

POTENTIAL METAL TOXICITY OF SOME HERBAL PLANTS USED IN THE TREATMENT OF MALARIA IN ONDO STATE, NIGERIA

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ABSTRACT

Unorthodox medical practice involving the use of herbal plants and other biological specimens, though permissible, is growing unabated in many less developed Nations of the world due to poverty and lack of healthcare facilities without regard to the potential threat/ toxicity from the consumption of these alternative medicines. Thirteen (13) herbal plants commonly used for the treatment of malaria in Ondo state, Nigeria were selected for the study and evaluated for their heavy metal content viz: Cadmium, Zinc, Lead and Chromium using Atomic Absorption Spectrophotometer (AAS). The result showed increased cadmium concentration in the range of 0.014-0.077mg/kg with 76.9% of the selected plants having cadmium concentrations above the permissible limit. Zinc being an essential micro nutrient varied in the range of 0.304-1.539 mg/kg with 100% of the plants within the permissible limits for herbal plants. The lead concentration is within the permissible limit for all the selected plants and in the range of 0.141-0.464mg/kg. Chromium being a trace metal and of toxic potential was detected in 38.46% of the selected plants within the permissible limit and in the range of 0.002-0.356mg/kg. *Mangifera indica* leaves has chromium concentration of 0.180mg/kg but was not detected in the bark which might be due to anthropogenic influences and gaseous exchange in the leaves. The zinc, lead and chromium levels of these herbs were good for consumption, but cadmium level need to be adjusted to prevent kidney failure during consumption.

Keywords: Metals, herbal plants, concentration, Permissible limit.