

evidence-based herbal therapies for mental illness

ST. JOHN'S WORT, GINKGO, KAVA AND VALERIAN

evidence-based herbal therapies

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Exercise has long been recognized as a successful alternative/supplement to drug therapy for depression¹. The importance of regular exercise in the treatment of mental illness should be constantly emphasized, as a benign and effective treatment for many forms of mental illness for many people. And many cultures have developed folk herbal remedies for various symptoms of mental illness. An evidence base now is being developed for some of these "alternative" herbal remedies. **This pamphlet summarizes the evidence base for herbal therapies for mental illness, as it now exists.**

A recent article by **Adriane Fugh-Berman, M.D.** and **Jerry M. Cott, Ph.D.** (George Washington University School of Medicine and the National Institute of Mental Health, respectively) has documented the evidence base for the use of alternative drug therapies for mental illness. Since alternative remedies are used by about half of consumers, it is essential that this information be widely disseminated so that consumers and families affected by mental illness and providers of mental health care can properly discuss and evaluate these alternatives as part of the treatment dialogue. The

information in this pamphlet is qualified by reference to the complete article, "Dietary Supplements and Natural Products as Psychotherapeutic Agents," *Psychosomatic Medicine* 61:712-728 (1999), of which it is a summary².

The alternative therapies which Fugh-Berman and Cott recognized as evidence-based for treatment of mental illness were:

- Use of St. John's wort (*Hypericum perforatum*) for depression
- Use of ginkgo (*Ginkgo biloba*) for mild dementia
- Use of kava (*Piper methysticum*) for anxiety and stress
- Use of valerian (*Valeriana officinalis*) for insomnia and stress
- Use of folate, tryptophan and phenylalanine to enhance the effectiveness of conventional anti-depressants
- Use of S-adenosylmethionine for depression
- Use of fish oil containing omega-3 polyunsaturated fatty acids, particularly docosahexaenoic acid, for mood stabilization

The article concluded that **there is a strong evidence base for the use of** the first four of these herbal therapies: **St. John's wort, ginkgo, kava and valerian**, for some forms of mental illness and

for some people. These four will be described in this pamphlet. Evidence for the use of the **remaining** listed alternative therapies is **promising, but not strong**. The other alternative therapies evaluated **but not found to be evidence-based** at this time for treatment of mental illness included: Ginseng, passion flower, skullcap and vitamins.

This pamphlet is not intended to encourage the use of these herbal therapies. However, since many users of alternative therapies currently do not inform their physicians of their use, this pamphlet is intended to help open a dialogue between consumers and families affected by mental illness and providers of mental health care, based on the evidence that is now available. **Counseling about side effects and herb-drug interactions is very important to avoid potential trouble**. Based on the evidence now available, physicians should be prepared to discuss herbal therapies with persons and families affected by mental illness. Consumer autonomy and family responsiveness are best fostered in an atmosphere of understanding and candor.

st. john's wort for depression

St. John's wort (*Hypericum perforatum*) is a shrubby perennial plant with numerous bright yellow flowers. It is commonly found in dry, gravelly soils, and grows in sunny places. It is a common roadside plant throughout the United States, Europe and Asia and has a long history of folk use, going back to ancient Greece. Its Latin name, *Hypericum perforatum*, is derived from the Greek and means "over an apparition," a reference to the belief that the herb would cause evil spirits to depart. The plant was used extensively in the middle ages and was associated with the supplication of St. John the Baptist.

In addition to use of its leaves and flowers for depression, St. John's wort has a long history of use in the treatment of wounds, as well as kidney and lung ailments. However, by far the most studied use is for depression, as a **traditional "nerve tonic."** A recent meta-analysis evaluating twenty-three randomized trials (of which twenty were double-blind) involving 1757 outpatients with mild-to-moderate depression showed improvement in all groups. Improvement in depressive symptoms (usually measured by the HAM-D or Clinical Global Impression scale) was observed in all groups. In eight treatment-controlled trials, clinical improvement in those receiving St. John's wort did not differ significantly from those receiving tricyclic anti-depressants.

ADVERSE EFFECTS AND INTERACTIONS

Side effects reported for St. John's wort are generally mild. **Nausea and fatigue** have been reported, and the most predictable effect seems to be **photosensitization** (sensitivity to light), especially in fair-skinned people. St. John's wort appears to increase the risk of serotonin syndrome in those taking serotonin reuptake inhibitors or some of the new generation anti-psychotic medications, such as nefazodone³. St. John's wort should always be taken with food, as it may cause mild gastric upset in sensitive individuals. In summary, taken with appropriate caution and monitoring to find the minimum effective dosage, and with care of the stomach and attention to shelter from excessive sunlight, St. John's wort has been shown to be an effective treatment for depression.

ginkgo for mild dementia

Ginkgo (*Ginkgo biloba*) is a deciduous tree that lives as long as a thousand years, and may grow to a height of 100 to 122 feet with a diameter of three to four feet. It has short horizontal branches with short shoots bearing fan-shaped leaves that measure five to ten centimeters across. Because the leaf resembles that of the maiden-hair fern, the ginkgo has been called the “maiden-hair tree.” It bears a foul-smelling inedible fruit and an edible, ivory-colored inner seed, which is sold in market places in the Orient. The green leaves are medically effective. *Ginkgo biloba* is the sole surviving species of the family *Ginkgoaceae*, and can be traced back more than two-hundred million years to the fossils of the Permian period. In a real sense, it is a “living fossil.”

Once common in North America, Europe and Asia, the ginkgo was eradicated by the ice age in all regions of the world except China, where it has long been cultivated as a sacred tree. The ginkgo is now planted throughout much of the United States as an ornamental tree partly because it is highly resistant to insects, disease, and pollution, and it is frequently used as a street tree in American cities. Medicinal use of ginkgo can be traced back to the oldest Chinese materia medica, circa 2800 B.C.E. Its modern medicinal use is for **treatment of vascular insufficiency (by stabilization of membranes)**. The effect on dementia is said to derive from the ability of ginkgo to stabilize membranes in the brain

and nerve cells. Brain cells contain the highest percentage of unsaturated fatty acids in the membranes of any cells in the body, making them particularly susceptible to free radical damage.

According to Fugh-Berman and Cott, ginkgo is an **effective treatment for mild dementia**. They found support for the use of ginkgo for dementia from four credible double-blind studies and a meta-analysis of forty controlled trials of treatment for “cerebral insufficiency.” In twenty-six studies, the group receiving ginkgo did significantly better than the control group. In thirteen studies, there was a trend toward a benefit, but not on all effect measurements. Most of the studies were deemed to be of poor methodological quality, but the authors of the meta-analysis concluded that of eight well-performed trials, all showed significant benefit for the ginkgo group.

ADVERSE EFFECTS AND INTERACTIONS

Fugh-Berman and Cott concluded that side effects from the use of ginkgo are rare. Side effects include **nausea, headache, stomach problems, diarrhea, allergy, anxiety, and restlessness**. But ginkgo does have **anticoagulant effects** and in rare cases has been associated with serious bleeding problems. Fugh-Berman and Cott suggest that caution be used in patients with clotting disorders who are receiving any anticoagulant therapy, such as warfarin. Careful monitoring of use of ginkgo is essential.

Thus, *Ginkgo biloba* is an effective treatment for mild dementia, whether or not associated with Alzheimer’s disease. Significantly, one recent study demonstrated effects on depression as well as dementia.

kava for anxiety and stress

Kava (*Piper methysticum*) is a member of the pepper family. It is a slow-growing perennial that generally resembles other members of the family *Piperaceae*. The root-stock has been used for many years by Oceanians (Melanesians, Micronesians, and Polynesians), as a **social lubricant, in lieu of alcoholic beverages**. Usage apparently predates written history in Oceania. It was first described by Captain James Cook in the account of his voyage to the South Seas in 1768. According to the account given by George Forster, a naturalist on Cook's second pacific voyage, kava was traditionally made in "the most disgusting (sic) manner that could be imagined" by having several people chew on the root, spitting the macerated mass into a bowl, where coconut milk was poured upon it, then straining it through a quantity of fibers of coconuts, squeezing the fibers to assure that all juices mixed with the coconut milk, and decanting what liquid remained into another bowl. This "nauseous (sic) stuff" was then swallowed before it could ferment, distinguishing it from other native preparations of alcohol-based social lubricants. Kava is now generally prepared through root tinctures and extracts, with less ceremonial appeal, except in Oceania, where the traditional preparation is still used.

Commonly used medicinally for anxiety and insomnia in Europe and the United States, kava was found by Fugh-Berman and Cott to be **safe for short-term relief from anxiety and stress**. Kava

was shown to be effective in six credible double-blind studies. While there is no current credible meta-analysis of kava, its widespread and longitudinally significant use in Oceania as a ceremonial and a tranquilizing beverage, without significant side-effects other than an occasional upset stomach, testifies to its benign qualities.

ADVERSE EFFECTS AND INTERACTIONS

Fugh-Berman and Cott found that therapeutic doses could result in mild **gastrointestinal complaints** or allergic skin reactions. Use on a chronic basis of up to 100 times the therapeutic dose was found to result in a skin and eye irritation known as kava dermopathy, a form of **scaly dermatitis**. Monitoring to determine the minimum effective clinical dosage is important to avoid such effects. Significantly, kava dermopathy is usually treated effectively by stopping kava consumption.

In moderation, kava drinkers relate a pleasant sense of tranquility and sociability on consumption. Drinking about a half of a coconut shell of traditionally prepared kava is, however, enough to put most people into a dreamless sleep within about thirty minutes. Happily, unlike alcohol and other sedatives, kava does not produce a morning hangover.

valerian for insomnia and stress

Valerian (*Valeriana officinalis*) is a perennial plant native to North America, Europe and Asia. The yellow-brown tuberous root-stock produces a flowering stem of between two and four feet in height, with small rose-colored flowers. Once again, the root-stock is used medicinally. It is an odoriferous, popular European botanical medicine used for its mild sedative and tranquilizing properties.

Valerian's primary traditional use has been for the **relief of insomnia**, including that brought on by mental illness and anxiety. More recently, it has been used for symptoms of stress. Valerian is approved for food use by the United States Food and Drug Administration. Although few clinical trials on sleep can be found in the literature, Fugh-Berman and Cott cited four studies with persuasive results. However, they stressed that the distinctive odor of valerian may present difficulties in designing a plausible placebo for a controlled trial. And it should be noted that all of the studies were quite small, and two additional studies produced more ambiguous results.

ADVERSE EFFECTS AND INTERACTIONS

The standard test of 100 times the therapeutic dosage does not produce any documented side effects in rats. In humans, valerian appears to be **quite safe**. Valerian may actually mitigate the effects of alcohol, and one unusual double-blind study in human volunteers showed that valerian users maintained their concentration in spite of alcohol consumption.

conclusion

In conclusion, use of St. John's wort, ginkgo, kava, and valerian for relief of symptoms of depression, dementia, anxiety /stress and insomnia/stress, respectively, is supported by clinical evidence. However, the dosage needs to be monitored, and counseling about interactions and side-effects is very important. Use of alternative treatments should be discussed between a person desiring to use them and any professional providing treatment, as part of an effective treatment regimen. Professionals need to recognize that consumers have ready access to alternative treatments and that failure to discuss them may lead to failures in the treatment process. Candid discussion of these and other evidence-based alternative treatments should become a routine aspect of contemporary treatment of mental illness.

ENDNOTES

- 1 See, e.g., Adriane Fugh-Berman, M.D., *Alternative Medicine: What Works* (Williams and Wilkins 1997), at p. 97.
- 2 The background information in this pamphlet is derived from Michael T. Murray, *The Healing Power of Herbs; the Enlightened Person's Guide to the Wonders of Medicinal Plants* (Prima Publishing 1992).
- 3 See, Adriane Fugh-Berman, M.D., "Herb-Drug Interactions," *The Lancet* 355:134-38 (2000).

acknowledgement

The state mental health planning and advisory councils have joined together to form the National Association of Mental Health Planning and Advisory Councils (NAMHPAC). Federal law requires the establishment of mental health planning councils to review the state applications for block grant funding, to serve as advocates for adults with serious mental illnesses and children with serious emotional disturbances, and to monitor and evaluate state mental health planning systems. Although these activities are mandated, many states do not provide funding to support them. In many cases, this lack of funding, combined with council members' often short tenures, prevent these organizations from realizing their full potential to affect service delivery and consumer and family empowerment. NAMHPAC intends to provide technical assistance to these organizations in the areas of exemplary practices, organizational development, and information sharing. In addition, NAMHPAC provides a national presence on mental health policy issues on behalf of the state planning and advisory councils.

Joseph N. de Raismes, III, J.D., Chair of NAMHPAC, prepared this brochure for NAMHPAC. Adrian Fugh-Berman, M.D. served as reviewer. Photographs were taken by Adrian Fugh-Berman and Fredi Kranenberg. Their assistance is gratefully acknowledged.

