ORIGINAL ARTICLE

A rapid and simple scheme for the standardization of polyherbal drugs

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In America and Europe, fast growing awareness and confidence has been shown by consumers for alternative medicine. The Indian system of medicine comprises of Ayurved, Unani and Siddha. In these systems maximum drugs are made up of polyherbal materials. The Indian System of Medicine is a pioneer in the use of herbominiral material as medicines. The World Health Organization (WHO) in 1999, had given a detail protocol for the standardization of herbal drugs comprising of a single content, but very little literature is available for the standardization of polyherbal drugs. We have developed a rapid and simple scheme for the standardization and authentication of a polyherbal drug comprising of many substances. Madhunashini is a polyherbal drug, which is a complex mixture of different herbal and mineral substances. We have undertaken the task of developing a novel scheme for a sensitive, specific and accurate standardization of Divya Madhunashini. The present scheme could also be applicable for the standardization of other polyherbal drugs, for their consistency, potency and efficacy. A packet of 120 tablets of Madhunashini, 500 mg, has been taken from the Divya pharmacy, Haridwar outlet; batch No.DPO-12 Exp. 9/2009. Madhunashini is a mixture of 23 poly herbal materials. We have categorized all 23 herbominiral materials into four categories, alkaloid content, glycoside content, bitter content and tannin content. Our result indicates that the extraction of polyherbal drugs in different solvents, in a particular sequence, yields all the four categories of active constituents, which are further identified by high performance thin layer chromatography, whereas, material extracted with one solvent has not exhibited any clear Rf values and always appears in the form of a tail.

Key words: Ayurvedic formulation, polyherbal drugs, standardization

INTRODUCTION

The quality and therapeutic efficacy of herbal drugs is dependant on the active constituents which are present in the plant cell. Of the newly approved drugs reported between 1983 and 1994, drugs of natural origin predominated (78%) in the antibacterial area, while 61% of the 31 anticancer drugs approved in the same period were either natural products, nature-derived products or compounds modelled on natural product parents or "leads". In addition, 50% of the best selling pharmaceuticals in 1991 were either natural products or their derivatives.[1] Madhunashini is an Ayurvedic Proprietary Drug. It is a combination of 23 polyherbal materials, and controls and manages Diabetes mellitus effectively.[2] Chemical and instrumental analysis is routinely used for analysing single herbal ingredient drugs for the purpose of standardization.[3] A single herbal drug extract was standardized on the basis of its active principles. We reviewed a lot of literature for the standardization of polyherbal drugs, but there very few chemical or analytical methods available for polyherbal drug standardization.[4] We developed a novel scheme for the standardization of the finished Ayurvedic product, made up of more then one polyherbal material, by broadly classifying it into four categories of active constituents, as a group, which was responsible for the pharmacological activity of the herbominiral material. The pharmacological property of the herbominiral material was due to the stimulation or depression of one or more physiological systems of the body and its action was due to constituents known as specific active principles.

Most of the bulk of the biomass, irrespective of whether it is of plants or microbes, exists as a fairly inert, insoluble and often polymeric material, such as cellulose of plants or fungi and the microbial cell wall.[5] The first step of the extraction is therefore to release and solubilise the smaller secondary metabolites in the matrix, resulting in the initial extract. In liquid extractions the choice of extraction of a solvent or solvents provides the first and most obvious means of sample preparation.[6] Initial extraction with low-polarity solvents yields the more lipophilic components, while alcohols isolate a broader spectrum of polar compounds from the material. In addition to the choice of extraction of a solvent, there are also different approaches to the actual extraction procedure. The simplest method of extraction, however, needs no extraction medium. Mechanical

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