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Crocus Sativus Phytotherapy

SYNONYMS

Saffron

DESCRIPTION

For centuries, saffron has been one of the most valuable spices in the world. The pistils of the saffron crocus (*Crocus sativus*) are harvested manually and more than 100,000 pistils are needed to produce one kilo of saffron. Dried saffron has been used for thousands of years as a herb, colouring agent and medicine. The medicinal use mainly stems from traditional Chinese medicine and ayurvedic tradition, in which saffron was mainly used because of its mood-enhancing properties, for depression, anxieties, as an aphrodisiac and because of its positive effect on digestion. Nowadays, more and more traditional uses are being confirmed by scientific research. Especially the ingredients crocin and safranal have been found to have health-promoting effects, for example in depression, Alzheimer's disease, eye disorders (including macular degeneration) and obesity. Because of this, saffron is also a very relevant product in contemporary health care.

EFFECT

Crocic acid is a water-soluble carotenoid pigment that gives saffron spices their red-orange colouring. Crocin is a powerful antioxidant, just like safranal which is another interesting ingredient of *Crocus sativus*. Amongst other things, safranal is responsible for the characteristic, powerful aroma of saffron. Both substances inhibit the reuptake of (among others) serotonin, which improves the availability of serotonin in the nervous system, thereby contributing to the treatment of depression.

INDICATIONS

Depression

Mainstream antidepressants still have numerous adverse-effects; they affect motor performance, plus they cause a dry mouth, constipation, sexual dysfunction and can even lead to aggressive behaviour and suicidal tendencies. Furthermore, over time some patients no longer respond to these antidepressants, on account of which therapy adherence is not optimal. Several double-blind clinical trials in people suffering from mild to moderate depression have shown that the antidepressant effect of *Crocus sativus* is greater than that of placebo and is comparable to that of fluoxetine and imipramine. Analysis of bioactive fractions has revealed that crocin-1 is mainly responsible for the antidepressant effect. The mechanism of action behind this partially resembles that of imipramine; both inhibit the reuptake of serotonin, norepinephrine and dopamine. The initial effect already occurs within one week, but maximum effect is achieved after approximately 6 weeks.

Adverse effects of *Crocus sativus* are never or rarely reported, meaning this is a natural alternative in the treatment of mild to moderate depression with few or no adverse effects.

Alzheimer's disease and memory loss

Alzheimer's disease is characterised by the deposition of amyloid plaques in the brain. Oxidative processes stimulate the formation and deposition of these plaques. In vitro studies have revealed that saffron extract has very good antioxidative properties and it inhibits the formation of insoluble amyloids, depending on the dose and the duration of administration. The substance that mainly seems to be responsible for this is trans-crocic acid-4. In a double-blind study involving 54 patients with Alzheimer's disease, saffron extract was found to be as effective as Donepezil in mild to moderate Alzheimer's. Other studies have shown a generally positive effect on learning ability and memory; this appears to be on account of improved membrane permeability in the synapses as a result of the administration of *Crocus sativus*. Saffron, as well as the active ingredients crocetin and crocin, can therefore help in the treatment of Alzheimer's disease and other neurodegenerative disorders, especially in relation to damage to memory.

Macular degeneration and retinitis pigmentosa

Macular degeneration is a common disorder in the elderly and one of the main causes of blindness; the retina ages and gradually loses its function. The main cause of macular degeneration is the reduction in blood flow to the retina and the choroid. It has been discovered that crocin significantly increases the blood flow in both the retina and the choroid and helps to restore the function of the eye. This effect is because of crocin's ability to dilate blood vessels, which possibly enables the tissues in the eye to receive higher levels of oxygen and nutrients.

An in vivo study in animals has also shown that safranal, an important ingredient of (among others) the pistils of *Crocus sativus*, delays cell degeneration in photo receptor cells and reduces disorders of the network of blood vessels in the eye. The study also concluded that patients with retinitis pigmentosa can also benefit from the administration of safranal.

Weight loss

There is some proof that *Crocus sativus*, in the form of Satiereal (an extract of saffron distils that is available commercially) in combination with a diet, can lead to greater weight loss. Sixty healthy women who were moderately overweight participated in a randomised placebo-controlled and double-blind study which lasted for eight weeks, which measured the effect of taking Satiereal on the body weight and the frequency of snacking. Twice a day, half of the participants took 176.5 mg of saffron extract (Satiereal) each day, whilst the other half took a placebo. After eight weeks, it was found that Satiereal had achieved a significantly higher reduction in body weight. In addition there was a reduction in the average frequency of snacking. The mood-enhancing effect of saffron, which has a positive effect on satiation, may have been responsible for the reduced frequency of snacking. It can be concluded that supplementation with Satiereal can help to achieve dietary goals.

Aphrodisiac

Traditionally, *Crocus sativus* is an aphrodisiac. The use of this in erectile problems was confirmed in a small study involving 20 men.

CONTRA-INDICATIONS

Safety during pregnancy and when breastfeeding has not been investigated. Traditionally, extremely high doses of saffron were given to induce an abortion; it is not known whether normal doses of saffron cause the uterus to contract. Avoid use if allergic to saffron or one of the ingredients. In comparison to other herbs, allergic reactions after taking saffron are very rare.

SIDE EFFECTS

In human studies conducted with saffron extract no significant adverse effects were found at the doses that were administered. It has often been found that adverse effects that have been reported in the past can be attributed to the use of fake saffron (including *Colchicum autumnale*). In addition, saffron does not lower libido, which is often the case with mainstream antidepressants. Extremely high doses can, however, be toxic, but this has never been found at doses below 1,500 mg a day.

INTERACTIONS

Saffron extract can affect the effectiveness of other medication. Because of its effect, it is most likely to affect mood-regulating medication.

DOSAGE

Research has been conducted into depression and other mood disorders at doses that correspond with 0.3 mg of safranal (approximately 90 mg of Satiereal saffron extract) each day. Higher doses are used for weight loss (approximately 180 mg of Satiereal each day).

SYNERGISM

There are no known synergistic effects of *Crocus sativus*.

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