Drug interactions associated with herbal remedies and dietary supplements

A systematic review suggests that herbal remedies and dietary supplements may have interactions with many prescription drugs.

**Overview:** Herbal remedies and dietary supplements are not licensed as medicines in the UK but are widely available without prescription from health food shops, community pharmacies and herbal practitioners. Studies from the USA suggest that more than half of people with chronic diseases or cancers use herbal remedies or dietary supplements ([Miller et al. 2008](#)) and nearly one-fifth take these products with prescription drugs ([Gardiner et al. 2006](#)).

**Current advice:** The Medicines and Healthcare Products Regulatory Agency has advice for consumers on using herbal medicines safely. NICE has no general guidance on the use of herbal products and supplements alongside prescribed medication. NICE guidance on depression notes that although evidence suggests that St John's Wort may be of benefit in mild or moderate depression, practitioners should:

- not prescribe or advise its use because of uncertainty about appropriate doses, persistence of effect, variation in the nature of preparations and potential serious interactions with other drugs including oral contraceptives, anticoagulants and anticonvulsants.
- advise people with depression of the different potencies of the preparations available and of the potential serious interactions of St John's Wort with other drugs.

**New evidence:** In a systematic review, [Tsai et al. (2012)](#) searched from 2000 to 2010 for any scientific articles documenting interactions and contraindications between prescribed medication and herbal medicine or dietary supplements. The review included 54 review articles, 16 clinical trials, 9 observational studies and 6 animal studies. After excluding duplicates and products not recommended for human use, 1491 unique interactions involving 509 drugs were identified. Overall, 100 drugs acted on the central nervous system, 90 acted on the cardiovascular system, and 75 drugs were for treating infections.

Most drug interactions were with warfarin (105 interactions), then insulin (41 interactions), aspirin (36 interactions) and digoxin (32 interactions). The herbal remedies with the largest number of interactions with drugs were St John's Wort (147 interactions), ginkgo (51 interactions) and kava (41 interactions). The dietary supplements with the most drug interactions were magnesium (102 interactions), calcium (75 interactions), iron (71 interactions), vitamin A (43 interactions) and melatonin (30 interactions).

Many of the supplements with high numbers of interactions seemed to have general class effects for interactions classified as severe. For example, digitalis had severe interactions with several thiazide and thiazide-like diuretics and kava had interactions with sedating antihistamines and benzodiazepines. St John's Wort had interactions across a wide range of drug classes including antidepressants, chemotherapy drugs, sex hormones, and cardiovascular drugs.
The authors noted that language restrictions of their review may have led to under-reporting of interactions, for example those relating to traditional Chinese medicine. Healthcare professionals may need to be aware of the most common interactions to effectively prevent adverse events, especially in patients taking drugs acting on the central nervous or cardiovascular systems.

**Commentary:** "People of all ages use herbal remedies and dietary supplements and often believe that herbal or natural products have fewer side effects, fewer chemicals, and are safe because they are not synthetic. Patients may not volunteer their use of herbal and dietary supplements to their healthcare providers. This reduces the opportunity for safety monitoring and due consideration of drug or disease interactions from herbal remedies or dietary supplements, if adverse symptoms or outcomes arise.

"Healthcare providers in all settings need to routinely enquire about use of herbal medicines and dietary supplements when assessing patients, responding to symptoms or initiating or altering therapy. A non-judgemental approach may increase patients' openness relating to any use of herbal and dietary supplements. Healthcare providers also need to keep abreast of the evidence about clinically significant interactions herbal remedies and dietary supplements may have with prescribed and over-the-counter medicines and check a reliable source when unsure." – Dr C Alice Oborne, Consultant Pharmacist – Safe Medication Practice, Guy’s and St Thomas’ NHS Foundation Trust

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