



Effect of food-based and iron-folic acid (IFA) supplementation on nutrient intakes in pregnant women

Naura Delfi Meisara¹, Umi Fahmida^{1,2}, Noer Laily³

Received 19 September 2025
Accepted 22 September 2025
Published 29 September 2025

Link to DOI:
[10.25220/WNJ.V09.S1.0013](https://doi.org/10.25220/WNJ.V09.S1.0013)

Citation: Meisara N D, Fahmida U, Laily N. Effect of food-based and iron-folic acid (IFA) supplementation on nutrient intakes in pregnant women. World Nutrition Journal. 2025 September 29, 9(S1): 18.



Copyright: © 2025 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).
<http://www.worldnutritionjournal.org>

1. Department of Nutrition, Faculty of Medicine, Universitas Indonesia- Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia
2. Southeast Asian Minister of Education Organisation Regional Centre for Food and Nutrition (SEAMEO REFCON), Pusat Kajian Gizi Regional Universitas Indonesia, Jakarta, Indonesia
3. Research Centre for Food Technology and Processing, Agricultural and Food Research Organisation, National Research and Innovation Agency, Bogor Indonesia

Abstract

Background: Nutrient deficiencies during pregnancy are worsened by poor intake and low adherence to supplementation. This study aimed to assess the impact of a food-based intervention using soy-hydrolysate and iron-folic acid (IFA) supplementation on the nutrient intake of pregnant women.

Objective: This study aimed to assess the impact of a food-based intervention using soy-hydrolysate and iron-folic acid (IFA) supplementation on the nutrient intake of pregnant women

Methods: An intervention study was conducted over 12-weeks among 99 pregnant women aged 19–29 years in their second trimester. Intervention group received soy-hydrolysate with IFA, and IFA only in control group. Each serving provided 4.3 mg elemental iron, 150 µg folate, 3.5 mg zinc, and 0.6 µg vitamin B12, as well as protein and other nutrients (approximately contribute to 2-38% RNI). Participants were assigned to an intervention group (n=51) and a control group (n=48). Dietary intake was measured at baseline and endline using a single 24-hour dietary recall. Wilcoxon test and Mann-Whitney U test were used to assess within- and between-group difference, respectively. Nutrient parameters included energy, protein, fat, carbohydrate, vitamin A, vitamin B12, vitamin C, calcium, zinc, folate and iron.

Results: Significant improvement were observed in the intervention group for vitamin A, B12, zinc, folate, and iron ($P < 0.001$), with soy-hydrolysate contributing approximately 25–38% of the RNI for these nutrients per serving. Between-group comparisons at endline showed that the intervention group had significantly higher intake of energy, protein, fat, carbohydrate, vitamin B12, calcium, and folate and iron (without IFA) ($P < 0.05$).

Conclusion: Soy-hydrolysate intervention improved nutrient intake in pregnant women, this findings support food-based strategies to complement existing supplementation programs.

Acknowledgements: The authors thank BRIN for their support and declare no conflicts of interest.

Keywords: iron-folic acid, nutrient intake, pregnancy, soy-hydrolysate

Presenting author:

Naura Delfi Meisara

Department of Nutrition, Faculty of Medicine,
Universitas Indonesia - Dr. Cipto Mangunkusumo General Hospital,
Jakarta, Indonesia

Email: naura.delfi@gmail.com