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**Determination of fluoride and some heavy metals in water, blood and urine samples among some inhabitants of Gashua, Bade Local Government Area, Yobe State, Nigeria****Musa Muhammad Mahmud**

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The research area was in Gashua, Bade Local Government Area, Yobe State, Nigeria. The levels of fluoride, cadmium, arsenic, lead, iron and nickel were determined in sachet and borehole water samples. The levels of fluoride, cadmium, arsenic, lead, iron and nickel were also determined in blood and urine samples with respect to age groups and gender. Sample collection and preparations were carried out using standard procedures. The concentrations of all the studied metals were determined using atomic absorption spectroscopy (AAS). The concentration of fluoride was observed to be higher in the male subjects when compared to the female subjects. It was also observed that the concentration of fluoride was significantly higher in the urine samples when compared to the blood samples. From the present study the concentration of iron ranged from 0.11 to 2.13 mg/L, 0.01 to 1.42 mg/L arsenic, 0.01 to 2.13 mg/L cadmium, 0.01 to 1.77 mg/L nickel and 0.02 to 2.13 mg/L lead. Results from the present study showed that the mean concentrations of arsenic in the borehole water samples were from the different wards in Gashua ranged from 0.87 to 2.98 mg/L, 0.44 to 0.77 mg/L lead, 1.04 to 2.13 mg/L nickel, 0.12 to 0.35 mg/L cadmium and 2.56 to 5.56 mg/L iron. The values obtained from the borehole water samples were higher than the WHO standard value of 0.05 mg/L arsenic, 1.0 mg/L iron, 0.01 mg/L lead, 0.07 mg/L nickel and 0.005 mg/L cadmium for drinking water. Information from this research showed the possible factors that may result in gender metal accumulation. The concentrations of all the study metals in the urine and blood samples were significantly higher than the WHO limits. Data obtained from borehole water samples showed that, the borehole water might be a contributing factor to blood/urine metal accumulation. Information from this research also showed the possible factors that may result to higher concentrations of all the metals in urine (both recent and past exposure) when compared to blood (only recent exposure). Data obtained from the present research indicated that the concentrations of all the metals in the blood and urine samples increased with increase in age group. This fact could be explained by the tendency of heavy metals to accumulate in the human body (bioaccumulation of heavy metals) with time, indicating that metal accumulation is age dependent.

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