

Weekly compared to daily multi supplementation of iron, vitamin A, and Zinc in Vietnamese children of 6-24 months

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Abstrak

ABSTRACT

The overall objectives of this study were to determine and compare the efficacy of daily vs weekly supplementation with iron, vitamin A, and zinc in children. Furthermore, the impact of supplementation on disease incidence (Diarrhea, Acute Respiratory Infection) and growth performance was investigated. Subjects were children aged 6-24 months from rural households in Chi Lang Bac commune of Thanh Mien district, Hai Duong province, Vietnam.

The research was designed as a randomized double-blind placebo-control trial. A total of 168 children were divided into 3 groups: daily, weekly, and placebo treatment lasted 12 weeks. Data on biochemical were collected at start and the end of supplementation. Data on growth were collected at start, end, and 3 months after the supplementation ended. Supplements contained 333 µg retinol (1100 IU), 8 mg el. iron, 5 mg el. zinc for the daily dose (DD); 1700 µg retinol (5600 IU), 20 mg el. iron, 17.4 mg el. Zinc for the weekly dose (WLD); and the last group was the placebo (PL).

After 12-week supplementation, increase for Hb, retinol, and zinc concentrations in the supplemented DD and WLD were similar ($P>0.05$) and significant higher ($P<0.01$) from those in the PL. The improvement of all anthropometric indices were similar between supplemented DD, and WLD with PL at the end, and at 3 months after the supplementation ($P>0.05$). In stunted children at baseline, changes for HAZ in the supplemented DD and WLD were similar ($P>0.05$) and significant higher ($P<0.05$) from those in the PL at 3 months after the supplementation. Incidence of Diarrhea and ARI in supplemented DD and WLD groups were similar ($P>0.05$) and significant lower ($P<0.01$) compared with those in the PL at the end of 12-week supplementation.

The WLD multi-nutrient supplementation for 12 weeks can be a possible preventive strategy to improve the iron, vitamin A, and zinc status of children aged 6-24 months.