

Carbohydrate and mineral exchanges of children of Chukotka in ontogeny

Tatyana V. Godovykh RAS Tyumen Scientific Center, Russia



Introduction

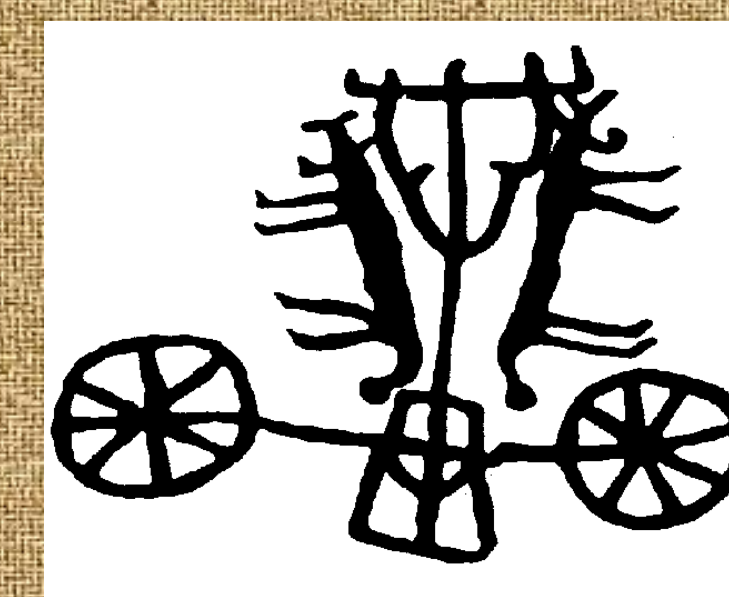
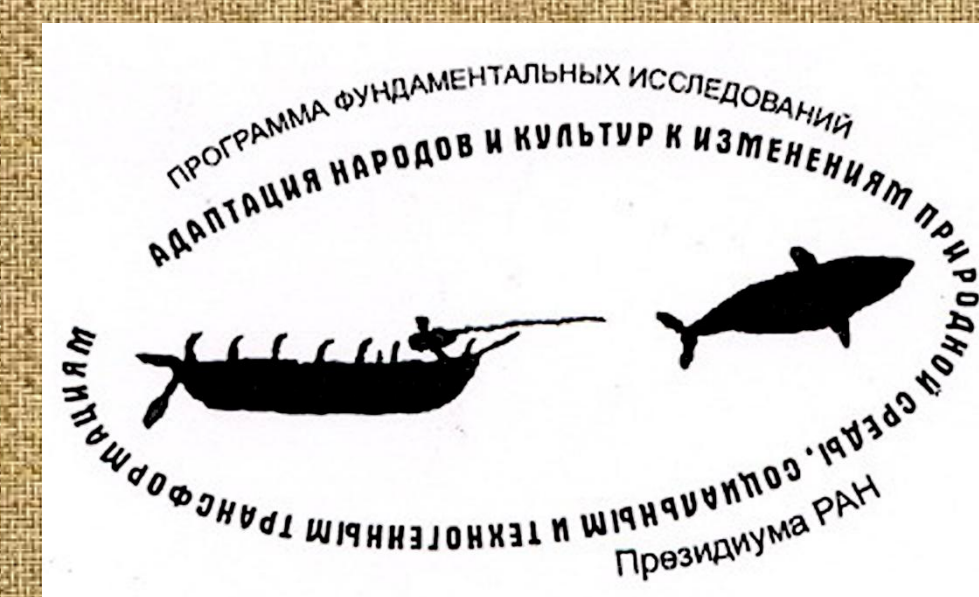
The system of "people-to-North" is in constant interaction. Changing environmental factors leads to a change in the relationship of elements of man. It is known that the energy resources and products of metabolism are expressed regulatory functions, and the external environment creates an adaptive type of organism with optimal energy needs. Chukotka population represented by migrants and natives, have different genetic and social components of functioning in the "man-to-North".

Purpose

In the ontogeny of children Chukotka (migrants and natives) revealed simultaneous decrease in serum glucose and bioelements involved in the regulation of carbohydrate metabolism.

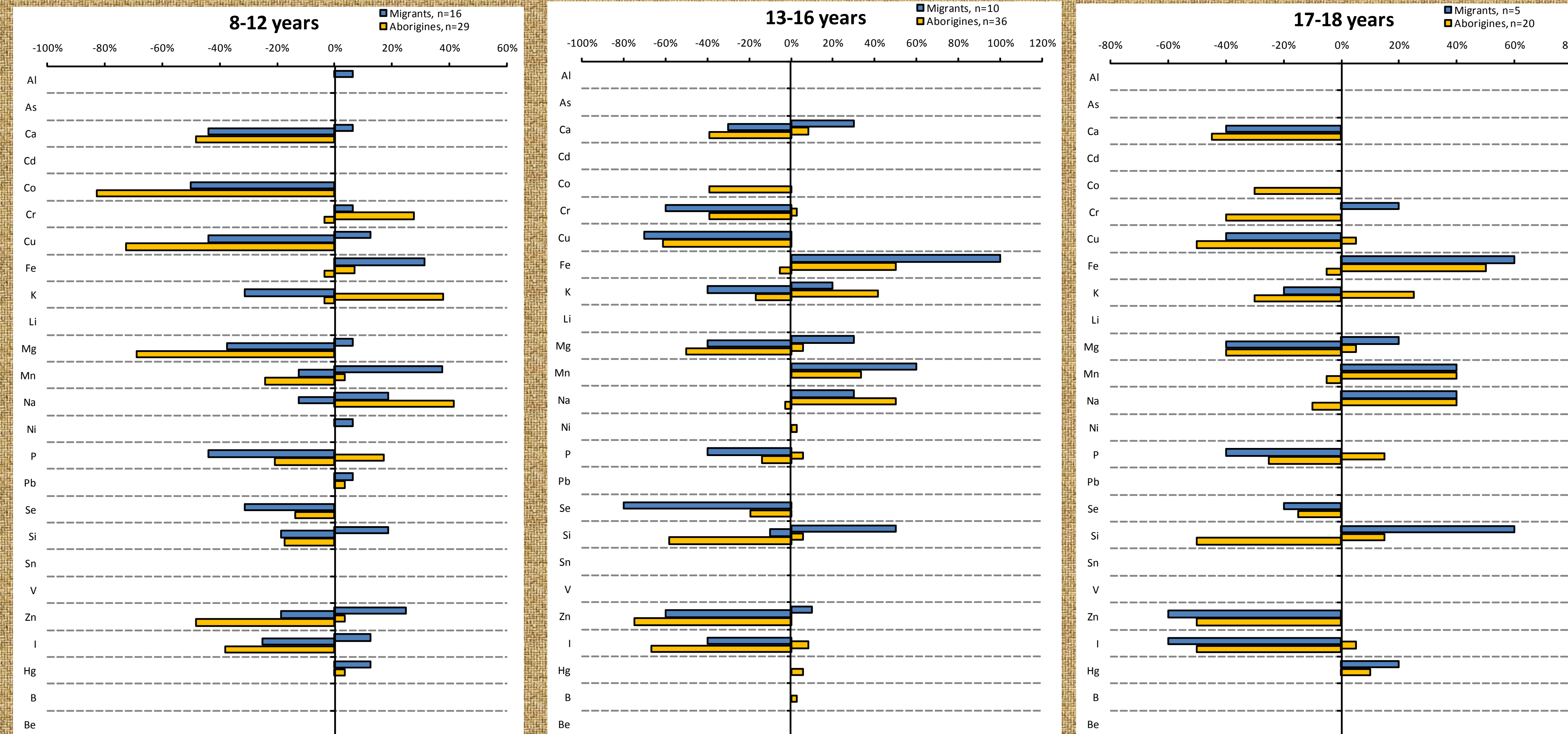
Methods

Hair samples were examined using atomic emission and mass spectroscopy with inductively coupled plasma (ICP-MS/ICP-AES) from laboratory of Centre for Biotic Medicine (Moscow). A study of serum indicators of carbohydrate metabolism (glucose), serum P and Ca, based on the Institute of Natural adaptations Arkhangelsk.



Results

Active use of Ca, Co, Cr, Cu, K, Mg, P, Zn in the processes of carbohydrate metabolism reduces their content in the tissues during growth and development from 8 to 18 years.



In the ontogenetic development of children of Chukotka (migrants and natives) showed a reduction in serum glucose, the most pronounced among migrants. Serum P and Ca was more Aboriginal.

Differences of the coefficients of variation of mineral and carbohydrate metabolism of migrants and natives during development suggest their different mechanisms of adaptation. Self-organization of workers and Aborigines is aimed at maintaining optimal energy supply processes of growth and development, is being developed even in the youthful period of ontogenesis. Maintaining a low level of glucose Aborigines and migrants, a significant decrease of glucose is the result of adaptive changes at the level of regulation of mineral metabolism.

