

Nature based solutions:

What contaminants/ adulteration / misidentification can be involved in using herbs and spices?



The medicinal plants included in our formulation are very limited species. More than half of them are spices which are generally cultivated and are readily available everywhere. In the locations where we have propagated Ethnoveterinary Practices (EVP) we have also established Home herbal garden for immediate access of the ingredients. If any species is not available, it is purchased from herbalist, or the village resource persons /field persons will supply it to the farmers. We did not face any problem till now about contamination and adulteration or misidentification of the ingredients.

The raw drug are generally adulterated or contaminated with dust, pollens, insects, rodents, parasites, microbes, fungi, mould, toxins, pesticides, toxic heavy metals and/or prescription drugs. Adulteration and contamination of raw drugs were most commonly noted for traditional Indian and Chinese remedies, respectively. A study of total of 203 herbal trade samples representing the 30 medicinal plant species were collected from 34 locations in South India using the DNA barcode sequences of the BRM as reference, indicated that the substitution ranged from 20 to 100%. Overall, approximately 12% of the market samples were adulterated.

The concept of raw drug substitution has been recorded in Ayurveda and documented in texts dating to 15th and 16th centuries. Such a concept is called as "abhava-pratinidhi dravya", wherein an "abhava dravya" (unavailable drug) is replaced by a "pratinidhi dravya" (substitute drug). The Abhava Pratinidhi Dravya or herbal substitutes means the Dravya having similar pharmacological activities as like that of original Dravya but may not have similar appearance. The concept of Pratinidhi Dravya is not new; many Pratinidhi dravyas (substitutes) are mentioned in Ayurvedic texts, especially in Bhavaprakasha, Yogaratnakar, Bhaishajya ratnavalli etc. The principle to select Pratinidhi dravyas is based upon Rasa (Taste), Guna (Property), Virya (Potency), Vipaka (effects on digestion) and most significant factor Karma (Action). The main drug in a formulation should not be substituted, only accessory drugs can be substituted. A list is provided in the article (Khajuria et.al 2020).

Substitution of the herbs is the need of the time with more than 300 medicinal plants becoming red listed. It provided greater scope for the physician to utilize herbs that are easily available, cost effective and most appropriate for the clinical condition

In the case of EVP promoted by TDU only common plants are used which are not red listed. Many of them are cultivated species and spices. Generally minimum misidentifications occur because the plants included are very common and we train the farmers, and the veterinarians are given adequate exposure to identify them correctly. However, mistakes could happen, and the consequence is it takes longer time to cure, and the disease can aggravate. In all our experience in the last 10 years no such situation is reported.

Dr. Dheeraj Khajuria¹, Dr. Pooja Modh, Dr. Arun Kumar, Dr. Satej Banne & Dr. Rekh Parma.r 2020. Notion on Abhava Pratinidhi Dravya (substitute drugs) in Ayurvedic Scienc Purakala ISSN: 0971-2143 Vol-32-Issue-47-June-2020
https://www.researchgate.net/publication/343500991_Notion_on_Abhava_Pratinidhi_Dravya_substitute_drugs_in_Ayurvedic_Science



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The authors would like to acknowledge funding from the Wageningen University & Research 'Food Security and Valuing Water programme' (KB-35-007-002) and Circular and Climate Neutral' programme' (KB-34-007-010), which is supported by the Dutch Ministry of Agriculture, Nature and Food Security