

FOOD OR MEDICINE: THE DUAL ROLE OF SELECTED SRI LANKAN FOODS

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From ancient times, foods have played the dual role of supplying nutrients as well as medicines to humans. Even though the term 'functional foods' was coined recently, getting healing materials for his ailments was one important benefit obtained by the ancient man from his plant allies. As man gradually developed and evolved into a scientific individual, it was necessary to furnish scientific evidence for these claims. At present, health effects of foods are being widely studied to meet this requirement.

With the increasing global prevalence of diabetes mellitus and chronic arthritis and the undesired effects of the existing allopathic drugs, attempts are being made to explore the possibility of the use of functional foods in the management of these disorders. Our research team studied the beneficial effects of several Sri Lankan salad vegetables, mushrooms and a traditional drink. The green leafy vegetables *Alternanthera sessilis*, *Psychotria sarmentosa* and *Aponogeton crispus* were studied extensively in Wistar rats and these reduced the blood glucose concentrations in glucose loaded as well as diabetic rats with no toxic effects.

Ipomoea aquatica (morning glory/kankun/ vellaikeerai), dried flower extract of *Aegle marmelos* (beli/vilvam) and the mushrooms *Pleurotus austreatus* (American oyster) and *Pleurotus cystidiosus* (abalone) were tested for hypoglycaemic, anti-inflammatory and brain ATPase effects. Initial animal studies excluded any possible toxicity.

I. aquatica which is a popular green leafy vegetable in the Asian region was administered to newly-diagnosed diabetic patients on diet control. This extract resulted in a significant reduction of the fasting and post prandial blood glucose concentrations in these patients and increased peripheral glucose utilization. The active compound was found to be a flavone glycoside. The study on the American oyster and abalone mushrooms revealed that these two edible mushrooms were effective in reducing the fasting and post prandial blood glucose concentrations in diabetic patients. A novel hypoglycaemic compound; N¹⁰ isopentenyl adenosine was also isolated from the mushrooms.

The next study was on the traditional *beli mal* (*Aegle marmelos*) drink. This proved to be very efficient in reducing the fasting and post prandial blood glucose concentrations and the body weights in diabetic patients. Insulin actions were markedly increased by this drink. It also increased the erythrocyte ATPase activity. The anti-inflammatory and anti-oxidant effects of this drink were found to be significant.

The above studies, enabled value addition to the Sri Lanka traditional foods. Attempts are being made to increase the awareness regarding the health benefits of these foods among the general population. Mechanisms of action of these foods are also being evaluated.

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