IRON STATUS IMPROVEMENT OF PRE-SCHOOL CHILDREN FOLLOWING AN INTERVENTION WITH PREBIOTIC-CONTAINING SUPPLEMENT.

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Food fortification constitutes an efficient strategy to overcome iron and vitamin A deficiencies, particularly among the most vulnerable population groups. This study investigated the effects of the mineral and vitamin fortified powder product, added by inulin on iron and vitamin A status of 110 pre-school children, in 4 nursery schools in Viçosa, MG, Brazil. The 2 to 5 years old children were submitted to anthropometric (weight and height), biochemical (erythrocytes, hemoglobin, mean corpuscular volume – MCV, mean corpuscular hemoglobin - MCH, serum iron, ferritin and serum retinol) and dietetic (direct food weighing, 24 h record, and food frequency intake) evaluations, at the beginning and at the end of 45 days intervention. The supplement (30 g) was provided daily in the afternoon snack, diluted in 100 mL of water, 5 times/week and supplied 30% of recommended daily doses of iron, zinc, copper and vitamins A and C. The dietary and biochemical data were compared by Wilcoxon test, and the anthropometric data by paired t-test (p<0.05). The values of z-scores for weight and height, erythrocytes, hemoglobin, MCV, MCH and ferritin were significantly higher after the intervention. No change was observed in serum retinol. The prebiotic-containing supplement increased significantly the intake of energy, macro and micronutrients and was effective in improving the iron and anthropometric status of preschool children.