Zeitschrift: Acta Tropica
Herausgeber: Schweizerisches Tropeninstitut (Basel)
Band: 37 (1980)
Heft: (11): Santé de l'enfant d'âge scolaire en Côte d'Ivoire

Artikel: Summary
Autor: [s.n.]
DOI: https://doi.org/10.5169/seals-312675

Summary

The purpose of this study was to examine the health status of 430 school-age children living in four villages of the forest region of the Ivory Coast. Basic anthropometric and hematological data as well as vitamin status were determined, and the evolution of the nutritional status was examined in relation to parasitic infection and diet.

An antiparasitic treatment for intestinal helminths and schistosomiasis provoked, over a period of one year, a marked change in growth as well as in blood levels of several vitamins. In contrast, the hematological values remained surprisingly constant compared to those in untreated children.

Various environmental aspects such as family, social and ethnic background have been presented as well as some epidemiological data on primary tuberculosis, toxoplasmosis, cytomegaly and hepatitis (HBs antigen). Daily food intake was determined through weighing of the ingredients, the composition of which was calculated using FAO tables. It was shown that caloric intake was only 75%, protein consumption 80% and lipid intake 30% of recommended levels of intake. The diet contained insufficient amounts of thiamin, riboflavin and niacin while vitamine C and carotenoid content was adequate.

A quantitative parasitological survey revealed a high prevalence of ascariasis and ancylostomiasis in all villages, schistosomiasis in two of them, onchocerciasis and trichuriasis in one village each. The intestinal worm load decreased with age. Performing serological tests for schistosomiasis and filariosis the difficulty arose to accord sensitivity and specificity in polyparasitized children. Malaria was holoendemic in all villages proven by high splenic and parasitic indices. An increase with age of *P. falciparum* was observed with a concomitant decrease of a mixed *P. falciparum* and *P. malariae* infection.

Moderate malnutrition among 30% of the children, as indicated by anthropometric measurements (weight-for-height, height-for-age and skin fold), appeared to be the consequence of the various helminthic infestations (schistosomiasis included). Malaria seemed to have an inhibitory effect on growth.

A hematological study revealed microcytic anemia among 30% of the children which correlated well with malarial infection but not with necatorosis and schistosomiasis. An association between anemia and a diet low in protein and iron cannot be excluded, but there are clearcut correlations between anemia and low vitamin A, B_2 and C blood levels. No interaction between the various hemoglobinopathies and malarial parasitic rates could be demonstrated.

The biochemical determination of vitamin status (A, B, B_1, B_2, B_6, B_{12}, folate, niacin) showed more or less pronounced deficiencies of vitamine C, riboflavin, vitamin A and pyridoxin. These vitamin deficiencies were, with the exception of pyridoxin, associated with corresponding clinical signs. Vitamin A deficiency despite a high carotenemia is not easy to understand.

Treatment of intestinal helminthiases and schistosomiasis led to a considerable increase in vitamin C blood levels while other vitamins remained unchanged. Malaria infection levels were correlated with most vitamin concentrations and it was also noticed that onchocerciasis was associated with low vitamin A levels. It appears that riboflavin deficiency is of dietary origin whereas vitamin A and C deficiencies are connected with parasitic diseases.

An epidemiological study of hepatitis, toxoplasmosis and cytomegaly showed that all three of them were highly prevalent. The exceptionally high frequency of HBs antigen occurred in the village with onchocerciasis. The extent of prevalence of tuberculosis primary infection is consistent with previous studies in the Ivory Coast but it appeared that the tuberculinic reaction was weaker in children with schistosomiasis.