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Clinician Corner

Herb-Drug Interaction, The Fall Out Of Poor Communication Between Doctors And Patients

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There has been a significant worldwide increase in the use of herbal medicine in recent years [1]. Herbal products are widely consumed by patients all over the world, mostly as a concomitant medication with the conventional allopathic medicines for different medical conditions [2]. The reason for the growing popularity of herbal medicines is that it is widely perceived as natural, safe and more compatible with the philosophical beliefs of the patients [3]. Previous studies show that 25% of individuals taking a prescription drug or an over-the-counter drug were also consuming one or more herbal medicines [4]. Though we lack Indian data regarding the extent of the concomitant use of herbal products with conventional medicine, it is commonly perceived that in the Indian society, along with conventional medicines, there is also widespread, unreported self-medication with different kinds of herbal medicines. Every nook and corner of the Indian cities has the presence of traditional healers who practice unregulated and unsupervised herbal medical care. Most often, patients take herbal medicines based on the advice of family, friends and traditional healers, rather than on the advice of registered ayurvedic practitioners.

There is very poor communication between physicians and patients regarding the concomitant use of herbal products and conventional allopathic medicines. Most of the time, doctors themselves do not ask their patients about this topic. The reasons could be either lack of awareness or ignorance about how to enquire about the history of any herbal product intake [5]. There are also misconceptions among patients regarding the safety of herbal medicines and the need to inform doctors about their use. Patients often have a belief that taking herbal and prescribed medicines together is harmless, especially if they are taken for different problems [6].

This poor communication regarding the usage of herbal medicine can result in devastating herb-drug interaction. Almost all herbal products contain mixtures of pharmacologically active constituents and the unregulated herbal products are occasionally adulterated with potent chemicals, heavy metals and chemical toxins [7],[8]. Some of the common herbal products which can produce interaction with drugs if taken concomitantly include ginkgo biloba, ginger, St. Johns Wart and garlic. Most of the time, herbal medicines can induce cytochrome p450 enzyme systems, particularly CYP3A4 and the p glycoprotein efflux pump [9],[10]. P-glycoprotein is a drug efflux pump which plays a prominent role in the disposition of many xenobiotics. Phytochemical-mediated alterations in P-glycoprotein activity may give rise to herb-drug interactions by altering drug absorption, distribution, and elimination [10].

Ginkgo (*Ginkgo biloba*) is commonly used for promoting and maintaining concentration and mental alertness. Ginger (*Zingiber officinale*), a

popular herbal medicine, is taken for a wide variety of indications including the symptomatic relief of motion sickness and inflammation. St. John's wart (*Hypericum perforatum*) is used most commonly for depression. Ginkgo biloba, ginger and garlic can have antiplatelet or other anticoagulant effects [11]. They may be associated with haemorrhagic complications if unknowingly taken with some antiplatelet drugs like aspirin. Garlic capsules combined with diabetes medication can cause a decrease in blood sugar to a dangerous extent. St John's wart affects the clearance of many drugs including cyclosporin, antidepressants (predominantly SSRIs), digoxin and indinavir [7]. The St John's wart-cyclosporin interaction after organ transplantation could lead to graft rejection [12]. This interaction was also shown to reduce plasma indinavir concentrations, resulting in an increased HIV load [13]. There are reports of cases of breakthrough bleeding with oral contraceptives and gastrointestinal bleeding with non-steroidal antiinflammatory (NSAIDs), when taken simultaneously with St John's Wart [7]. The interaction between theophylline and St. John's wart results in decreased plasma levels of theophylline [7].

Hence, there is a definite need to improve the communication between doctors and patients regarding the concomitant use of herbal and conventional medicines in order to prevent herb-drug reactions. Doctors should be particularly careful to ask about herbal remedies while taking a drug history.

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