

Glucomannan: Properties and Therapeutic Applications

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Glucomannan is a dietary fiber employed quite frequently in the western countries since two decades now, as its ingestion plays an important role in human health. However, eastern people have used this fiber for more than a thousand years. This dietary fiber is the main polysaccharide obtain from the tubers of the *Amorphophallus konjac* plant, a member of the family Araceae found in east Asia. The chemical structure of glucomannan consists, mainly, in mannose and glucose in the ratio 8:5 linked by beta (1-->4) glycosidic bonds. This soluble fiber has a extraordinarily high waterholding capacity, forming highly viscous solutions when dissolved in water. It has the highest molecular weight and viscosity of any known dietary fiber. It has been demonstrated that this product is highly effective in the treatment of obesity due to the satiety sensation that it produces; as a remedy for constipation, because it increases the faeces volume; as hypocholesterolemic agent, interfering in the transport of cholesterol and of bile acids and as hypoglycemic and hypoinsulinemic agent, probably, by delaying gastric emptying and slowing glucose delivery to the intestinal mucosa. To the beneficial properties of this fiber, several disadvantages can be added as the production of flatulence, abdominal pain, esophageal obstruction, lower gastrointestinal obstruction or even the possible modification of the bioavailability of other drugs. This paper reviews the main characteristics of glucomannan, as well as its properties, physiologic effects and therapeutic uses.