THE WATER QUALITY AT AN ELEMENTARY SCHOOL IN CHIHUAHUA, MEXICO AND THE IMPLICATIONS IN THE HEALTH OF CHILDREN

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Abstract: The approximately one million inhabitants of the city of Chihuahua, Mexico depend wholly on ground water supply. Most of the elementary schools offer a water supply from different wells located throughout the city. The objective of this study was to determine the water quality at the Manuel Altamirano Elementary school. During 2011, weekly water samples were obtained from two points at the school. One was the outside water fountain and the other the bathroom water fountain. The following parameters were tested: temperature, electrical conductivity (EC), potential hydrogen (pH) and fecal coliforms as well as total coliforms. The coliform analysis was done according to the Mexican norms NOM-112-SSA1-1994 and NOM-113-SSA1-1994. The results showed that ground water contained total coliforms on the following dates: February 8th, March 4th, March 8th and March 16th 2011. These samples represent approximately 29% of the total samples. The water samples obtained from the bathroom water fountain detected total coliforms on March 16th and May 20th. The coliform levels were higher than those permitted in the Mexican norm. In general, the pH ranged from 7.1 to 7.9, the EC from 0.34 to 0.44 Sm and the temperature from 20.1 to 28.3.

Keywords: Water quality, elementary school, coliform, Chihuahua.