

Association of Maternal Diet Quality Indices and Dietary Patterns during Lactation and the Growth of Exclusive Breastfed Infant

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Abstract : Maternal dietary intake during lactation might affect the growth rate of an exclusive breastfed infant. The present study was conducted to evaluate the effect of maternal dietary patterns and quality during lactation on the growth of the exclusive breastfed infant. Methods: 484 healthy lactating mothers with their infant were enrolled in this study. Only exclusive breastfed infants were included in this study which was conducted in Iran. Dietary intake of lactating mothers was assessed using a validated and reliable semi-quantitative food frequency questionnaire. Diet quality indices such as alternative Healthy eating index (HEI), Dietary energy density (DED), and adherence to Mediterranean dietary pattern score, Nordic and dietary approaches to stop hypertension (DASH) eating pattern were created. Anthropometric features of infant (weight, height, and head circumference) were recorded at birth, two and four months. Results: Weight, length, weight for height and head circumference of infants at two months and four months age were mostly in the normal range among those that mothers adhered more to the HEI in lactation period (normal weight: 61%; normal height: 59%). The prevalence of stunting at four months of age among those whose mothers adhered more to the HEI was 31% lower than those with the least adherence to HEI. Mothers in the top tertiles of HEI score had the lowest frequency of having underweight infants (18% vs. 33%; $P=0.03$). Odds ratio of being overweight or obese at four months age was the lowest among those infants whose mothers adhered more to the HEI (OR: 0.67 vs 0.91; $P_{trend}=0.03$). However, there was not any significant association between adherence of mothers to Mediterranean diet as well as DASH diet and Nordic eating pattern and the growth of infants (none of weight, height or head circumference). Infant weight, length, weight for height and head circumference at two months and four months did not show significant differences among different tertile categories of mothers's DED. **Conclusions:** Higher diet quality indices and more adherence of lactating mother to HEI (as an indicator of diet quality) may be associated with better growth indices of the breastfed infant. However, it seems that DED of the lactating mother does not affect the growth of the breastfed infant. Adherence to the different dietary patterns such as Mediterranean, DASH or Nordic among mothers had no different effect on the growth indices of the infants. However, higher diet quality indices and more adherence of lactating mother to HEI may be associated with better growth indices of the breastfed infant. Breastfeeding is a complete way that is not affected much by the dietary patterns of the mother. However, better diet quality might be associated with better growth.

Keywords : breastfeeding, growth, infant, maternal diet

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