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Topic: The first 1000 days, infant feeding, and early childhood development

Title: Breast milk intake, fat and energy content of breast milk: A 4-day test-weighing study in exclusively breastfed South African infants

Presentation Type: Oral

INTRODUCTION: Exclusive breastfeeding (EBF) in the first six months of life is recommended. There is, however, very limited information on the breast milk intake of EBF infants, as well as on the energy and fat content of breast milk in South Africa.

AIM: To assess breast milk intakes and fat and energy content of breast milk in a convenience sample of EBF infants and their mothers from a semi-urban township in South Africa.

METHODOLOGY: Twenty-four apparently healthy mothers and their EBF 2 to 5 month old infants stayed at the metabolic ward of the North-West University for four days. Infants were weighed (± 1 g accuracy) before and after each feed to determine breast milk intake. A fore-milk sample was collected to determine fat and energy content of milk using the creatatocrit method. An additional mid-feed and hind-milk sample was collected from the first feed per day.

RESULTS: Mean breast milk intake was 369 ± 98 g per day. Mean daily energy and fat intake was 158 ± 48 KJ/kg and 1.57 ± 0.49 g/kg body weight respectively. Mean fat and energy concentrations of fore-milk were 25.7 ± 7.3 g/L and 2545 ± 256 KJ/L, respectively. Analysis of within feed variations (using one feed) showed mean fat concentrations of fore- (26.8 ± 8.2 g/L), mid- (37.6 ± 7.0 g/L) and hind-feed (50.2 ± 10.4 g/L) milk differed significantly ($P < 0.001$). Mean energy concentrations of fore- (2523 ± 323 KJ/L), mid- (2947 ± 275 KJ/L) and hind-feed (3464 ± 410 KJ/L) differed significantly ($P < 0.001$).

CONCLUSION: These data suggests the likelihood of energy deficiency among EBF infants in the Potchefstroom area. Further studies are needed to confirm these findings in a larger sample and with more accurate methods.