An-Najah National University

Faculty of Medicine and Health Sciences

Assessing iron levels in the breast milk samples for nursing mothers: a cross sectional study in the West Bank of Palestine

Students:

Khaled Ihab Abdo (11541729)
Diana Hosam Atili (11441210)
Ola Samer Baarah (11524776)

Supervisors
Ramzi Shawahna, PhD
Iyad H Maqboul, MD
Hatem Hijaz, MD

This graduation project is submitted in partial fulfilment of the requirements for the degree of Doctor of Medicine (MD) from the Faculty of Medicine and Health Sciences, An-Najah National University, Nablus

Abstract:

Background: Iron is an important micronutrient for both mother and baby and it is found in many sources in environment, although iron milk concentrations is not highly affected by mothers nutritional status or pregnancy supplements, either high or low iron concentrations can affect the recipient baby.

Objective: The primary aim of this study was to assess iron concentration in breast milk in 5 main regions of the West Bank of Palestine to investigate the effect of some sociodemographic and nutritional variables on iron concentration.

Methods: Breast milk samples were collected from 160 lactating mother from Nablus, Jenin, Tubas, Qalqelia and Hebron, then analyzed for iron concentrations using graphic furnace atomic absorption spectrophotometry. When collecting the data each mother answered a questionnaire about sociodemographic, nutritional and environmental variables.

Results: The median iron concentration was 0.5766 ranging from 0.4752 to 0.6819. Breast milk iron concentration in most of participants was more than normal concentrations found in literature which was up to 04 mg/L . Breast milk iron levels was significantly higher in women who live in urban (P value =0.003) , who lactate their babies less than 6 month (p value = 0.001) , women who consume fish weekly (p value =0.031) , who had never took (minerals, vit D) during lactation (p value = 0.008, 0.009) respectively , who consumes eggs (p value =0.047) , who consumes red meat (p value = 0.031).

Conclusion: Breast milk iron levels were higher than normal limit, and there is no relation between high iron concentrations and nutritional status or mineral supplementation of the mother.