

Herbal remedies and alternative medicines have been used around the world throughout history; however until recently there has been little scientific investigation into the safety or effectiveness of these therapies.

In 1994 the Dietary Supplement Health and Education Act (DSHEA) categorized herbal products as foods rather than drugs. This means that the law does not require that herbal products be tested in the same way as drugs to prove that they are safe and provide specific health benefits. DSHEA limits the claims that herbal producers can make about their products, but blanket statements such as “improves immune function” or “promotes liver health” are allowed to be made without any scientific evidence. Since the passage of this act the retail sales of herbal products has risen from \$1 billion per year in 1994 to \$17.1 billion in 2000 with anticipated increases between 10 and 25% annually. Unfortunately these sales are largely based on unproven claims of effectiveness and the general misconception that natural means safe.

Currently there is no standardization of herbal products. This potentially means that even though the label on a bottle of garlic tablets claims that there are 500mg of active ingredient per tablet, there may in fact be no garlic in the tablet or as much as 10 times the stated amount. One study published in *The American Journal of Medicine* analyzed 25 available ginseng products and found a 15 to 200 fold variability in the concentrations of the two components known to be biologically active; ginsenosides and eleutherosides. Another study of commonly available echinacea products found some to contain no echinacea at all. Even if you're getting the product that you think you're getting, you may also be getting something that is not on the label. A 2004 study of imported foreign herbs available in the Boston area found toxic levels of mercury, arsenic and/or lead in one out of five of the products that were tested. Other studies have found measurable amounts of prescription medications in products that claim to be all natural herbal supplements.

Of the top 10 herbal products sold in the United States, only 4 (Garlic, Ginseng, St. John's Wort and Saw Palmetto) have ever shown a statistically significant beneficial effect (as reported in *The American Journal of Medicine* on April 1, 2004). It should be noted that these same four herbs have also been associated with significant negative side effects including damage to the liver and interactions with prescription medications. The few studies that have been conducted to evaluate the effectiveness and safety of herbal medications have very frequently had serious flaws. One of the most common is the small size of the study population. Drugs that are approved by the FDA must pass at least three phases of human trials before they are deemed safe for a physician to prescribe.

The manufacturers of herbal products often cite the fact that various forms their products have been used by native populations throughout history. While this may be true in some instances, it is certainly guaranteed that the traditional use of these products was much different than the supplements that are available today. Traditional herbal remedies were often weak teas or various preparations of entire plants or plant parts.

It is also worth noting that these traditional remedies have not always been without negative effects of their own. One such instance is the traditional use of Kava tea which has been shown to cause liver toxicity and is now banned in several countries. The supplements available today are frequently more concentrated or extracted from seeds or roots in much different forms than were available to traditional users.

It is important for those interested in using herbal therapies to understand that one third of the prescription drugs on the market are derived from plant sources. The chemicals present in herbs are not nontoxic just by virtue of being from nature. Some of the most potent chemotherapy agents used to treat cancer patients are derived from plant sources. When considering taking an herbal supplement it is vitally important to obtain information from several objective sources. Getting information from the manufacturer or the sales representative is not sufficient because these sources are not medical experts and have conflicts of interest. Individuals interested in herbal therapies should first speak with their personal physician to ensure that they are not taking any prescription medications that may interact with herbal therapies as well as making sure that any illnesses that they may have will not predispose them to an adverse reaction. It is also important to speak with the pharmacist who regularly fills their prescriptions. Even if the interested individual is not taking any prescription medications, pharmacists have many resources available to them, making them an ideal resource about these products, and they can help customers make informed decisions about selecting herbal therapies.

If you have decided to take an herbal supplement there are some ways to help insure that you are choosing a safe product. The most important way is to be honest in your discussions with your physician and pharmacist. One Canadian study reported that patients are sometimes hesitant about discussing alternative therapies with their physicians, and up to 40% of physicians fail to ask patients if they are taking herbal supplements. This can be a very dangerous practice as evidenced by the fact that patients taking the popular supplement St. Johns Wort for depression have been prescribed other medications to treat their depression and ended up developing a life threatening condition called serotonin syndrome due to the interaction between herbal and prescription products.

Additionally, you can increase the safety of herbal supplement use by choosing your products carefully. There are two independent non-profit organizations that are involved in certifying herbal supplements.

The United States Pharmacopeia (USP) has started a voluntary program where manufacturers can submit their products for testing. Products bearing the USP certified symbol have been independently evaluated for the following qualities;

1. All the ingredients listed on the label are present in the product in the specified amounts.
2. The supplements do not contain harmful levels of any contaminant.
3. The supplement will break down in the body and release the ingredients to be absorbed.

4. The supplement has been made under the good manufacturing practices (GMP) that are mandated of drug producers by the FDA.

Although USP is an independent not for profit organization, it is the only certifying organization evaluating herbal supplements whose standards are enforceable by the FDA.

The other organization certifying herbal products is the NSF (previously known as the National Sanitation Foundation). The NSF is an independent not-for-profit organization that has been involved in certifying food, water and environmental products since 1944. Currently they have a program in place with the National Football League (NFL) to certify dietary supplements and assure that players will not test positive for performance enhancing drugs after using certified dietary supplements. The NSF also certifies herbal products and dietary supplements available to the public for the following qualities;

1. Verification that the ingredients on the label are actually in the product.
2. Assurance that there are no components in the supplement that are not openly disclosed on the label.
3. Assurance that there are no unacceptable levels of contaminants present in the supplement.

Lists of products that have been certified by the NSF are available at www.nsf.org . Consumers can also call toll free to 1-800-NSF-MARK to obtain information about certified products. Products that have been certified by either of the previously mentioned organizations will have one of the following symbols on the label;



Inform yourself before starting herbal therapy. Obtain information from several reliable, objective sources and don't be afraid to discuss this topic with your healthcare providers. Responsible healthcare providers should be willing to discuss herbal therapies with you and provide individualized guidance regarding your health and the potential effects that herbal therapies may have for you. The more information you can gather, the more likely you will be to have a safe experience with herbal therapies.

References

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