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"Elemental analysis of Minerals content of Some Ayurvedic Medicinal Plants from India by Non-destructive Instrumental Neutron Activation Analysis (INAA) and Atomic Absorption Spectroscopy (AAS) Techniques".

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ABSTRACT: Ethno medicine practices are becoming a rising new trend in urban areas. Their healing processes generally consist of botanical therapies, herbal remedies and native ethomedical knowledge. Traditional medicinal plants are enriched with number of minerals and vitamins ,provide not only the natural nutrition but also that are useful in the treatment of different diseases without /less side effects, less expensive and easily available in India .

Medicinal plants were purchased from medicine shops and were analyzed by Non-destructive Instrumental Neutron Activation Analysis (INAA) using 252Cf spontaneous fission neutron source available at Department of Chemistry, University of Pune, INDIA. The induced activities were counted by γ-ray spectrometry and Atomic Absorption Spectroscopy (AAS) techniques using Perkin Elmer 3100 Model) for the measurement of major, minor and trace elements. 15 essential major, minor and trace elements Al, K, Cl, Na, Mn by INAA and Cu, Co, Pb Ni, Cr, Ca, Fe, Zn, Hg and Cd by AAS were analyzed from different Indian herbals .

A critical examination of the data shows that all these elements are present in the five herbals at major, minor and trace levels. The elements Ca, K, Cl, Al and Fe are found to be present at major levels in most of the samples while the other elements Cu, Co, Ni, Cr, Ca, Fe, Zn are present in minor or trace levels. Pb ,Cd and Hg are below the permissible levels. These medicinal herbs are safe to consume as The differences in the concentration of the elements are attributed to soil composition and the climate in which the plant grows.

Summary

The elemental concentrations in different herbals from India are discussed.

The data is useful to medical practitioners, pharmacists as well as food analysts, for the synthesis of new Ayurvedic herbal formulations as well as in deciding the proportion of various active constituents and managing dose of a particular herbal formulations . and the researchers in the areas of Ayurvedic and alternative medicines.

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