*Audit Research and Clinical Practice*

# Food for Thought in an Acute Medicine Environment; Doctors'knowledge of Herbal Medicines Needs to be Better……

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## Abstract[1]

***Introduction:*** *Patients are increasingly taking herbal supplements for a variety of reasons. This has brought into question doctors knowledge about herbal medicines.*

***Method:*** *A cross-sectional web-based survey of 84 doctors working within the Department of Medicine at a District General Hospital was carried out looking at doctor's knowledge about herbal medicines.*

***Results:*** *53 doctors took part. Of these, the majority were trainees in Medicine (42) 79%. Only (15) 28% routinely ask patients about herbal medicine use when taking a drug history. Doctor's knowledge about herbal Medicines was poor.*

***Conclusion:*** *We need to re-examine our current teaching programmes to ensure that education about common herbal medicines and important sources of information are provided to doctors to improve patient safety.*



## Keywords

*Herbal medicines, doctors knowledge, education, patient safety, drug interactions.*


**Key teaching points**

- Herbal Medicine use is common in both the developed and developing countries
- Patients are increasingly taking herbal medicines for a variety of reasons
- Doctors should routinely ask patients about herbal medicine and over the counter medicine use
- Herbal medicines can cause harm to patients either through direct effects or through interaction with conventional medicines leading to an adverse event in patients
- Gingko Biloba interacts with antiplatelet agents and anticoagulants leading to an increased risk of bleeding
- Teaching programmes for trainees in regards to medicines safety and polypharmacy should include common herbal medicines
- Doctors can access up to date information about herbal medicines on the World Health Organization (WHO), European medicines Agency and Medscape websites


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## Introduction

Patients are increasingly taking herbal medicines[2] and supplements for a variety of reasons; treatment of chronic ailments, to help boost memory, prevent illness and aid longevity. These products may cause harm directly through untoward side effects or indirectly through interaction with other conventional medicines. Approximately 80% of the world's population use herbal medicines. It is estimated that at least 25% of all medicines are derived directly or indirectly through the application of modern technology to traditional knowledge. Artemisia annua (Artesunate) for the treatment of malaria is one such classical example. In fact these numbers may be as high as 40% with antitumoral and antimicrobial medicines.[4,13] Supplement use by adults in the United States range from 50-80%.[3] It is estimated that in developing countries in Asia, Africa, Latin America and the Middle East 70% to 95% of citizens use traditional medicine, including traditional and herbal medicines, for the management of health and as primary health care to address their health-care needs and concerns.[4,5,6]

The use of traditional medication is equally significant in developed countries; Canada, France, Germany and Italy for instance, report that between 70% and 90% of their populations have used traditional medicines.[1,14,15] The global market for traditional medicines was estimated at US$ 83 billion annually in 2008, with a rate of increase that has been exponential.[4] Amongst European countries, market sales of herbal medicines was $5 billion in 2003 (Figure 1a); this figure represents the total based on the manufacturers price to wholesalers and the cost to the end user is likely to be higher.[16]

Herbal medicines are said to be popular because they are perceived as being natural and

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thus healthier. Other factors leading to their increased popularity are they are seen as a product of ancient practice handed down through generations of people and they are viewed as a holistic approach to health. They are also seen as a means of controlling ones health and typically people believe that herbals are not drugs so they therefore have fewer or no side effects. In addition there is an increase in stress within society in general, leading to people looking for a natural approach to their healthcare needs. In the IPSOS MORI report of 2009[8], 35% of adults had used herbal medicines and 58% of users agreed that "herbal medicines are safe because they are natural"; 22% of users felt it was not necessary to inform their GP that they were using herbal medicines. The report[8] also highlighted doctors (41%) and pharmacists (23%) as the sources where patients would turn to for information about the risks and benefits of herbal medicines. Doctors need to improve their knowledge about common herbal medicines so that patients are not put at risk due to lack of knowledge. A survey of hospital based doctors was therefore undertaken to evaluate their knowledge of herbal medicines.

## Methodology

A cross-sectional web-based survey of hospital based clinicians was undertaken to evaluate their knowledge of herbal medicines.

Data collected included grades of doctors, whether they routinely enquired about herbal medicine use as part of the drug history, reasons for not asking about herbal medicine use, what herbal medicines they have come across in clinical practice and answers to questions testing their knowledge about herbal medicines.

## Results

53 doctors took part in this survey (response rate 62%). Of these 11 (21%) were Consultant Physicians, 7 (13%) were Specialist registrars whilst 35 (66 %) were junior trainees in medicine (Figure 1b). Only 15 (28%) routinely ask patients about herbal medicine use when taking a drug history (Figure 2) and the commonest reasons for not asking were "don't remember to ask" 20 (38%) and lack of knowledge about herbal medicines 16 (30%) (Figure 3).

The commonest herbal medicines that doctors had come across were Gingko Biloba, Garlic and Ginseng (Figure 4). Of the "other" herbal medicines that doctors had come across, St John's Wort featured prominently with Chinese herbal medicines, Hypericum and Cinnamon, Milk Thistle, Devils claw, Red Clover and Chinese skin cream mixed with steroids accounting for the reminder. 31 (58%) were aware that Gingko improves memory whilst 25 (47%) were aware that St John's Wort could cause transplant rejection in patients on Cyclosporine (Figure 5). A fifth (20%) of doctors knew that Echinacea is used to prevent the common cold whilst interestingly 18 (34%) incorrectly asserted

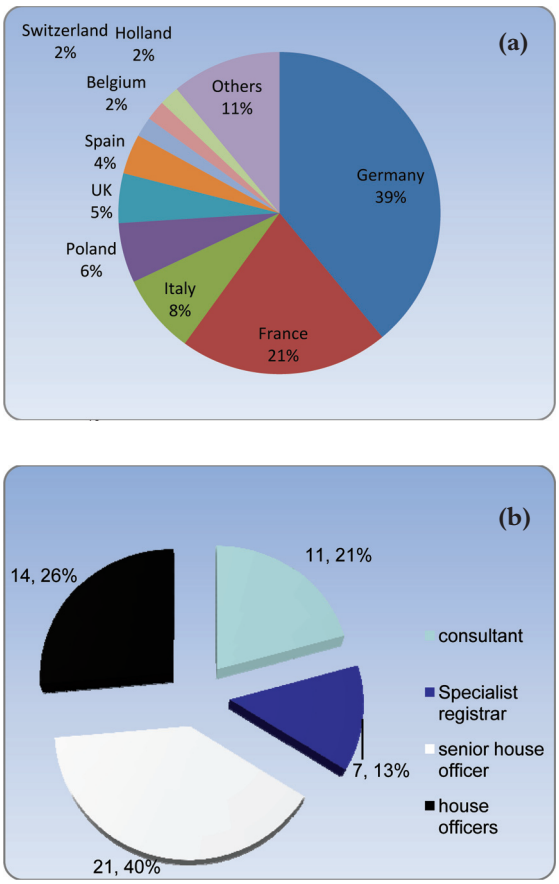


**Figure 1.** (a) Market sales of herbal medicines in Europe 2003 (Total sales $5 billion).[1] (b) Grades of doctors.

that St John's Wort was used by John the Baptist for depression. Only about a third (33%) of doctors recognised the potential drug interaction between Garlic and Warfarin and Gingko and Clopidogrel which increases the bleeding risk. Similarly, only 9 (17%) of the respondents recognised the potential interaction between Echinacea and methotrexate (Figure 6). Methotrexate increases and Echinacea decreases immunosuppressive effects. Only 17 (25%) recognised that Gingko had antiplatelet activity (Figure 7). There were only 110 (42%) correct

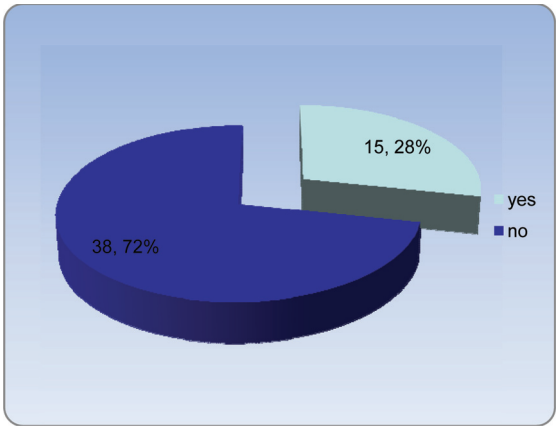


**Figure 2.** Do you routinely ask about herbal medicine use?

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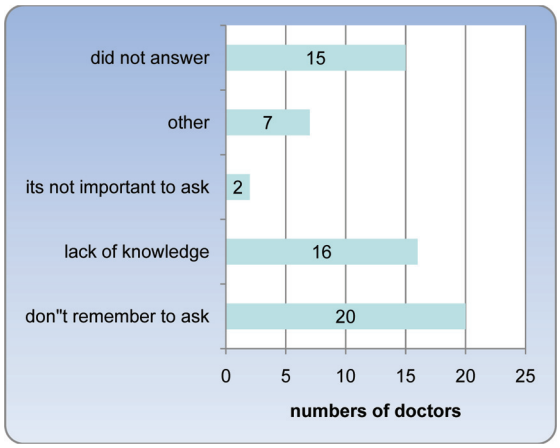


**Figure 3.** Reasons for not asking about herbal medicine use.

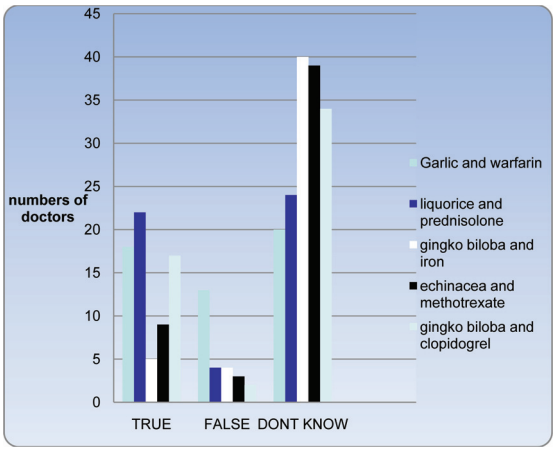


**Figure 6.** The following herbal-drug interactions are recognized.

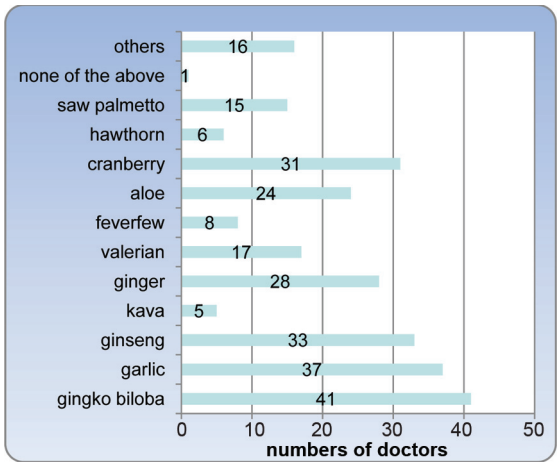


**Figure 4.** Which herbal medicines have you come across?

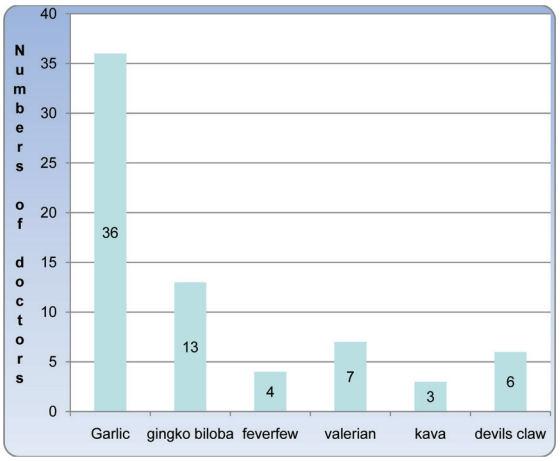


**Figure 7.** The following herbal medicines have antiplatelet activity.

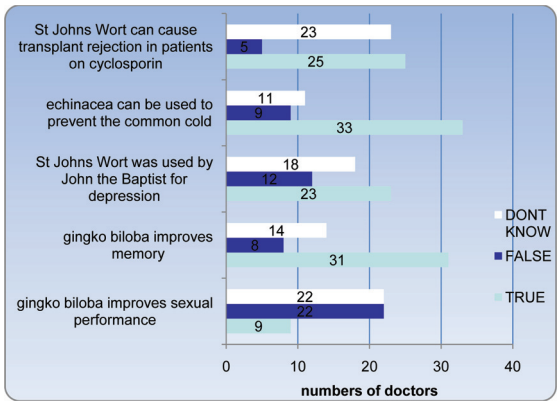


**Figure 5.** Test your knowledge about herbal medicines.

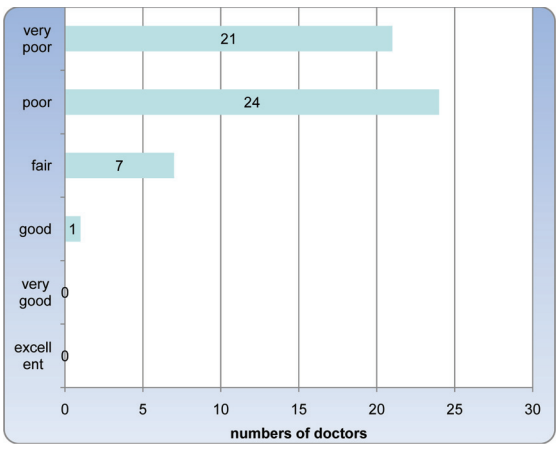


**Figure 8.** How do you rate your knowledge about herbal medicines?

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responses in the question testing doctors knowledge about herbal medicines whilst 67 (25%) of responses were wrong and 88 (33%) did not know the answer (Figure 5). Only 71 (27%) of responses were correct in the question regarding interactions between herbal medicines and conventional medications whilst 40 (15%) of the responses were wrong and 154(58%) did not know the answer (figure 6). 24 (46%) and 21 (40%) rated their knowledge about herbal medicines as poor and very poor respectively. Only one doctor (0.02%) rated their knowledge as good whilst no doctor rated their knowledge as very good or excellent (Figure 8).

## Conclusion

Our findings suggest that doctors do not routinely ask about herbal medicine use and their knowledge about herbal medicines is poor.

This could lead to interactions occurring between prescribed and non prescribed medicines like herbal medicines resulting in an adverse event in patients. Doctors therefore need to routinely ask about over the counter medications and herbal medicines as part of a full drug history.

Current teaching programmes should also be modified to include education about common herbal medicines. Doctors can be directed to web based programmes such as Medscape and the WHO monographs on selected medicinal plants for self directed learning.Information is freely available on the internet and the following World health organization, European medicines agency and Medscape websites are useful sources of information for healthcare professionals.[9,10,11,12] We have introduced a session on herbal medicines and over the counter medicines for our trainees so that patients are not put at risk due to lack of knowledge about herbal medicines.

**Declaration of competing interests:** nothing to declare

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