



ISFAHAN UNIVERSITY OF MEDICAL SCIENCES

SCHOOL OF MEDICINE

Thesis for obtaining the M.D. Degree

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Title:

**Macro and Micro Nutrients of Human Milk Composition:
Are They Related to Maternal Diet? A Comprehensive
Systematic Review**

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Abstract

Background: This study aims to systematically review the observational and interventional studies on the association of maternal macro-and micronutrient intake with breast milk content.

Methods: We systematically searched the Medline via PubMed, Scopus and ISI web of knowledge to Oct 2016 with following search strategy: ("human milk" OR "breast milk" OR "breast milk composition" OR "human breast milk composition" OR "composition breast milk" OR "mother milk" OR "human breast milk") AND ("maternal diet" OR "maternal nutrition"). We also searched Google scholar for increasing the sensitivity of our search. The search was not limited to title and abstract due to the possibility that the desired outcome might have been considered as a secondary aim. We excluded conference papers, editorials, letters, commentary, short survey, and notes. The search was refined to English language, and we did not consider any time limitation. To increase the sensitivity and to select more studies, the reference list of the published studies was checked as well.

Results: This review included 59 observational and 43 interventional studies on maternal diet related to breast milk composition. Different studies determined the associations and effects of some maternal dietary intake of micro and macronutrients and its reflection in human milk.

Conclusion: Maternal dietary intake, particularly FAs, and some micronutrients including fat soluble vitamins, vitamin B₁, and vitamin C was related to their content in breast milk composition.

Key words: Maternal diet, human milk, macronutrients, micronutrients, breast-milk composition

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