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Review article

Adulteration of Herbal Medicine and its Detection Methods

ABSTRACT

People are increasingly turning to the use of herbal medicines (HMs) due to the growing trend of embracing nature and concerns about the adverse effects of conventional treatments. HMs provide a sense of safety because they are natural and intended for long-term use. However, herbal medicines are also associated with adverse effects. Furthermore, the use of these medicines poses dangers associated with the deliberate inclusion of synthetic substances, the intentional or accidental substitution of plant species, or simply the risk of mislabeling. While reports of illegal synthetic or pharmaceutical substances being added often involve herbal weight-loss and weight gain preparations, aphrodisiacs, treatments for rheumatic and inflammatory diseases, antidiabetic medications, and antihypertensive preparations, it appears that the substitution of plant species occurs across various categories of herbal medicines. This narrative aims to review the types of adulteration in herbal medicine, the analytical techniques used for detecting adulteration. In conclusion, more studies on the adulteration of HMs are required to inform health authorities and limit the use of these substances. Therefore, it is necessary to coordinate and encourage regulatory policies on HMs on a worldwide scale. Relevant regulatory agencies all over the world must be proactive and keep enforcing the necessary safeguards to protect public health by ensuring that all herbal medications approved for sale are secure and of a high enough standard.