

ABSTRACT

Veganism and vegetarianism are among the dietary trends with increasing popularity. As one of the diets that excludes a certain food group, the risk of deficiencies of certain nutrients in the diet needs to be addressed. For children, these deficiencies may be even more risky. This thesis focuses on selected potentially risky nutrients whose levels have been investigated in the paediatric population.

Aims: The aim of this thesis was to assess whether there are differences in blood levels of zinc, calcium and vitamin D between vegetarians, vegans and omnivores. A secondary aim was then also to compile recommendations for parents in the form of an educational leaflet with information on dietary information for vegetarianism and veganism with regard to zinc, calcium and vitamin D.

Methodology: The data used in this thesis were collected as part of the first phase of the KOMPAS study. Whole families eating a homogeneous diet, either vegan, vegetarian or omnivorous participated in the study. For the purpose of this thesis, laboratory blood tests, submitted diets, data on age, weight, height and supplementation used were used. A total of 130 children aged 6 months to 12 years were processed. These children were divided into 4 age groups according to diet type, gender and age, and the levels of the nutrients of interest were assessed for each group.

Results: Differences in zinc and vitamin D levels were found between vegans, vegetarians and omnivores. In children under 1 year of age, the best zinc levels were measured in children eating a vegan diet. In the other age categories from 1 to 12 years, suitable levels were already predominant in vegetarian children, followed by omnivorous children, and normal levels were least frequently found in vegan children. In vegetarians, the most appropriate vitamin D levels were measured in all age categories except for children aged 6 to 12 years, where vegans were most likely to have adequate levels. In the youngest children, vegetarians and vegans shared the best results. The least adequate levels were seen in omnivorous children in all age categories. Of the three children with potential calcium deficiency, only one vegan girl was found to have inadequate growth. However, inadequate calcium intake from diet and supplementation was not confirmed.

Conclusion and recommendations: It is important to monitor the levels of these nutrients and to attend regular check-ups with a general practitioner. However, this is not just a rule for children excluding a particular food group. Omnivorous children can also fall into deficiency if they are not careful and may not get enough of certain nutrients (e.g. zinc and vitamin D specifically) even if they do not restrict certain food groups.

keywords: vegetarianism, veganism, zinc, calcium, vitamin D