



## Evaluation of the dietary intake of vitamin A and zinc by high school adolescents from a private school in Jundiaí.

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### Abstract

**Introduction:** Vitamin A and zinc are essential micronutrients in bone growth and development of adolescents. **Objective:** To evaluate the dietary intake of vitamin A and zinc by high school adolescents of a private school. **Methodology:** 24-hour dietary recall (R24h) was used to analyze the food intake of the study population. DietSmart software was used to perform calculations and analysis of adequations according to the Dietary Reference Intakes (DRI) of 2002. **Conclusion:** Adolescents demonstrated a low intake of vitamin A and zinc. It is necessary to encourage the consumption of food sources of vitamin A and zinc in order to prevent health damage from the deficiency of this micronutrient.

### Key words:

Adolescence, vitamin A, zinc.

### Introduction

Adolescence is a phase characterized by a greater nutritional demand, which is not always supplied, making this group more likely to present a nutritional deficit, mainly related to vitamins and minerals.<sup>1</sup>

Vitamin A is essential in adolescence, which is characterized by intense growth and development. This vitamin participates in the process of growth and bone development, helps in the maintenance of epithelial tissue, besides contributing to the normal functioning of the immune system and vision.<sup>2</sup>

Zinc is an essential mineral for the actions of osteoblasts in promoting calcification and bone formation. In addition, by acting as an enzyme cofactor, it plays important roles in numerous metabolic processes.<sup>3</sup>

Considering that adolescence is a phase of intense growth and nutritional vulnerability, the evaluation of the vitamin A and zinc intake by this group is fundamental in the early diagnosis of possible deficiencies, contributing to the direction of nutritional interventions.

The objectives of this study were to evaluate food intake by high school adolescents of a private school in Jundiaí, quantifying the daily amounts of vitamin A and zinc, and comparing them with the reference values.

### Results and Discussion

The diet of 166 high school students was evaluated by the 24 hour recall. DietSmart software quantified vitamin A and zinc, which were compared with the Dietary Reference Intakes (DRI). Inadequate zinc intake was observed in 93.4% of students and vitamin A in 68.1%.

Other studies with adolescents also demonstrated a low intake of some micronutrients, as vitamin A, confirming the vulnerability of this group to nutritional deficiencies. This shows that adolescents may have specific micronutrient deficiencies, which can impair their health.<sup>4</sup>

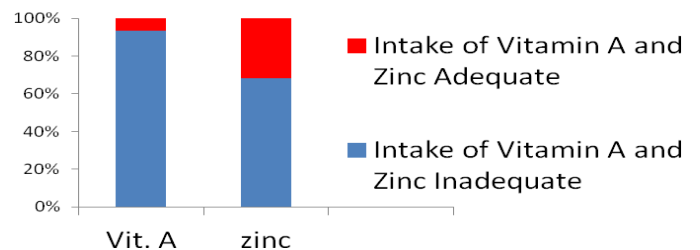


Figure 1. Daily intake of vitamin A and zinc by adolescents.

### Conclusions

According to the results of this study, a greater incentive to the consumption of foods rich in vitamin A and zinc is necessary, because these micronutrients are essential for the growth and development of adolescents. Therefore, nutritional interventions should be directed at the common nutritional problems of adolescents, increasing their efficiency in the treatment and prevention of nutritional deficiencies typical of this phase of life.

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<sup>1</sup>VEIGA, G.V.; et al. Inadequate nutrient intake in Brazilian adolescents. *Rev Saúde Pública*, v.47, n.1, p.212-221,2013.

<sup>2</sup>MARIATH, A.B.; GIACHINI, R.M.; LAUDA, L.G.; GRILLO, L.P. State of iron and serum retinol among children and adolescents Attended by a team from the Family Health Strategy Of Itajaí, Santa Catarina. *Ciência & Saúde Coletiva*, v.15, n.2, p.509-516,2010.

<sup>3</sup>BUENO, A.L.; CZEPIELEWSKI, M.A. Micronutrients involved in growth. *Rev HCPA*, v.27, n.3, p.47-56, 2007.

<sup>4</sup>GIANNINI, D.T. Adolescent nutritional recommendations. *Adolescência e saúde*, v.4, n.1, p.12-18, 2007.