

Effectiveness of Nutritional Supplement in Growth and Development of Children aged 2-12 years

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INTRODUCTION

Young children in India suffer from some of the highest levels of stunting, underweight, and wasting observed in any country in the world. The levels of over-nutrition are also on a rise. Prevention of child malnutrition require diets providing adequate energy and essential nutrients to promote catch-up growth, strengthen resistance to infection, and support normal mental, physical and metabolic development.

MATERIALS & METHODS

This was an observational randomized controlled arm study, where a nutritional supplement (GroViva[®]) was given to 776 children, aged 2-12 years, for 6 months along with normal diet. Anthropometric parameters (height, weight and BMI) were assessed at baseline, 3 and 6 months. The z-score for height, weight and BMI is used to analyze the results using Khadilkar Growth Chart 2009. A Z-score is a numerical measurement used in statistics of a value's relationship to the mean (average) of a group of values, measured in terms of standard deviations from the mean.

RESULTS

A total of 763 subjects were included in the analysis. Each child was grouped according to age bracket (2-4yrs; 5-7yrs; 8-10yrs; 11-12yrs). After consumption of nutritional supplement for 6 months, z-scores for height, weight and BMI shown improvement in almost all age groups, compared to baseline (Table.1, Fig.1). Among 2-3 years age group, height, weight and BMI was statistically significant whereas for 4-6 years age group weight and BMI was significant. Among 7-9 years age group, all three parameters were significant.

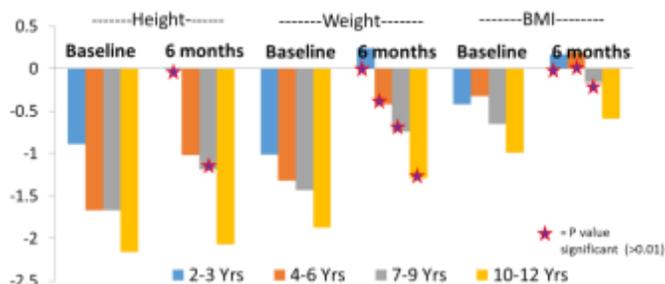
The standard deviation scores from expected

increase in mean of weight, height and BMI is well within the permissible range. No adverse events is observed.

Table. 1: Change in Z'-score from Baseline to 6 months

Parameters	Age (yrs)	Baseline	6 months
Height	2-3	-0.89	0.01
	4-6	-1.67	-1.02
	7-9	-1.67	-1.19
	10-12	-2.16	-2.07
Weight	2-3	-1.01	0.24
	4-6	-1.32	-0.42
	7-9	-1.43	-0.74
	10-12	-1.87	-1.29
BMI	2-3	-0.42	0.17
	4-6	-0.32	0.2
	7-9	-0.65	-0.16
	10-12	-0.99	-0.59

Fig. 1 Graph of change in Z'-score from Baseline to 6 months



CONCLUSION

This study showed that 6 month intake of nutritional supplement by children provided a significant improvement in anthropometric parameters, with no adverse event.

REFERENCES

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ACKNOWLEDGEMENT

Authors acknowledge Mr. Tanmay Agrawal, New Delhi towards help in preparing this poster.