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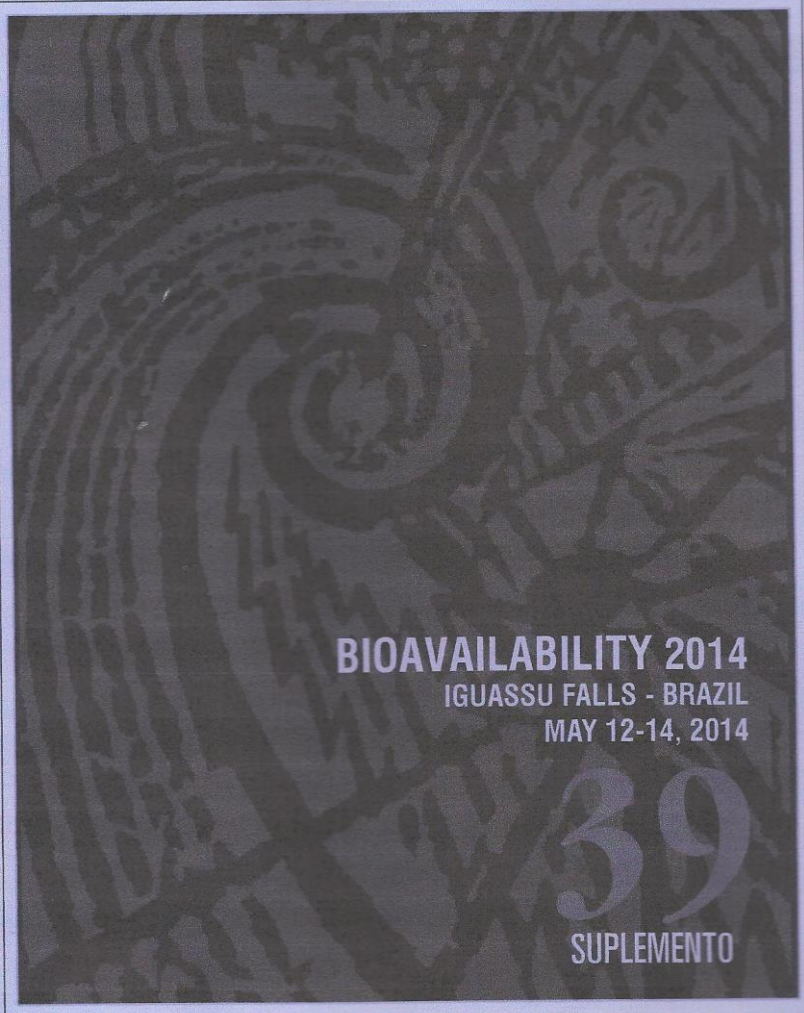

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EP-62 - SELENIUM NUTRITIONAL STATUS OF WOMEN LIVING IN RISK AREA OF MERCURY CONTAMINATION

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Country: BRASIL
Session: TV1 - Date: 13/05/2014 - Room: FOYER - Time: 15:06-15:11:00

BACKGROUND
Researches try to explain the dynamics of mercury in the Amazon region because studies show that soil, aquatic environments and consequently the fish has high concentrations of this metal, while some individuals living in these areas have no symptoms or obvious clinical signs of contamination. It is assumed that selenium, an essential mineral for human and naturally present in the soils of the Amazon region, is a possible contributor to the apparent tolerance of these populations to chronic mercury poisoning.
OBJECTIVES
Given this scenario, this research aims to determine the selenium nutritional status in residents in risk area of mercury contamination.
METHODS
The survey was conducted with women living in the city of Porto Velho (RO), Western Amazon. To determine the nutritional status of selenium in blood, plasma and erythrocyte were evaluated using the method of hydride-generation atomic absorption spectrometry coupled to the quartz cell. Analyses were performed in the laboratory of Mineral Nutrition and the Faculty of Pharmaceutical Sciences, University of São Paulo (FCF/USP). Data were analyzed using SPSS software version 14.0 and the results expressed as mean, standard deviation and relative frequency.
RESULTS
Two hundred women participated of the study, which had a mean age of 27.6 years. Most attending higher education (64%) and had incomes above four times the minimum wage (48%). The mean plasma selenium was 53.9 ± 45.2 μg/L and 70% of participants had concentrations below the reference range (60-120 μg/L), while only 29% were within the normal range and 1% above the stipulated limit. The mean concentration of selenium in erythrocytes was 77.5 ± 36.9 μg/L, pointing out that 65% of participants had concentrations below the reference range (90-190 μg/L) and 35% had concentrations within the normal range.
CONCLUSIONS
Despite the soils of the Amazon region are considered rich in selenium , as well as in its main food source, the Brazil-nut, most participants showed deficiency in the mineral concentrations in both parameters used, in other words there is a availability of selenium in the region that is not used by the population, which can exacerbate mercury contamination if present.

EP-63 - GENE POLYMORPHISM S447X LIPOPROTEIN LIPASE AND THEIR ROLE IN OBESITY IN CHILDHOOD HOME OF THE STATE OF BAHIA AFRICAN DESCENT

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BACKGROUND
Polymorphisms in the LPL gene have been studied as genetic factors related to the presence and severity of obesity. LPL is responsible for the hydrolysis of triglycerides, from the food intake and present in chylomicron particles, allowing the uptake and accumulation of these by adipose and muscle tissue. Polymorphisms affecting LPL may influence the plasma concentration and metabolism of all LPLs, generating risk factors for atherosclerosis, dyslipidemia, fatty liver, diabetes mellitus and obesity.
OBJECTIVES
Investigate the existence of the relationship between the S447X polymorphism in the LPL gene with a greater predisposition to obesity since childhood African descent in the State of Bahia.
METHODS
200 individuals with obesity starts in childhood and 200 eutrophic no previous history of obesity,all of African descent were studied. Matched by sex,age and smoking.Statistical analysis was performed using SPSS,genotype frequencies were compared between groups using Fisher´s exact test,quantitative variables were analyzed by ANOVA or Student t test.Hardy-Weinberg and linkage disequilibrium were evaluated using the program Arlequin3:11.
RESULTS
The average BMI was 44.4±9.1 in the obese group compared to the control the value was 23.3±4.8.The S447X polymorphism was associated with obesity in both sexes.In males,there was an increase in the frequency of heterozygotes (SX)in obese when compared to normal weight group.In females,homozygous for the 447X(XX)mutation genotype was only observed in the obese group.The XX homozygous women showed higher levels of BMI,characterizing them as morbidly obese.The higher mean waist circumference was observed in the group of mutants homozygous for the mutation (136.6cm),when compared to heterozygous(99.1cm)and wild homozygotes(104.8 cm).The mean hip circumference was also higher in homozygous mutants,compared heterozygous and wild homozygotes.This finding reinforces the strong association between this polymorphism and obesity,the point of the genotype frequencies differ from the expected Hardy-Weinberg equilibrium in the obese group.
CONCLUSIONS
The S447X polymorphism of the LPL gene was associated with risk of childhood-onset obesity in both sexes of African Descent.In males,the 447X mutation carriers were more frequent in obese than in controls.In women,the 447XX genotype had their increased in obese compared to normal weight frequency.Homozygous for the 447X variant had measures of BMI,waist circumference and hip increased when compared to other genotypes.