

Nitrite and Nitrate Content in Meat Products and Estimated Nitrite Intake among Children

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This study examined the intake of nitrite among Estonian children by consumption of processed meat products and drinking water. Daily intake estimations were based on the food consumption data from the Estonian National Dietary Survey. In addition, nitrite/nitrate concentrations of the meat and processed meat products were determined by laboratory analyses to estimate nitrite intake. The mean intake of nitrite among 1087 studied children was 0.015 and 0.016 mg kg⁻¹ body weight day⁻¹, respectively among children in age 12–35 months and 3–10 years. Acceptable daily intake (ADI) of 0.07 mg nitrite kg⁻¹ body weight day⁻¹ was exceeded among 34 children (3.1%). The prevalence was higher in the youngest age group (4.1% of boys and 4.7% of) than in the oldest age group (3.8% of boys and 1.7% of girls). Nevertheless, statistical analysis did not show significant differences among different age groups and genders, respectively $p=0,157$ and $p=0,179$ in logistic regression. Considering the consumption of processed meat and drinking water the mean nitrite intake in the age groups of 12–35 months and 3–10 years were respectively 21.9% and 22.9% from ADI value. Presuming that the food consumption data is representative, we can state that among the total population of the age group 12 months to 10 years the exceeding of the ADI value was 3.13% (95% CI; 2.18–4.34).

Biography:

Andres Elias Master's degree in Dairy Technology in Estonian University of Life Sciences. Andres doctoral thesis is involved with chemical and biological hazards in food products. Heading of Andres thesis is – "Acrylamide and nitrite content in selected foods and dietary intake by Estonian children".