FINDINGS **Your selected document**

▶ Traditional medicine in the treatment of drug addiction.

Lu L., Liu Y., Zhu W. et al. Request reprint

American Journal of Drug and Alcohol Abuse: 2009, 35(1), p. 1–11.

A China-North America funding and authorship collaboration has assessed the evidence for the main traditional herbal remedies in addiction treatment, and made a new assessment of the role of acupuncture; generally, 'promising' was most positive verdict it could reach.

Abstract With joint Chinese and North American funding, a Sino-US author collaboration has reviewed evidence for the effectiveness and modes of action of traditional (not just Chinese) herbal remedies and acupuncture in the treatment of addiction to alcohol or other drugs. The reviewers accessed both Chinese and English language texts and databases and examined texts from before the advent of computerised databases.

They found few clinical trials have tested the effectiveness of herbal remedies. In summary, Radix Puerariae was the most promising for alcoholism, creating aversive physical reactions after drinking similar to those caused by disulfiram (Antabuse). There is some evidence for peyote in the treatment of alcoholism among Native Americans. Evidence is lacking for ginseng and kava, and the latter can be toxic to the liver. Thunbergia laurifolia can protect against alcoholic liver toxicity. Human clinical trial evidence is also lacking for Withania somnifera and Salvia miltiorrhiza, though animal experiments suggest that respectively they can reduce morphine tolerance and alcohol intake. Selected details below.

Radix Puerariae Also known as Kudzu, this is root of a plant native to eastern Asia and used for treating alcohol-related problems almost a thousand years ago. In animals its active ingredients have suppressed alcohol consumption. Two controlled clinical trials in human beings respectively found no impact on alcohol craving or sobriety, or a reduction in beer intake among heavy drinkers. The ingredient daidzin prevents the oxidation of acetaldehyde produced in the body when alcohol is metabolised, creating unpleasant physical reactions like those due to disulfiram. Several other effects on the brain's neurotransmitter systems may also be useful in treating addiction.

Ginseng The two major types of ginseng are Panax ginseng (Asian ginseng) and Panax quinquefolium (American ginseng). Panax ginseng modulates the neurochemical effects of some drugs, but no studies have tested whether this affects the degree to which animals or human beings repeatedly consume these substances. Panax quinquefolium, and specifically PF11, an active ingredient not present in the other form of ginseng, also modulates the neurochemical effects of some drugs, and does so in ways which suggest that it might reduce relapse in methamphetamine and opiate dependence and protect against methamphetamine-induced neurotoxicity.

Withania Somnifera Commonly called Ashwagandha, this medicinal plant is popularly known as 'Indian ginseng' because its biological effects are similar to those of Panax ginseng. It is widely used within the ancient Indian Ayurvedic medical system and as a home remedy for a range of problems. In one animal study it was found to attenuate the development of tolerance to morphine's analgesic effects and to suppress certain withdrawal symptoms. It may have promise as a non-analgesic herbal medicine for stress-induced relapse in drug abuse and dependence.

Kava Kava is commonly used by Pacific Islanders and indigenous Australians and has been used as a folk medical aid to stopping smoking or drinking. Human clinical research suggests it can reduce craving and promote abstinence in drug dependent patients. Animal studies have demonstrated relaxant, anaesthetic, anti-anxiety, and anticonvulsive properties. Because widely used for a long time, kava was thought to be safe, but has recently been associated with liver toxicity.

Tabernanthe iboga and **Voacanga Africana** Both contain the active ingredient ibogaine, used by indigenous peoples in low doses to combat fatigue, hunger, and in higher doses as a sacrament in religious rituals. Anecdotal reports and a preliminary investigation suggest it attenuates opiate withdrawal symptoms and reduces drug cravings, but no clinical trial in drug dependent patients has yet been conducted. In animals it has been shown to curb morphine and cocaine consumption. It seems to act by affecting several of the systems which transmit signals between nerve cells, but these actions also lead to undesirable side-effects. New synthetic variants are reported in animal studies to have potent anti-addiction properties with greater safety.

Thunbergia laurifolia Linn Though an anti-alcoholism treatment in Thai traditional medicine, no published clinical trial has examined this herb's effectiveness in treating substance use problems. In animals it protects against alcohol-induced liver damage and has been shown to affect central nervous systems and mechanisms related to the effects of alcohol and other drugs, in particular those involving the neurotransmitter dopamine.

Salvia miltiorrhiza Popular in Chinese traditional medicine, 'Danshen' as it is known is a folk treatment for several physical complaints and insomnia. In animal experiments it has curbed alcohol intake, seemingly due to its active ingredient miltirone which attenuates some of the neurochemical consequences of alcohol withdrawal. This ingredient also has certain amphetamine-like effects on animal brain tissue.

Banisteriopsis caapi This Amazonian woody vine is the basis for the hallucinogenic drink known as ayahuasca, a brew which enables its hallucinogenic ingredient DMT to be active via the oral route. Some religious groups in Brazil use it to treat alcoholism. In two clinical reports it was described as a possible treatment for cocaine addiction and found to reduce the desire for drugs such as alcohol, cocaine and amphetamines.

Corydolis yanhusuo Used in traditional Chinese medicine as an analgesic, l-THP, Corydolis' primary active chemical, has in animals been found to attenuate opiate and opiate withdrawal effects and reduce cocaine consumption. In China a clinical trial involving recovering heroin-dependent patients found that l-THP reduced drug craving, withdrawal syndromes, and relapse rates. It acts on dopamine-based neurotransmitter systems in ways which suggest a potential for affecting the development of tolerance, dependence, and sensitisation to opiate-type drugs and for the 're-normalisation' of brain function disrupted by chronic drug dependence.

Lophophora williamsii Known as peyote, this cactus grows wild in Mexico and the southern USA. It contains the hallucinogenic chemical mescaline and is commonly used by several native American tribes, among whom it is consumed as a religious sacrament. Its hallucinogenic properties have also been used in psychotherapy at a US public hospital to precipitate rapid transformations in how drinkers feel and behave toward alcohol.

Acupuncture is a traditional technique developed over two thousand years ago based on

the insertion of needles or more recently electrical stimulation, based on the Chinese medical theory that diseases are caused by blockages in the flow of energy within the body. It is now widely used to treat withdrawal syndromes in substance use treatment centres across the United States and Europe. There is evidence that it is effective (and for how it is effective) in ameliorating opiate withdrawal symptoms, but also that it is relatively ineffective for alcohol and nicotine withdrawal or in preventing post-withdrawal relapse, and no large studies have supported its efficacy for cocaine addiction in well-designed clinical trials. Further details below.

In clinical studies acupuncture's utility has been best established for the amelioration of opiate withdrawal symptoms, for which it has been found superior to clonidine and to have relatively few side effects. These effects have also been shown in animals, and are presumed to be due to the technique's impact on dopamine-based neurotransmitter systems. Combining acupuncture with herbal medicine has been found to greatly attenuate heroin withdrawal symptoms. The few clinical trials of acupuncture in the treatment of cocaine addiction have produced promising but mixed results, possibly due to differences in the methodologies of the studies. Given these findings, acupuncture cannot yet be considered an effective adjunct to treatment for dependence on cocaine or other stimulants. Extensive research in the treatment of alcohol dependence has found anti-relapse impacts and improved quality of life, though the most recent study found acupuncture was not superior to aromatherapy in reducing alcohol withdrawal symptoms.

The reviewers concluded that acupuncture does ease opiate withdrawal, and that traditional herbal treatments can compliment pharmacotherapies for drug withdrawal and possibly relapse prevention with generally less expense and perhaps fewer side effects. Both acupuncture and herbal treatments need testing as adjuncts which might mean that standard pharmacotherapies can be implemented in lower doses and for shorter times.

FINDINGS There have been several previous reviews of the effectiveness of acupuncture (run this search in the Findings database for a selection) but fewer of herbal remedies, making this review a valuable extension to the literature, especially for the way the different preparations are separately analysed. Together with previous reviews, it suggests acupuncture may relieve withdrawal from opiates (reactions to which are strongly influenced by the patient's anticipations and fears), but probably mainly due to placebo effects related to the expectations of patients and interactions with therapists. It also perhaps helps attract and retain people in treatment. In respect of Chinese herbal remedies, the evidence from the featured study and other reviews (▶ below) seems greatest in respect of ameliorating opiate withdrawal symptoms, explored more fully below. Apart from the specific disulfiram-like action of Radix Puerariae when alcohol is drunk, other applications seem mainly to have only indirect scientific backing. Observed effects may reflect the common sedating and calming properties of the compounds rather than any specific impact on withdrawal or addiction.

The best established impact of herbal remedies – ameliorating opiate withdrawal symptoms – should be placed in the context of alternative pharmacotherapies. Though reviewers (▶ below) are not entirely in agreement, it seems that some traditional Chinese herbal remedies alleviate opiate withdrawal symptoms to roughly the same degree as non-opiate drugs (lofexidine and clonidine) which subdue some but not all of the body's reactions to the sudden absence of opiates. Experience in Britain and internationally (1 2 3) suggests that reducing doses of the opiate-type drug buprenorphine generally provides the best combination of safety and effectiveness in curbing withdrawal

symptoms and completion of the withdrawal process. Since it is superior to clonidine, it is likely also to be superior to herbal remedies. These remedies and other drugs may be complementary to reducing doses of opiate-type drugs like buprenorphine, or form the major part of the therapy when opiate-type drugs are unavailable or considered unsuitable.

Despite limited findings of efficacy, the possibility remains that offering something concrete like acupuncture (even if it is a 'sham' procedure) helps attract people to services. Some studies have also suggested that doing something clients and staff believe is worthwhile can help retain patients in treatment. If this is the case, acupuncture could indirectly improve outcomes by increasing the patient's exposure to treatment's active ingredients. Just such a role was specified in recent guidance from England's National Treatment Agency for Substance Misuse on treatment intervention costing and on treatment systems. Such considerations may explain why despite no convincing evidence of efficacy, acupuncture continues to feature in many of the treatment plans developed by local partnerships responsible for commissioning treatment services in England. This could reflect an enthusiasm among service providers greater than that among service users. Between 2001 and 2003, a survey of community-based drug services in northern England found that despite the fact that three quarters of services already provided complementary therapies, for staff these topped the list of desired service developments, mentioned by 29% of those interviewed. In contrast, in broadly the same areas complementary therapies were mentioned by just 4% of service users; topping their specifications at around 20% each were lower waiting times, more resources and staff, and more psychological/counselling services.

The featured study's conclusions can be compared against those of other recent reviews. Some of the same authors published a review in 2006 which pointed out that despite some specific actions, most Chinese medicines offer sedation, pain relief, and anti-fatigue, anti-stress and anti-shock benefits. Though less effective in ameliorating opiate withdrawal than substitute drugs like methadone, the review found them at least as effective as drugs like clonidine and lofexidine, and moderately effective with limitations in treating patients with severe addiction. One particular value may be in tackling residual withdrawal symptoms not well controlled by some other drugs, such as insomnia, anxiety, and pain. Acupuncture is the review concluded inexpensive and safe and can be used for the prevention of opiate relapse, but how it works and what the best techniques are is unclear.

Like the featured review, another published in 2009 was hampered by the lack of rigorous human trials. It searched for studies of herbal and other traditional and alternative remedies in the treatment of substance dependence including alcohol and other drugs, and did not limit itself to randomised trials. Such evidence as there was amounted to little more than a few promising preliminary studies of acupuncture, of the herbal therapies kudzu and ibogaine, and of using electroencephalograms ('brain waves' or EEG) to feedback to the patient how their body is reacting, intended to facilitate greater control over those reactions, including control over relapse-precipitants like craving, withdrawal symptoms and stress.

Perhaps because it focused on the role of Chinese herbal medicine in relieving heroin withdrawal symptoms, a meta-analysis published in 2009 was more positive. It synthesised results from 21 randomised trials. Compared to clonidine and lofexidine, after the initial three days herbal remedies gave patients greater relief from withdrawal symptoms, and possibly at the end of treatment, also anxiety. Additionally, undesirable side-effects were no more or less frequent. When compared instead to reducing doses of opiate-type drugs, these gave better initial relief, but after three days herbal remedies were generally equivalent. These analyses combined studies of different herbal preparations, making it impossible to determine which was (the most) effective, and

all the trials were conducted in China. Covering similar ground, in 2008 a review of recent studies published in Chinese-language journals focused on three traditional Chinese patent medicines: Shenfu Tuodu, Fukang Pian, and Shifu Sheng. Basing itself on randomised trials, it found all three equivalent to clonidine or lofexidine in relieving heroin withdrawal symptoms, more effective than placebo pills or capsules, and to generally have no greater or less frequent side effects.

Too recent to be included in these reviews, in China a trial of a combination Chinese herbal product based primarily on Corydalis Rhizoma found it equivalent to lofexidine in alleviating heroin withdrawal symptoms. The same verdict was reached in a similar recent trial of Jinniu capsules, a preparation containing herbs and marine product extracts traditionally used in Chinese medicine.

Since the featured review collected its evidence, a British trial found ear acupuncture no better than a similar 'sham' procedure in relieving withdrawal symptoms or craving among opiate dependent patients being withdrawn as inpatients. The featured review's more promising conclusions seemed to derive from a single study. Perhaps partly because this study was not included, an earlier review found studies of acupuncture in the treatment of opiate addiction to have generally been unconvincing, and argued that such positive findings as there have been were due to placebo effects. The featured review's unpromising resumé of the evidence in respect of alcohol dependence was echoed by another review published in 2009 which had access to the Chinese (and other) language literature as well as English. The pattern of the findings suggested that if there are any benefits from acupuncture, they are caused not by the intended mechanisms, but by non-specific factors such as extra therapist contact time or the placebo effect of receiving what seems to be an active therapy. In 2006 a review conducted according to the rigorous Cochrane template found no evidence that ear acupuncture helps in the treatment of cocaine dependence, but commented that the quality of the studies was poor.

Last revised 21 February 2010

▶ Comment on this entry • ▶ Give us your feedback on the site (one-minute survey)

Top 10 most closely related documents on this site. For more try a **subject** or **free text** search

Treating pregnant women dependent on opioids is not the same as treating pregnancy and opioid dependence: a knowledge synthesis for better treatment for women and neonates REVIEW ABSTRACT 2008

The search for medications to treat stimulant dependence REVIEW ABSTRACT 2008

Auricular acupuncture as an adjunct to opiate detoxification treatment: effects on withdrawal symptoms ABSTRACT 2009

Antabuse reduces cocaine and alcohol use among opiate maintenance patients NUGGET 2001

Rapid opiate detox guarantees completion, but abstinence depends on what follows NUGGET 2002

A practical clinical trial of coordinated care management to treat substance use disorders among public assistance beneficiaries ABSTRACT 2009

Naltrexone implants after in-patient treatment for opioid dependence: randomised controlled trial ABSTRACT 2009

'Real-world' studies show that medications do suppress heavy drinking NUGGET 2005

Maintenance treatment with buprenorphine and naltrexone for heroin dependence in Malaysia: a randomised, double-blind, placebo-controlled trial ABSTRACT 2008

Failure to replicate positive findings on acupuncture NUGGETTE 2003