

## abstract

There are potential health risks associated with the use of early weaning to prevent mother-to-child transmission of human immunodeficiency virus (HIV) in resource-poor settings. Our objective was to examine growth and nutrient inadequacies among a cohort of children weaned early. Children participating in the Breastfeeding Antiretrovirals and Nutrition (BAN) Study in Lilongwe, Malawi, had HIV-infected mothers, were weaned at 6 months and fed LNS until 12 months. 40 HIV-negative, BAN-exited children were compared with 40 HIV-negative, community children matched on age, gender and local health clinic. Nutrient intake was calculated from 24-h dietary recalls collected from BAN-exited children. Anthropometric measurements were collected from BAN-exited and matched community children at 15-16 months, and 2 months later. Longitudinal random effects sex-stratified models were used to evaluate anthropometric differences between the two groups. BAN-exited children consumed adequate energy, protein and carbohydrates but inadequate amounts of fat. The prevalence of inadequate micronutrient intakes were: 46% for vitamin A; 20% for vitamin B6; 69% for folate; 13% for vitamin C; 19% for iron; 23% for zinc. Regarding growth, BAN-exited girls gained weight at a significantly lower rate ( $0.02 \text{ g kg}^{-1}$  per day [95% confidence interval (CI): 0.01, 0.03]) than their matched comparison ( $0.05 \text{ g kg}^{-1}$  per day (95% CI: 0.03, 0.07)); BAN girls grew significantly slower ( $0.73 \text{ cm month}^{-1}$  (95% CI: 0.40, 1.06]) than their matched comparison ( $1.55 \text{ cm month}^{-1}$  [95% CI: 0.98, 2.12]). Among this sample of BAN-exited children, early weaning was associated with dietary deficiencies and girls experienced reduced growth velocity. In resource-poor settings, HIV prevention programmes must ensure that breastfeeding stop only once a nutritionally adequate and safe diet without breast milk can be provided.