Herbal remedies: integration into conventional medicine

MEDIA reports suggest that up to one in five Britons use complementary therapies and that, as a nation, we spend £350m each year on natural remedies (Walsh, 2000). Lewith (1998) found that 13 million visits were made to complementary therapists in 1981, which is one-third of the number of visits made to GPs in the same year. Which? magazine (1995a) found that the proportion of its readers using complementary therapies increased by 70 per cent between 1986 and 1991.

Use of complementary therapies in the USA

Zollman and Vickers (1999) concluded that at least 15 million complementary therapy consultations took place in 1997 and that almost 40 per cent of all general practices offered some form of access to complementary therapy for their NHS patients.

It is interesting to note that, of these, the NHS paid for 70 per cent of the consultations. However, Zollman and Vickers’ (1999) paper pointed out that nearly 4,000 conventional health care professionals also practise complementary therapy.

Thus, a substantial number of complementary therapies are provided by conventional health care professionals within existing NHS services, although this is confined to the disciplines of acupuncture, reflexology and homeopathy. These figures are significant because it suggests a growing acceptance of the concept of complementary therapy within our culture.

Lewith (1998) found that complementary therapy in the UK is confined to a few major disciplines: osteopathy, chiropractic, homeopathy, acupuncture and herbalism. Kroll (2001) pointed out that, of these, herbalism is the most accessible because of the availability of these products in high street chemists, supermarkets and health food shops.

Use of complementary therapies in conventional medicine

The American Thoracic Society (2001) reported that one-third of the US population use some form of complementary therapy. As in the UK, herbal remedies and food supplements are the most accessible form because of their availability in health food shops and pharmacies. However, these preparations are not subject to any form of approval by the US Food and Drug Administration and therefore their purity and potency is not regulated.

Asthma is one of a number of diseases that attracts numerous complementary and alternative forms of management in the USA. However, because complementary therapies are perceived to be more natural than conventional medicines and not to have any side-effects, their use may not be reported to physicians.

Johns Cupp (1999) suggested that these preparations have the potential to cause adverse effects and drug interactions (see Box 1).

Herbs used to treat asthma and COPD

It is known that people have experimented with strong-smelling or unnappetising plant products to treat a variety of injuries and illnesses for thousands of years and that for most of the world’s population, routine medical care is based on traditional herbs and techniques provided by healers who lack formal medical training (Ziment, 2003). Aromatic plants or smoke from incense were some of the first treatments to be tried for any disease, especially respiratory disorders.

Huntley and Ernst (2000) found in their study that herbal preparations are still a popular method of treatment used by people with asthma. Herbs such as menthol, eucalyptus, frankincense and balsams were favoured and were reported to soothe the inflamed mucosa, alleviate the annoying cough and enhance expectoration. Two of the most ancient favoured plant products for asthma were ephedrine and atropine, the descendants of which have a basic role in formal therapeutics today.

Among other traditional plant drugs still used for the treatment of asthma and chronic obstructive pulmonary disease (COPD) are theophylline, which is derived from tea leaves, and cromolyn, which is described as a smooth muscle relaxer.

Although few of the herbs available over the counter are subject to the scientific rigour of prescription medication, Lewith (1998) reviewed a number of herbal remedies used in asthma and COPD and reported on their potential benefits. For example, Coleus forskohlii is a herb used in ayurvedic medicine and has a possible bronchodilating effect, and Ginkgo biloba is reported to antagonise platelet-activating factors, hence limiting bronchial hyper-reactivity. Further studies indicated that the oral administration of ginkogolides improved pulmonary function and protected against exercise-induced asthma.

A study carried out by Castiglioni and Gramolini (1986) looked at the long-term effect of sobrerol (a herbal remedy used to treat chronic bronchitis) on acute exacerbations in 706 patients. Acute exacerbations and the use of bronchodilators were reduced over a three-month period and lung function, as measured by forced expired volume in one second (FEV$_1$), was also higher.

Feley et al (1989) investigated the use of gouttes aux essences (a herbal aromatherapy mixture) to treat chest infections in patients with chronic bronchitis. They found that although the incidence of acute infections did not
change, the infections that did occur among these patients were resolved more quickly.

Lewith (1998) pointed out that herbal remedies should be used with caution, but his review does highlight the potential for developing herbal products for treating diseases. This is well demonstrated by Goldman (2001) who used the example of the transformation of digitals from the foxglove, as used in folk medicine, to the modern drug, digoxin.

However, Goldman also stressed that few of the herbs available today are standardised by methods that can ensure the consistency, efficacy and safety of the product. He suggested that the transformation of herbs into modern drugs illustrates the principles of modern pharmacology that have helped to make drugs safer and more effective.

**Safety and efficacy**

As previously highlighted, few herbal products are subject to the scientific scrutiny of prescription medicines. The clinical trials that do exist are often criticised as being of limited value because of the uncertain composition and consistency of the products. For example, Goldman (2001) demonstrated that St John’s Wort preparations varied in their content. Originally, St John’s Wort was standardised by its content of hypericin; however, Goldman found that this was never confirmed as being the active ingredient. Another constituent, hyperforin, was later determined to be more potent.

It was also found that local shops had preparations of St John’s Wort that contained 180–530mg of hypericin and that the hyperforin content was listed only occasionally. The parts of the plant used to make the preparations were also inconsistent and were described as leaf, flowers, stem or aerial parts. In addition, 10 ginseng products were found to have a ginsenoside content that varied over a 10-fold range.

Goldman (2001) suggested that this information is significant because it demonstrates that there is no barrier to selling herbal preparations that are of uncertain potency.

The composition and potency of herbal products raises many questions about their safety. Shaw (1998) pointed out that the quality of the product is a key element and that this is inextricably bound to safety. Because most herbal products are unlicensed there can be no guarantee that the herbal material used in the preparation of the product is of good quality, free from contaminants or correctly identified.

Shaw (1998) also highlighted the possibility of contaminants accumulating during production or in long-term storage. This has the potential to cause serious health effects or result in a loss of efficacy, particularly when a herb is substituted for an incorrect species. For example, Shaw (1998) described an incident in which 50 people experienced dizziness, severe shortness of breath and respiratory arrest after using a product said to contain kava (*Piper methysticum*). Subsequent analysis showed that the product contained butanediol and caffeine but no kava.

**Legislation**

The legal status of herbal remedies is uncertain. Shaw (1998) proposed that different remedies could be divided into three categories:
- Licensed medicinal products;
- Unlicensed herbal products;
- Herbal medicines supplied by a herbalist.

However, only the first category is required to produce evidence of product quality, safety and efficacy.

In 1996, the Medicines Control Agency (MCA) included adverse reaction reports on unlicensed herbal remedies in its remit.

However, reporting adverse reactions is problematic not only in terms of the consistency and potency of each preparation but also because there is no equivalent to prescription records for herbal remedies. Prescriptions record an individual’s exposure to drugs and allow associations to be made with any later clinical events.

Goldman (2001) suggested that patients are reluctant to report any adverse effects after taking herbal remedies because they are generally convinced of the product’s safety and are, therefore, biased against reporting an adverse clinical event.

In the UK, unlicensed herbal products are regarded as food supplements and are regulated by the Food Standards Agency. Therefore, such products cannot make medicinal claims. However, it is interesting to note that the Consumer Association Survey (*Which?*, 1995b) found that 40 per cent of consumers judged a selection of herbal and other supplements to be medicines whereas only 26 per cent thought they were foods.

This confusion may be because these products are labelled with statements regarding their reported effect on the structure or function of the human body. Many, for example ginseng and kava, are also promoted as a panacea for all ills or for their role in promoting an individual’s general well-being.

Although it is not always clear, it is important to note that as these products are not promoted for treating, curing or preventing a disease they are marketed in a way that can lead to incorrect or inappropriate use.

**BOX 1. DRUG INTERACTIONS WITH HERBAL PRODUCTS (JOHNS CUPP, 1999)**

<table>
<thead>
<tr>
<th>HERBAL REMEDY</th>
<th>INTERACTING DRUGS</th>
</tr>
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<tbody>
<tr>
<td>Ginkgo biloba</td>
<td>Aspirin, warfarin, dipyridamole, heparin</td>
</tr>
<tr>
<td>St John’s Wort</td>
<td>Antidepressants</td>
</tr>
<tr>
<td>Aloe</td>
<td>Ampicillin, aspirin, steroids</td>
</tr>
<tr>
<td>Ginseng</td>
<td>Warfarin, digoxin, oestrogen</td>
</tr>
<tr>
<td>Kava</td>
<td>Sedatives, sleeping pills, antipsychotics, alcohol</td>
</tr>
</tbody>
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**REFERENCES**


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Shaw (1998) suggested that this inappropriate use could take several forms:
- Patients using the incorrect herb for an ailment;
- Patients who self-medicate, thus delaying seeking medical advice for potentially serious conditions;
- Patients stopping taking conventional drugs in favour of alternatives;
- Patients believing that an increased dose will enhance the reported benefits of a product.

Such possibilities raise questions about the safety of dispensing these products in supermarkets and other similar outlets. A revealing survey found that out of 100 pharmacists and non-pharmacist retailers of health food products, nearly all sold herbal products but only 2.1 per cent of retailers reported having training specific to herbal therapy (Triller and Snitkoff, 2001). The survey also found that pharmacists were more likely to recommend a herbal preparation but few routinely informed their customers of potential adverse side-effects.

Registers have been established for qualified herbalists that promote codes of practice and standards of training; however, there are no regulations concerning who may practise as a herbalist in the UK.

Mills (2001), in a summary of the House of Lords report on complementary medicine, highlighted that the regulatory status of herbal remedies and practice is unsatisfactory and noted the recommendation that it should not only be clarified but also enforced by law.

Integration of conventional medicine and complementary therapy

The increased demand for complementary therapy in the UK has been largely ignored. Eisenberg et al (1993) defined complementary and alternative therapy as ‘medical interventions that are not taught extensively at medical school’.

James and Dalen (1998) proposed that ‘conventional physicians’ were reluctant to accept unconventional medicines due to the lack of scientific evidence on their efficacy. They also argued that scientific medicine is judged to be evidence-based and is defined as therapy that has been shown to improve well-defined patient outcomes by well-designed randomised, controlled clinical trials.

However, procedures such as coronary artery bypass grafts and bedside pulmonary artery catheterisation were performed on millions of patients before evidence of their efficacy was confirmed. Therefore, James and Dalen (1998) proposed that the reason most unconventional therapies are not evidence-based is because they were introduced thousands of years before the advent of the randomised, controlled clinical trial. For example, traditional Chinese medicine is one of the oldest forms of practice and has remained largely unchanged for over 2,000 years. Herbalism, as previously mentioned, has been used since prehistoric times and homeopathy is based on Samuel Hahnemann’s 18th-century concept that ‘like cures like’.

James and Dalen (1998) proposed that if a therapy that has arisen outside of the mainstream of modern western medicine can pass the same level of scrutiny that we expect of conventional therapies, it should be integrated into mainstream medicine.

Although there has been some discussion on the integration of complementary and conventional medicine, the UK appears to have fallen behind in formulating a policy that promotes integration by developing systems for the regulation of treatments and the standardisation of drugs.

Bodeker (2001) pointed out that many developing countries integrate traditional and complementary medicine into their national health care (Box 2). He suggested that the simultaneous use of both types of treatment is so common that their individual contributions are difficult to assess.

In the UK, conventional medicine remains the dominant method of health care. Bodeker (2001) suggested that when conventional medicine is dominant, the essential features of complementary therapy will be lost and professional conflicts could arise. This has resulted in high fees being charged for some forms of complementary therapy, which are out of reach for some sections of society. Conversely, in many developing countries the dominance of traditional medicine means that only a minority of the population has access to conventional medicine. Promoting the integration of these services would ensure the standardisation of traditional medicine and address the inequality of access in both systems.

Implications for future practice

There are many reasons people turn to complementary therapies. Zollman and Vickers (1999) found that those who seek alternative remedies usually have long-standing conditions for which conventional medicine has not provided a satisfactory solution, either because the therapy is not sufficiently effective or because it causes adverse side-effects. They found that women aged between 35 and 60 years are the highest users of complementary therapies.

Ernst’s (1999) survey demonstrated that many individuals use the two systems concurrently. Shaw (1998) suggested that the growing public acceptance of herbalism is occurring because it is generally perceived to be more natural, with fewer side-effects.

In addition, the availability of these products in supermarkets, health food shops and the internet has increased the perception that they are safe. Shaw (1998) found that, like the US population, British patients are reluctant to inform their doctors that they are using herbal remedies for fear of an unfavourable reaction.

Given the reluctance of patients to inform their doctors that they are taking herbal medicines, and the lack of guidance given when purchasing these products, it is important to highlight that there have been numerous reports of possible interactions between herbal remedies and prescription drugs, although, again, it is often difficult to prove because of the uncertainty of the composition of herbal products.
As well as highlighting the ethnic differences in the use of complementary therapies, Ernst’s (1999) survey demonstrated the growth in the demand and availability of these services in the UK. This has inevitably resulted in many individuals combining conventional medicine with complementary therapies.

Conclusion
The introduction of regulations for standards of practice and manufacturing, supported by legislation, is essential if complementary therapies are to develop and eventually be integrated within conventional medicine. The growing demand for, and availability of, these products has clearly outpaced the development of the policies necessary to ensure safety and efficacy. However, the increasing interest in complementary therapies does not necessarily pose a threat to conventional medicine. The studies carried out by Zollman and Vickers (1999) and Ernst (1999) suggest that there has been a change in our culture, and that people are now more willing to become active in making decisions about their health, seeking out prevention rather than cure.

The current lack of regulation on the manufacturing and availability of herbal products means that the potential for adverse effects and possible drug interactions is unknown. Many products are sold over the counter, but people are not advised of any potential problems associated with them. Therefore, although there is a willingness for individuals to take responsibility for their own health, they are not being afforded the opportunity to base their decision on all the available information.

Many herbs form the basis of modern pharmaceuticals. However, many treatments are dismissed because of the lack of scientific evidence. Standardising practice and manufacturing procedures would inevitably improve the consistency and potency of herbal products, thus making it easier to research their effects.

James and Dalen (1998) highlighted the importance of acknowledging the potential of a therapy that has arisen outside mainstream modern western medicine and have suggested that if it can pass the same level of scrutiny that is expected of conventional medicine, it should be integrated.

Many people who seek complementary therapies have chronic, difficult-to-manage diseases and have found conventional medicine to be either ineffective or to have unacceptable side-effects. This is an important finding because it allows practitioners of conventional medicine to acknowledge that any form of intervention might be ineffective and that an individual’s belief in a treatment has a significant impact on its effectiveness.

The reluctance of patients to inform their doctors that they use a complementary therapy suggests that the two systems are perceived as being entirely different, even opposing. Bodeker (2001) proposed that the introduction of suitable training in medical schools would enhance the sharing of experience.

**REFERENCES**


**BOX 2. INTEGRATION OF TRADITIONAL MEDICINE IN DEVELOPING COUNTRIES (BODEKER, 2001)**

- China – 95 per cent of all general hospitals have traditional medicine departments that treat about 20 per cent of outpatients daily.
- South Korea – has set a goal for full integration of western and oriental medicine by 2001.
- India and Africa – have set up systems for the standardisation of drugs and the regulation of traditional medicine.

However, Johns Cupp (1999) reported interactions between selected herbal remedies and prescription drugs. She also pointed out that adverse side-effects and drug interactions are not well characterised. This study is significant because it highlighted the importance of medical practitioners becoming more familiar with, and inquiring about, the use of herbal products as part of the patient’s medical history, particularly in the light of Ernst’s (1999) findings that 300 patients indicated they would not inform their doctor about using complementary therapies and that half would try such treatments before visiting their doctor with any given complaint.

Many herbs are regarded as safe, over-the-counter products. However, many are supplied only by medical practitioners or herbal practitioners, for example ephedra (ma huang).

Data from Ernst’s survey (1999) also determined that there were distinct ethnic differences in the use of complementary therapies. Although 68 per cent of the 300 patients who were surveyed commented that they had used some form of complementary therapy, this figure was higher for members of African/Caribbean and Asian populations.

Acupuncture was the most popular treatment for Caucasian patients and herbal remedies were the most frequently used therapy by African/Caribbean and Asian patients. Interestingly, half of these remedies were obtained from the country of origin.

Shaw (1998) suggested that although the reported benefits of these therapies should not be overlooked, caution should be exercised because countries such as China and India, which have well developed systems of complementary therapy, may use ingredients that are judged to be toxic or restricted in the UK. For example, there have been numerous reports of trace elements of lead in complementary medicines from the Indian sub-continent and arsenic and mercury in Chinese medicines (Shaw, 1998).

With increasing numbers of new immigrants in the UK, there are clear implications for future practice; for example inquiring about a patient’s prescription and non-prescription medication during a consultation and documenting their use. This would provide not only a record of possible adverse effects, but also offer a valuable insight into their purpose.