



Conference Abstract

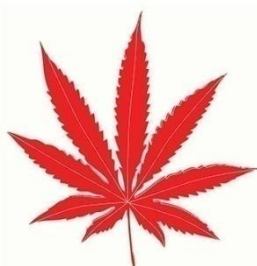
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COMBINED EFFECT OF IRON FORTIFICANTS & PREBIOTICS ON VARIOUS TYPES OF WHITE BLOOD CELLS AMONG IRON DEFICIENT WOMEN OF CHILDBEARING AGE

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ABSTRACT

Background: Hidden hunger, also known as Micronutrient deficiencies (MNDs) have been known to affect almost 25% of the World's population. Hidden hunger can have severe consequences on the overall health of the affected individuals and can even result in premature death. The instant research was designed to determine the combined effect of iron fortificants and prebiotics on White Blood Cells (Neutrophils, Lymphocytes, Monocytes, Eosinophils and Basophils) among iron deficient women belonging to women of childbearing age.

Methodology: For this purpose, n = 75 iron deficient anemic women were randomly chosen and categorized into 5 groups (four treatments and one control group). Five different types of wheat flour were prepared with varying amounts of iron fortificants and prebiotics. FeSO₄ and NaFeEDTA were used as iron fortificants while Inulin and Galactooligosaccharides were used as prebiotics. Blood samples were taken from overnight fasted women on monthly basis, up to three months. Five types of white blood cells were determined on baseline, 30th, 60th and 90th day of trials using their respective protocols.

Results: Mean square values for Neutrophils and Lymphocytes showed that a significant association existed for the effect of groups, study intervals as well as their interaction. However, no significant association was witnessed regarding mean square values for Monocytes, Eosinophils and Basophils.

Conclusions: The study concluded that provision of prebiotic & iron fortified flour steadily raised the levels of Neutrophils and Lymphocytes, thereby improving the immunity of iron deficient anemic patients

Key words: Hidden Hunger, Micronutrient Deficiencies, Iron Fortificants, Prebiotics, White Blood Cells, Immunity