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Fighting Hidden Hunger: Diversity, Composition and Nutrient Adequacy of Diets of Lactating Mothers in Southwest Ethiopia

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Abstract

Optimal nutrition during lactation is important for the well-being of the mother and the infant. Studies have shown that access to nutrient-rich foods during lactation is critical as inadequate stores of micronutrients can have adverse effects. We assessed the diversity, composition and nutrient adequacy of diets of lactating mothers in Southwest Ethiopia. Community based cross-sectional survey was carried out in three districts of Jimma Zone from March to May, 2014. A multistage stratified sampling technique was used to select 558 lactating mothers. Data were collected using structured interviewer administered questionnaires. Dietary diversity score (DDS) was calculated by summing the number of food groups consumed over the last 24 hours from a scale of seven food groups. The DDS was converted into terciles. The proximate, mineral and anti-nutritional compositions of 12 commonly consumed foods were analysed using standard methods. Nutrient adequacy ratio (NAR) was calculated as the ratio of subject's intake of a nutrient (per day) and recommended daily allowance of the nutrient. The mean (±SD) DDS of the study participants was 4.51 (±1.1). The prevalence of "low DDS" was significantly ($p < 0.05$) higher among informally educated, rural mothers, who reside in poor households and cereal producing district. The proximate composition and calorific value of the sampled foods ranged between 24.8–65.6 %, 7.6–19.8 %, 2.1–23.1 %, 2.0–27 %, 1.0–21.2 %, 0.9–45.8 %, 124.5–299.6 Kcal/100g for moisture, protein, crude fat, crude fiber, total ash, total carbohydrate and energy content, respectively. The mineral contents ranged between 9.5–52.5 mg, 2.2–4.2 mg, 42.6–318.2 mg, 150.7–379.9 mg for iron, zinc, calcium and phosphorus, respectively. The anti-nutritional factors contents ranged between 11.1–178.9 mg for phytate and 3.7–315.9 mg for tannin. All the commonly consumed maternal foods were not sufficient to meet the energy, fat and protein requirements, (NAR<1). However, all diets provided adequate iron and majority of the cereal based foods provided adequate carbohydrate and minerals. The overall nutrient adequacy was below the cut-off point for all food types. The diversity and nutrient adequacy of diets of lactating mothers in the study area were below the recommendations. A community based nutritional education based on multi-sectoral approach is needed to curb the problem of malnutrition among lactating mothers in the study area.

Keywords: Dietary diversity score, mean adequacy ratio

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