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Maternal diet and its association with human milk energy and macronutrient composition among exclusively breastfeeding Malaysian Malay mothers

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Abstract

Introduction: This study aimed to determine the relationship of maternal dietary intake with human milk nutritional composition, among Malay mothers during the postpartum period of exclusive breastfeeding. **Methods:** Human milk samples (20- 30ml) were collected from mothers (n=32) at least once monthly for six months postpartum. Macronutrients and fatty acids contents were determined using proximate analysis and gas chromatography methods, respectively. Maternal dietary intakes were recorded using the multiple-pass diet recall method prior to each milk sampling and were analysed using the Nutritionist ProTM software. Associations between the milk composition and maternal diet were tested using Spearman correlation. **Results:** The energy content ranged between 49.6-59.2 kcal/100ml, protein 1.3-1.4 g/100ml, carbohydrate 6.5-9.7 g/100ml and total fat 6.5-9.7 g/100ml. The polyunsaturated, monounsaturated, and saturated fatty acids concentrations were 10.5-19.1 %, 40.6-43.5 %, and 38.0-49.7 %, respectively. During confinement (first month postpartum), total energy and total fat content of human milk were the highest whereas total carbohydrate was the lowest, compared to the rest of the exclusive breastfeeding period. In contrast, intakes of total calorie and total fat were the lowest, whereas protein was the highest during this period. However, no associations were detected between human milk nutritional contents and maternal dietary intake. **Conclusion:** In our study population, the composition of maternal diet and nutritional content of human milk differed between confinement and post-confinement periods. However, the association between maternal diet and human milk composition itself warrants further investigation. © 2019, Malaysian Journal of Nutrition.

Author Keywords

Breastfeeding; Human milk; Maternal diet; Nutritional composition

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