



Weight Management: Indo-Tibetan Alternatives

A weight-loss program should seek to restore health and help the body avoid regaining the lost weight. By Sabinsa Corporation



TRYING to get rid of extra pounds is a challenge, but one well worth taking. Aside from the aesthetic aspect, obesity causes numerous avoidable health problems. Dieting can create difficulties as well, and weight lost this way is often regained.

A weight-loss program should seek to restore health and help the body avoid regaining the lost weight. There are approximately 58 million adult Americans that are considered overweight (ie: men with more than 22 percent of body fat, and women with over 32 percent of body fat.)

This problem needs to be addressed whenever possible, and only then followed by discussion of the possible therapeutic approaches. This review will focus on the currently understood causes, with solutions offered by Ayurveda and Tibetan medicine.

WEIGHT LOSS AID

Most weight loss pharmaceutical aids are designed to decrease the amount of body fat, by either or all of the following mechanisms: decreasing appetite for food by increasing brain and systemic levels of neurohormones/neurotransmitters serotonin and cholecystokinin, decreasing food absorption, slowing down the rate of fatty acid synthesis

and increasing the rate of catabolism of fatty acids.

By comparison, Ayurveda and related Tibetan medicine are not designed to provide treatment aimed at a single mechanism to regain proper weight and health. By preference, any pharmacologic approach is combined with a behavioural and nutritional modification that goes beyond the commonly known guidelines.

The guidance for the behavioural and nutritional modification comes in Tibetan medicine by exercising the spiritual values of awareness, will power and compassion. The awareness represents knowledge, will power ability to implement that knowledge, and compassion the successful implementation of the knowledge.

This is unusual by western standards approach, but supports the mind and body effectively in addition to the herbal treatments. This combined approach can take care of the psychosomatic causes of overeating and normalise a sluggish metabolism.

In addition to balancing the body, the mind and the spirit several herbals derived from Indo-Tibetan materia medica have been used to help in controlling the body weight. The herbal substances used as helpful adjuncts in weight loss include *Garcinia gambogia*, *Sida cordifolia*, *Commiphora mukul*, *Piper longum*, *Triphala* and multicomponent herbal and mineral formula.

FULL CAPACITY

An extract from the rind of Indian fruit *Garcinia gambogia* of the tamarind family, traditionally used in preparation of Indian curry, it is the natural source of hydroxycitric acid or HCA. It is well known that this natural HCA can inhibit citrate lyase, a key

enzyme required for production of fatty acids, or building blocks of fatty tissue.

As a result, less dietary glucose is utilised for synthesis of body fat, and the dietary glucose which could be converted to fat is instead converted into its storage form - glycogen. That mechanism



of glycogen increase is of special interest, since it may, at least in theory, lead to several events in the body. This includes the feeling of satiety, and increase in energy reserves accessible on demand.

Both events are not only crucial for controlling the overeating, but may be potentially useful in alleviating adult onset diabetes, a condition known for overeating (polyphagia), obesity, chronic tiredness (low energy), and low levels of muscle glycogen.

COMBAT TEST

An extract from *Garcinia gambogia*, in the form of a compound formula containing



Piper longum is one of the herbal substances used as helpful adjuncts in weight loss

400 mg of calcium salt of hydroxycitric acid was tested in a double blind weight loss study on 60 patients.

The hydroxycitric acid formula or identical placebo capsules were administered three times daily, half an hour before meals. All patients were on a low fat diet of 1,200 kcal/ day and were instructed to exercise three times per week.

The mean weight reduction in the active treatment group was 14.11 lbs (6.4 kg), while the patients in the placebo group reduced their weight by 8.37 lbs ($p < 0.001$). The near infrared light (NIR) technique for evaluating the body composition determined that 87 percent of the weight loss in the active treatment group was due to fat loss, while the corresponding figure in the placebo group was 80 percent.

Blood pressure, total blood cholesterol levels and waist hip ratio were statistically reduced as a result of the active treatment ($P < 0.001$). The appetite score using the visual analogue scale was reduced in the active treatment group as compared to the placebo group ($p < 0.001$).

In a clinical weight-loss study with a form of HCA,

the 52 participating patients were also asked to report in a questionnaire on their energy levels in the course of their eight-week treatment. Each patient was taking 500 mg of calcium salt of HCA (corresponding to 750 mg of pure HCA daily).

The questionnaire was filled out before the study was started, and after four and eight weeks of the treatment. Analysis of the subjective perception of energy levels showed an increase in energy after four weeks, and eight weeks as compared to the energy levels at the onset of the study.

These subjective observations of increased energy levels should be further studied since they may reflect, or be a result of, increased levels of glycogen stores in the body.

Caution should be used with ephedrine containing herbals, because large doses may have harmful effect on the cardiovascular system and central nervous system.

THE MA HUANG EFFECT

Sida cordifolia is a source of thermogenic alkaloid ephedrine, similar to that derived from ma huang (*Ephedra sinica*). Ma huang plants contain one percent to 1.2 percent ephedrine, compared with 0.08 percent to 0.03 percent ephedrine in *Sida cordifolia*.

Ephedrine stimulates beta-receptors by increasing the levels of neurohormones like norepinephrine, which can lead to increased thermogenic response of the organism. This mechanism has been clinically tested in overweight individuals for its potential benefit in reducing the body weight.

When combined with caffeine, it contributes to the weight loss, by reducing appetite, accounting for 75 to 80 percent of weight loss, and increasing the thermogenesis, accounting for 20 to 25 percent of the weight loss.

The ingredient contains additional active principles—such as vasicine—which opens bronchial tree and improves respiration. Caution should be used with ephedrine containing herbals, because large doses may have harmful effect on the cardiovascular system and central nervous system.

Ephedrine may also increase the blood sugar levels, and should be used with caution by diabetics. Caution should also be exercised with products containing both caffeine and ephedrine, despite the clinically confirmed beneficial effects.

TRIPHALA TIPPER

Triphala fruits of *terminalia chebula*, *terminalia bellerica*, and *emblica officinalis* combined in equal proportions are known as Triphala. This formula and its individual ingredients are highly valued in Ayurveda, for aiding digestion, nutrient absorption



and body metabolism.

Triphala is used either alone or in a compound formula for a broad range of digestive disorders, including psychosomatic conditions affecting GI tract. It is an example of adaptogenic herbals, with a particular relevance to the digestive tract and the body metabolism.

This traditional formula in three variations was tested against placebo in a three-month weight loss study. The placebo and three active formulae were randomly assigned to 70 non-dieting patients, to be taken three times daily before meals.

On average, patients receiving the placebo lost 5.3 lbs of body weight within the course of the treatment. In addition to weight loss, the treated patients benefited from lowering blood cholesterol: 10 mg/dl (placebo), 20 mg/dl, 19 mg/dl and 15 mg/dl in the respective groups receiving active treatments.

THE THREE ACRIDS

Piper longum or long pepper in combination with black pepper and ginger in equal proportions is known as Trikatu or 'three acrids', in Sanskrit.

Long pepper alone or in Trikatu is utilised in treatment of the gastrointestinal conditions including heartburn, gas, constipation and poor absorption of nutrients. It has been used in combination with numerous herbs in normalising nutrient digestion and absorption, normalising metabolism and assisting in weight loss.

In addition to assisting nutrient digestion and utilisation in the metabolic process, long pepper may owe its weight reducing properties to alkaloid piperine. Oral ingestion of piperine resulted in increased secretion of neurohormones



Coleus forskohlii is a source of a diterpene alkaloid forskolin.

from a specialised organ in the body. Alkaloid piperine may also aid the body's thermogenic response by promoting thyroid hormone production.

Piper longum contains a minimum of one percent of alkaloid piperine, however, other yet to be identified components may also be responsible for its thermogenic action.

POWER UP METABOLISM

Coleus forskohlii is a source of a diterpene alkaloid forskolin. It is known as a compound with versatile biological action based on its ability to stimulate cyclic AMP.

The cyclic AMP (cAMP) is nicknamed a second messenger in mediating the hormonal activities in the body leading to increased metabolism, thermogenesis and energy expenditure. Typically, increase of cAMP leads to the subsequent activation of protein kinase. The protein kinase has been shown to activate an

enzyme lipase, which disposes of tryglycerides – known as the building blocks of fatty tissue.

The other factor relevant to the weight loss mechanism of forskolin, involves its thyroid stimulating action. This is comparable in strength to thyrotropin or TSH, which may also contribute to the increase in the metabolic rate and thermogenesis.

It may also be involved in the regulation of the insulin secretion, which as discussed previously is an important hormone in regulating metabolism of major macronutrients, like carbohydrates, fats and proteins.

A weight-loss program should seek to restore health and help the body avoid regaining the lost weight. Indo-Tibetan medicine offers a 'pill' support, but not a 'pill' solution.

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