

Mechanisms of Drug-Herb Interactions and Clinical Implications

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The clinical evidence for interactions between conventional drugs and herbal medicines is steadily increasing globally. This can be attributed to many factors including increasing trends towards consumption of herbal supplements for various health benefits, loose regulation of the herbal drug industry, and the need for proper training of healthcare professionals on the potential hazards of herbal supplements. Herbs contain potent chemical constituents that can affect both the pharmacodynamic and pharmacokinetic profiles of conventional drugs when simultaneously administered. The mechanistic basis for these interactions include antagonism or potentiation of therapeutic effects, and altered absorption, metabolism or elimination of drugs. Many herbs have been implicated in these regards. Garlic (*Allium sativum*) has been shown to increase risk for bleeding in patients on warfarin; Licorice (*Glycyrrhizaglabra*) antagonizes the effects of anti-hypertensives; Green tea (*Camellia sinensis*) impairs the absorption of nadolol; and St John's Wort (*Hypericum perforatum*) induces the metabolism of cyclosporine and numerous other drugs that are dependent of the cytochrome P450 enzymes for biotransformation. Based on these lines of evidence, there is a still a greater need for education of health care providers and patients about the risks of herbal medicines and for integration of evidenced-based herbal medicine knowledge into curriculums of medical schools globally. Additionally, further clinical research and pharmacovigilance is needed to gather more evidence on the incidence of drug-herb interactions and patient outcomes in this unique setting. This data would have significant implications towards guiding the development of stricter regulations for the herbal drug industry.

Biography:

Dr. Arkene Levy is an Associate professor of Pharmacology and Pharmacognosy at the Nova Southeastern University in Florida USA. Dr. Levy completed her PhD in Pharmacology at the University of the West Indies in Jamaica, and postdoctoral studies as a Fulbright Scholar at Moore's Cancer Centre, UCSD California. Dr. Levy has extensive research experience on the effects of natural products in cancer and inflammatory disease models. Dr. Levy is an editorial consultant for the Current Topics in Nutraceutical Research journal and a member of both the American Society for Pharmacology and Experimental Therapeutics and the American Association for Cancer Research.