IRON STATUS AND PHYSICAL GROWTH OF SELECTED FILIPINO SCHOOLCHILDREN AFTER CONSUMING MILK FORTIFIED WITH MICRONUTRIENTS

**INTRODUCTION**

Iron deficiency is the most prevalent nutritional deficiency according to the World Health Organization. Adverse effects of iron deficiency may result to anemia, growth faltering and serious consequences in children. The study evaluated the effect of fortified powdered milk drink on the iron status and physical growth of selected schoolchildren 5-8 years old in Cagayan De Oro City. In the Philippines, micronutrient deficiencies still pose a public health problem. Focusing on child health, adverse effects of micronutrient deficiencies and child survival are particularly acute resulting to serious physical and developmental consequences.

**MATERIALS AND METHODS**

**SAMPLING DESIGN**

Randomized double-blind controlled design
n = 120 children

**STUDY SITE**

BULUA CENTRAL SCHOOL* *no ongoing feeding program

CAGAYAN DE ORO CITY

2008 NNS results: Northern Mindanao: 19.8% prevalence of anemia among 6-12y children

**DATA COLLECTION**

- **GROUP 1** GROUP 2
  - HIGHLY FORTIFIED POWDERED MILK
  - MODERATELY FORTIFIED POWDERED MILK
  - DATA COLLECTED
    - HEMOGLOBIN LEVEL
    - SERUM FERRITIN (SF) LEVEL
    - C - REACTIVE PROTEIN (CRP) LEVEL
    - ALPHA - L - ACID GLYCOPROTEIN (AGP) LEVEL
    - WEIGHT
    - HEIGHT
    - FOOD INTAKE

**DATA COLLECTION**

- **RANDOM ALLOCATION**
  - milk feeding under supervised regimen Monday to Sunday
  - 120 DAYS

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### CONCLUSION

- Improved hemoglobin, SF, CRP, and AGP levels indicated better iron status of children in both groups.
- The higher fortification level might have contributed to the sustained iron stores with lower depletion level in the HF groups.
- Catch-up growth was observed in the HF group which could explain the similar mean increases in the both groups at endpoint.

### RECOMMENDATION

It is recommended that the future studies be conducted among children who are undernourished to validate efficacy of micronutrient fortification in milk.

### RESULTS

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<tr>
<th></th>
<th>WEIGHT</th>
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<th>FERRITIN</th>
<th>HEMOGLOBIN</th>
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<tbody>
<tr>
<td><strong>MF</strong></td>
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<tr>
<td>BASELINE</td>
<td>18.35kg</td>
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<td>63.45 ug/dl</td>
<td>112.48 g/l</td>
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<td>45.86 ug/dl</td>
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**DIETARY ASSESSMENT**

No significant difference in Energy, Protein, Vitamin A, Vitamin C & Iron between groups and time periods.

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