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Level of cadmium, lead and hemoglobin in the blood of pregnant mothers metallurgical center Oroya Peru

Introduction.- The contamination of the environment by lead, cadmium in metallurgical zones its deadly effect on health and nutrition, in maternal perinatal groups is a priority in the world.
Objective.- To determine the relationship of cadmium, lead and hemoglobin levels in maternal blood, in the city of La Oroya, Peru.
methods.- Observational, cross-sectional descriptive study. Samples were obtained from 40 pregnant women, residing in the city of La Oroya for at least 2 years, in the operation stage of Pb, copper and zinc smelters. Blood samples were obtained from the pregnant woman before delivery and after the birth samples of hemoglobin were taken. The Cd and Pb level of these samples was evaluated by atomic absorption spectrometry with graphite furnace. The analysis was performed with the statistical package SPSS version 22.Results - Information was collected from 40 normal deliveries, the average levels of lead in maternal blood 21.6136 ± 31.6736ug / dl, cadmium 6.1033 ± 11.1942 ug / dl, hemoglobin 7.1197 ± 8.9035 g / dl Significant correlation coefficients of lead of maternal blood were found and hemoglobin level was -0.268 evaluate = 0.047, cadmium and lead in maternal blood 0.760 pvalué = 0.000 and the correlation of cadmium in maternal blood and hemoglobin level = -0.066 pvalue = 0.343, it was not significant.
Since the statistic r = -0.311 is less than the critical value r = -0.304 it is located in the critical region, which indicates that we must reject the null hypothesis and consequently accept the alternative hypothesis. Therefore, we conclude that for a level of confidence at 95%, there is a significant negative relationship between lead in maternal blood and hemoglobin level.Since the statistic r = 0.760 is greater than the critical value r = 0.304 this is located in the critical region, which indicates that we must reject the null hypothesis and consequently accept the alternative hypothesis. Therefore, we conclude that for a 95% confidence level, there is a significant relationship between lead and cadmium in maternal blood. The pregnant mothers had high concentrations of lead and cadmium, low concentrations of hemoglobin in maternal blood. Higher levels of lead concentration lower levels of hemoglobin, at higher levels of lead concentration higher levels of cadmium concentration in maternal blood.

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