

Quantitative Determination of Heavy Metals in Some Commonly Consumed Herbal Medicines in Kano State, Nigeria

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Abstract : Evaluation of heavy metals in twelve commonly consumed herbal medicines/preparations in Kano State, Nigeria, was carried out. The samples comprised of five unregistered powdered medicines, namely, Zuwo, (ZW); Rai Dorai, (RD); Miyar Tsanya, (MTS); Bagaruwar Makka, (BM); and Madobiya, (M); five unregistered liquid herbal medicinal concussions for pile (MB), yellow fever (MS), typhoid (MT), stomach pain (MC), sexually transmitted diseases (STDs); and two registered herbal medicines; Alif Powder (AP) and Champion Leaf (CL). The heavy metals evaluation was carried out using Atomic Absorption Spectroscopy (AAS) and the result revealed the concentrations (ppm) ranges of the heavy metals as follows: Cadmium (0.0045 - 0.1601), Chromium (0.0418 - 0.2092), Cobalt (0.0038 - 0.0760), Copper (0.0547 - 0.2465), Iron (0.1197 - 0.3592), Manganese (0.0123 - 1.4462), Nickel (0.0073 - 0.0960), Lead (0.185 - 0.0927) and Zinc (0.0244 - 0.2444). Comparing the results obtained in this work with the standards of the World Health Organization (WHO), the Food and Agricultural Organization (FAO) and permissible limits of other countries, the concentrations of heavy metals in the herbal medicine/preparations are within the allowed permissible limits range in herbal medicines and their use could be safe.

Keywords : Kano state, herbal medicines, registered, unregistered

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