BEST: International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS)
ISSN(E): 2348-0521
Vol. 2, Issue 2, Feb 2014, 7-16

MARKET SURVEY AND HEAVY METAL SCREENING OF SELECTED MEDICINAL PLANTS SOLD IN SOME MARKETS IN BENIN CITY, NIGERIA

MACDONALD IDU, ERHABOR JOSEPH, TIMOTHY ODARO & OVUAKPORIE-UVO OGHALE

Department of Plant Biology and Biotechnology, University of Benin, Benin, Edo, Nigeria

ABSTRACT

Market survey was conducted in five markets (uselu, New Benin, Oba, Oliha and Lagos Street) in Benin City, Nigeria. Fifty medicinal plants used for the cure of various ailments (including malaria, stomach disorder, skin infection, dysentery, cough, constipation, veneral diseases, and also as anthelminthic and purgatives) were documented. Heavy metals (Cu, K, Na, Mg, and Ca) and ions (PO_4^{3-}, So_4^{2-} and No_3^-) were quantified in fifteen randomly selected medicinal plants sold in the surveyed markets using atomic absorption spectrometry. The main purpose of this study was to document the medicinal plants sold in major markets in Benin City, their uses and also determine the possible presence of some macronutrients and heavy metals in the selected plants which are extensively used in the preparation of herbal products and standardized extracts. The maximum level of anions, macronutrients and heavy metal analyzed were 18.72 Mg/ kg, 0.65 Mg/ kg, 1.62 Mg/ kg, 2.80 Meq/100g, 3.67 Meq/100g, 42.73 Meq/100g, 57.05 Meq/100g, and 2.03 µg/g for PO_4^{3-} $S0_4^{2-}$, NO_3^-, Ca, Mg, Na, K and Cu respectively. All these values were below the World Health Organization recommended permissible limits for such heavy metals and could be considered safe.

KEYWORDS: Medicinal Plants, Heavy Metals, Macronutrients, Permissible Limits