Covic<sup>4</sup>, and Maureen Jepkorir Cheserek<sup>1\*</sup>

<sup>1</sup>Department of Human Nutrition, Faculty of Health Science, Egerton University, Rift Valley, Kenya; <sup>2</sup>Department of Biological Sciences, Moi University, Eldoret, Rift Valley, Kenya; <sup>3</sup>Diets from Sustainable Food Systems Initiative, Bioversity International, Nairobi, Kenya; <sup>4</sup>International Food Policy Research Institute, Poverty Health and Nutrition Division, Agriculture for Nutrition and Health, Addis Ababa, Ethiopia

## Popular scientific summary

- This study demonstrated that the diets of women were of poor quality despite the differences in agro-ecological zones and availability of food from the farm.
- Education level influenced women's dietary diversity positively in low agricultural potential areas while household gender, education level, age and family size were important determinants in high potential areas.
- Nutrition interventions focusing on improving dietary quality of women should therefore pay special attention to developing region-specific interventions instead of generalizing interventions.

## Abstract

**Background:** Empirical evidence on the link between agrobiodiversity and dietary diversity appears to be inconclusive. Thus, there arises a need to determine other factors that could significantly influence dietary diversity in different agro-ecological zones, as factors may vary from region to region.

**Objective:** The objective of this study was to document the status of agrobiodiversity and dietary diversity and to assess the determinants of dietary diversity among women of reproductive age in two different agro-ecological zones of Rongai Sub-County in Kenya.

**Design:** A cross-sectional study of 384 women aged 18–49 years was conducted. Agrobiodiversity was measured using the Shannon-Wiener index, species richness (count) and production diversity score. A 24-hour dietary recall was used to determine minimum dietary diversity for women (MDD-W) of reproductive age.

**Results:** Although the level of agrobiodiversity was different between the low and high agro-ecological zones (using Shannon-Wiener index); the women's dietary diversity was not different ( $p > 0.05$ ) between low ( $3.78 \pm 0.99$ ) and high potential areas ( $3.84 \pm 1.05$ ). In multivariate logistic regression, there was no association ( $p > 0.05$ ) between agrobiodiversity indicators and dietary diversity across the two agricultural zones. Factors influencing MDD-W in two agricultural zones were different. In low potential areas, woman's education level positively determined dietary diversity, while in high potential areas household gender, woman's education level, woman's age and family size influenced MDD-W.

**Conclusion:** The proportion of women who met minimum dietary diversity was low. Although agrobiodiversity was different in the two agro-ecological zones, women's dietary diversity scores were similar. In low agricultural potential areas, only education level influenced women's dietary diversity while household gender, education level, age and family size were the important determinants in high agricultural potential areas. Therefore, it is recommended that nutrition interventions focusing on lessening malnutrition and improving dietary quality should pay special attention to differences in agro-ecological zones to develop region-specific interventions instead of generalizing interventions.

**Keywords:** *Agro-biodiversity; agro-ecological zones; women's dietary diversity; determinants; rural Kenya.*

Received: 9 August 2018; Revised: 5 December 2018; Accepted: 6 December 2018; Published: 18 January 2019