



Title : Evolving Iron Rich Recipes from Locally Available Foods to Combat Iron Deficiency in Female Populations of India

Author(s) : Vinti Davar, Professor; Monika Bansal, Research Scholar

Institution : Deptt of Home Science, Kurukshetra University, Kurukshetra, Haryana, India.

Keywords : *anemia, multigrain flour, females, iron rich recipes.*

Introduction:

Anemia is the most widespread nutritional problem affecting girls and women in developing countries. WHO recommends iron and folic acid supplements for reducing anemia and improving iron status among women of reproductive age. The food based strategy is an effective method to achieve sustainable long term impact on the iron status of the individuals. Keeping this in mind iron rich recipes were evolved using different combinations of multigrain flour composed of wheat, soybean, pearl millet, roasted bengal gram and rice flakes.

Methodology:

Four types of Mathri and ladoos, each, were prepared using different combinations like wheat and pearl millet; wheat and soybean; wheat, soybean and pearl millet; and from the blend using multigrain flour composed of wheat, soybean, pearl millet, roasted bengal gram and rice flakes.

- 2.1 Standardization of the recipes Three recipes each for ladoos and mathris were prepared. Their iron content was calculated. Out of all eight recipes, one sweet and one salty were selected for sensory evaluation on the basis of highest iron content, to check their acceptability.
- 2.2 Sensory Evaluation: Sensory qualities of the recipes evolved from the multigrain mix were analyzed using 9 Point Hedonic Scale by selected panel of 10 members.
- 2.3 Statistical Analysis: The data was statistically analyzed by SPSS 16. Mean and standard deviation were calculated to evaluate the acceptability of the recipes prepared.

Result:

Iron content was found to be maximum in ladoos made with multigrain (10.72mg/100g) as compared to ladoos made with wheat flour and soybean (6.72mg/100g) and ladoos made with wheat flour and pearl millet (6.51mg/100g). Similarly mathri made with multigrain mix has maximum iron content of 10.8mg/100g, as compared with the mathris made with wheat and soybean mix (6.45mg/100g) and wheat flour and pearl millet mix (5.73mg/100g). Sensory evaluation by 10 members on sensory panel showed overall acceptability of mathri (8.9 ± 0.316) more than ladoo (8.5 ± 0.527).

Conclusion:

Out of six recipes made by using different combinations of locally available grains, ladoo and mathri made with multigrain flour composed of wheat, pearl millet, soybean, rice flakes and roasted Bengal gram were found to have highest iron content and were found to be highly acceptable on sensory evaluation.

References:

- Gopalan, C., Rama Shastri, B.V. and Balasubramanian, S.C. (2004). Nutritive value of Indian foods. NIN, ICMR, Hyderabad.
- Kara Department of Home Science, College of Horticulture. <http://14.139.185.57/cgi-bin/koha/opac-ISBDdetail.pl?biblionumber=26281>
- Nambiar, S.V., Dhaduk, J.J., Sareen, N., Shahu, T. and Desai, R. (2011). Potential functional implications of pearl millet (*Pennisetum glaucum*) in health and disease. *Journal of Applied Pharmaceutical Science* 01 (10): 62-67.
- WHO (2012). Intermittent iron and folic acid supplementation in menstruating women. Retrieved from http://www.who.int/elena/titles/daily_iron_pregnancy/en/