

Abstract

J Nutr Biochem. 2004 Aug;15(8):467-72.

Dietary patterns and blood fatty acid composition in children with attention-deficit hyperactivity disorder in Taiwan.

Chen JR, Hsu SF, Hsu CD, Hwang LH, Yang SC.

Department of Nutrition and Health Sciences, Taipei Medical University, Taiwan.

OBJECTIVE: Nutritional factors may be relative to attention-deficit hyperactive disorder (ADHD), although the pathogenic mechanism is still unknown. Based on the work of others, we hypothesized that children with ADHD have altered dietary patterns and fatty acid metabolism. Therefore, the aim of this study was to evaluate dietary patterns and the blood fatty acid composition in children with ADHD in the Taipei area of Taiwan.

METHODS AND RESULTS: The present study found that 58 subjects with ADHD (average age 8.5 years) had significantly higher intakes of iron and vitamin C compared to those of 52 control subjects (average age 7.9 years) ($P < 0.05$). The blood total protein content in subjects with ADHD was significantly lower than that in control subjects ($P < 0.05$). On the other hand, children with ADHD had significantly higher blood iron levels compared to the control children ($P < 0.05$). Additionally, plasma gamma-linolenic acid (18:3 n-6) in children with ADHD was higher than that in control children ($P < 0.05$). Concerning the composition of other fatty acids in the phospholipid isolated from red blood cell (RBC) membranes, oleic acid (18:1n-9) was significantly higher, whereas nervonic acid (24:1n-9), linoleic acid (18:2n-6), arachidonic acid (20:4n-6), and docosahexaenoic acid (22:6n-3) were significantly lower in subjects with ADHD ($P < 0.05$).

CONCLUSIONS: Our results suggest that there were no differences in dietary patterns of these children with ADHD except for the intake of iron and vitamin C; however, the fatty acid composition of phospholipid from RBC membranes in the ADHD children differed from that of the normal children.

PMID: 15302081