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THE EFFECTS OF MOMSIE ON THE NUTRITIONAL STATUS OF 6-36 MONTHS OLD CHILDREN

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INTRODUCTION

Infants and young children are at an increased risk of under nutrition, particularly when breast milk alone is no longer sufficient to meet their nutritional needs. During complementary feeding, It is important to provide appropriate, safe, suitable and acceptable complementary foods. The DOST-FNRI developed MOMSIE™, a complementary food made from soybean, peanuts, sesame seeds and mongo, for children six months to three years of age. It is high in calories and fortified with vitamins A and C, folate, iron, calcium and zinc. This study determined the effects of MOMSIE™ and unfortified ready-to-eat complementary food consumed daily over a 120-day feeding period on the nutritional status of normal and undernourished 6-36 months old children.



Figure 1. Conceptual Framework

MATERIALS AND METHODS

This study followed a randomized, double-blind, controlled, two group design done in Angono, Rizal. It is a first class urban municipality with the highest prevalence of underweight among the 13 municipalities of Rizal. Qualified children were clustered by nutritional status (normal and underweight/underheight) then randomly allocated into two groups with matched number of samples of normal and underweight/underheight children. One pair received the Momsie™ while the other pair was given the unfortified ready-to-eat complementary food and served as the control. Both complementary foods were in unbranded 25 grams sachets and were color-coded. Each child participant was also given codes corresponding to their group code. Codes were revealed to the Research Team after the data analysis. The intervention was done for 120 days. Height/length and weight were measured monthly for the duration of the intervention. Blood samples for analysis of hemoglobin and serum ferritin and dietary intake were collected at baseline and endline. Liking Score sheet was given to each mother/caregiver of child participant twice a month.

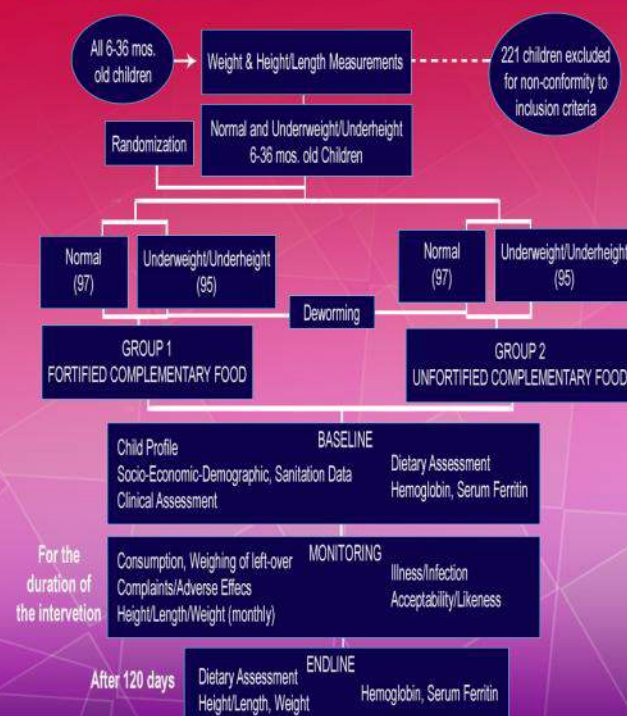


Figure 2. Operational Flow of the Study

DATA COLLECTION



INTERVENTION

RESULTS

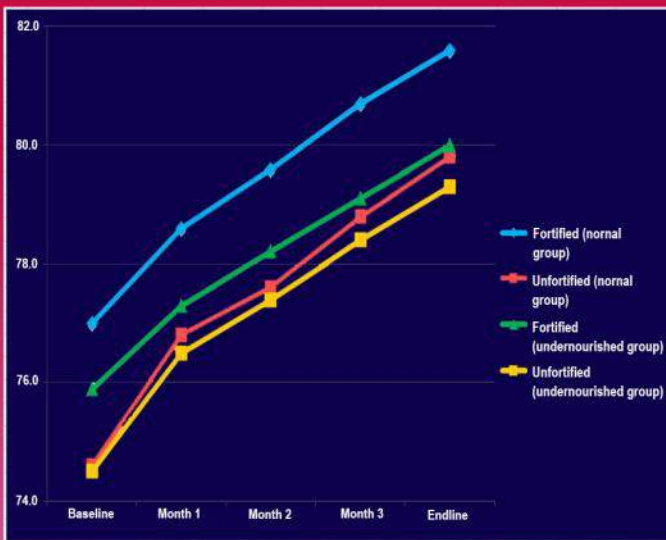


Figure 3. Monthly mean length/height of children participants by study group

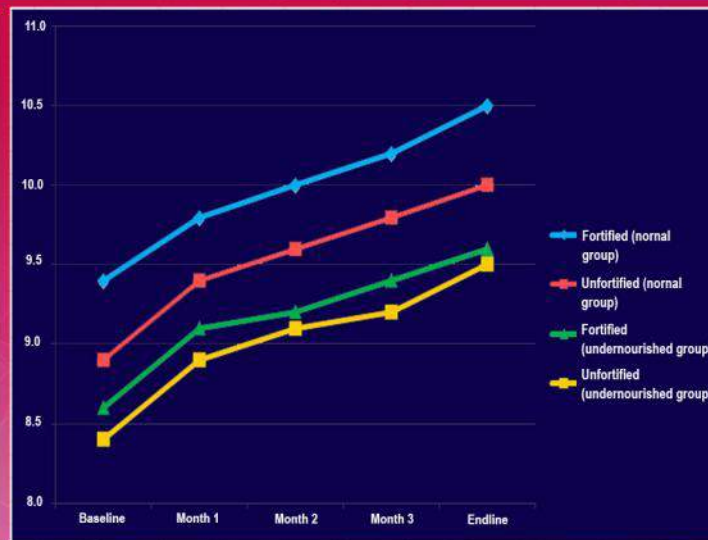


Figure 4. Monthly mean weights of children participants by study group

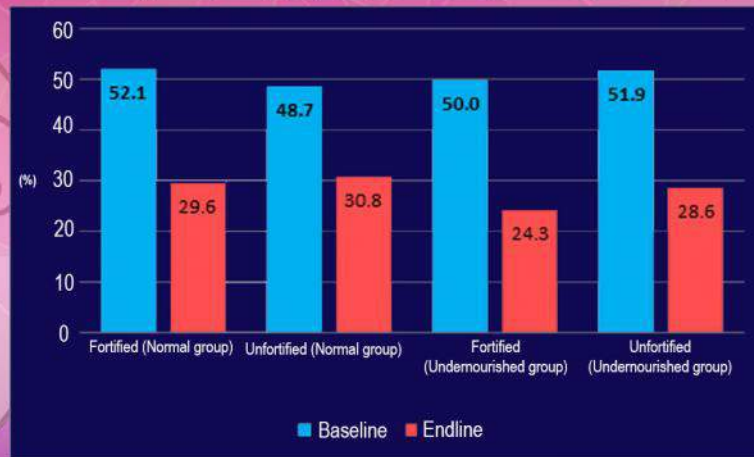


Figure 5. Prevalence of anemia among children participants by group by period

Both the normal and undernourished groups given with Fortified Momsie™ demonstrated higher mean height/length and weight and hemoglobin level after the intervention. There was significant increase ($p=0.0041$) in median serum ferritin level in Fortified-Undernourished group. Both the fortified and unfortified ready-to-eat complementary foods were acceptable to children and their mothers/caregivers.

Table 1. Median serum ferritin level of children participants by study group

	FORTIFIED		UNFORTIFIED		p-value
	Normal (n=71)	Undernourished (n=74)	Normal (n=78)	Undernourished (n=76)	
Baseline (µg/L)	14	16.5	15	17.5	0.7328
Endline (µg/L)	17	19	16	16	0.3435
Difference	1.0	4.5	0.0	0.5	
p-value (Wilcoxon signed rank sum test)	0.7373	0.0065*	0.5431	0.6540	
p-value (Sign test)	0.6254	0.0041*	0.7202	0.4704	

*significantly relevant

CONCLUSIONS AND RECOMMENDATIONS

The study showed that fortified MOMSIE™ can have a significant effect on improving hemoglobin levels and reducing anemia prevalence though its effects on improvement of height/length and weight was modest. Making the complementary food product MOMSIE™ available can make better the accessibility for quality fortified complementary food to help improve the iron status and nutritional status of infants and young children. It is a healthful choice for complementary feeding of infants and young children.