EFFECTS OF PROVIDING MICRONUTRIENT POWDER AND COMPLEMENTARY FOOD BLEND ON GROWTH AND MICRONUTRIENT STATUS OF FILIPINO YOUNG CHILDREN: A RANDOMISED COMMUNITY TRIAL

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Background:

Given that existing complementary foods of young Filipino children are often low in energy, protein, and micronutrient density, the combination of micronutrient powder (MNP) with complementary food blend known as Bigas-Mongo (BigMo) was hypothesized to be more effective in improving dietary quality and adequacy than MNP alone.

Objectives:
This study aimed to evaluate the effects of micronutrient powder (MNP) containing 15 versus nine nutrients, with or without complementary food blend (BigMo), on the nutritional status of young children in Calauan, Laguna, Philippines.

Materials and Methods:
The study was conducted for 6 months among 126 children aged 6-17 months in four barangays selected by cluster randomisation. Children were randomised into four groups: VitaMix with 15 micronutrients plus Bigas Mongo (BigMo) (n=31); VitaMix without BigMo (n=31); Micronutrient Growth Mix (MGM) with nine micronutrients plus BigMo (n=29); and MGM without BigMo (n=31). Blood samples were collected at baseline and endline to determine haemoglobin, ferritin, retinol, and zinc concentrations. Intervention compliance, weight, length, and dietary intakes were collected every month.

Results:
Both VitaMix and MGM with or without BigMo improved hemoglobin concentrations and reduced anemia (Hb<11g/dL). However, only VitaMix and MGM combined with BigMo had effects in reducing moderate anemia (Hb<10g/dL), compared to groups without BigMo. Only MGM+BigMo group demonstrated significant reduction in the prevalence of moderate non-iron deficiency anemia (IDA) (Hb<10g/dL and ferritin>12ug/L). A significant increase in the length-for-age z-scores was noted in the MGM with and without BigMo groups.

Conclusion and Recommendations:
Daily supplementation of MGM with nine micronutrients combined with complementary food blend may have a greater potential than MNP with 15 micronutrients in improving the nutritional status of young children.