A Framework for Ensuring Safety of Biological-based Therapies in Complementary and Alternative Medicine Integration into a Health System

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Complementary and Alternative Medicine (CAM) therapies are used in an effort to prevent illness, reduce stress, prevent or reduce side effects and symptoms, or control or cure disease. Between 80% - 90% of world population favour CAM use. Current trends favour enhanced cooperation among various healthcare professionals and the integration of CAM therapies into conventional medical treatments. One billion people, mostly in developing countries, use natural products for medicinal purposes. Several herbs are traditionally used in the treatment of a variety of ailments particularly in the rural areas of developing countries where herbal medicine is mainly the source of health care system. Many of these herbs have not been assessed for safety or toxicity to tissue. Research efforts in Western countries have been largely concerned with the interrelated issues of quality, safety and efficacy of only certain forms of CAM, especially biological-based form. The integration of biological-based therapy into modern medical practices must consider these stated issues. Quality is the paramount issue because it can affect the efficacy and/or safety of the biological-based products being used. Current product quality ranges from very high to very low due to intrinsic, extrinsic, and regulatory factors. CAM practitioners require evidence-based knowledge towards finding solutions and suggestions for integrating CAM with modern healthcare practices. Adverse events, including drug–herb interactions, must also be monitored to promote a safe integration of efficacious herbal medicine into conventional medical practices. For promising practices for integration, this paper reports the development of a Multimedia-based Medicinal Plants Sustainability Management System that provides information including phytoconstituents, herb-drug interactions, contraindications, the best available evidence-based safety information, and adverse effects characteristics of medicinal plants in enhancing evidence-based CAM practice. This paper concludes with a family of patient-centric and medical knowledge discovery frameworks among factors that could promote integration of CAM practices.

Keywords: Complementary and Alternative Medicine, Contraindications, Herb-drug Interactions, Integration, Patient-centric, Phytoconstituents, Safety

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