

Study on Medicinal, Nutritive and uses of Isabgol (*Psyllium*) Husk

Vivek Sharma

Department of Botany, Govt Meera Girls College, Udaipur, Rajasthan, India

Corresponding author email: vivekshrm@gmail.com

ABSTRACT

Psyllium is a soluble fiber derived from the seeds of *Plantago ovata*, an herb grown mainly in India. People use *psyllium* as a dietary supplement. It is available in the form of husk, granules, capsules, or powder. Manufacturers may also fortify breakfast cereals and baked goods with *psyllium*. In India, use of isabgol is as old as the Ayurveda System of Medicine. It is used a bulk forming agent in constipation but due to some other beneficial effects; it can also be used in colorectal cancer, ulcerative colitis, hemorrhoids, diabetes, hypercholesterolemia etc. *Psyllium* husk is the main active ingredient in Metamucil, a fiber supplement that reduces constipation. Because of its excellent water solubility, *psyllium* can absorb water and become a thick, viscous compound that resists digestion in the small intestine. The dietary fibers have positive effects on human health, both in the prevention and in treatment of chronic diseases.

Keywords: Isabgol husk, treated husk, hypercholesterolemia, ulcerative colitis

The word isabgol was originated from the Persian words “isap” and “ghol” that mean horse ear, which is descriptive of the shape of the seed. Isabgol is also called as *Psyllium*, originated from a Greek word for a flea, referring to the size, shape, and whitish colour of the seed, which is the commercially important part of this plant. The seeds are enclosed in capsules that open at maturity. The seed husk is thin, boat shaped, white, translucent, odourless with mucilaginous taste. The root system has a well developed tap root with few fibrous secondary roots. *Psyllium* is an annual herb originated from West Asia. The species is indigenous to Mediterranean region, West Asia and extending up to Sind in Pakistan (Singh and Virmani, 1982). The genus *Plantago* has over 200 species of which two; *P. ovata* and *P. psyllium* are commercially cultivated round the globe. *Psyllium* was introduced as a medicinal plant by Indian Muslims and seeds were firstly collected from some wild species. In

India it has been introduced and cultivated in North Gujarat and adjoining parts of Western Rajasthan and Madhya Pradesh. However, the crop is spreading in non-traditional parts of the country such as Punjab, Haryana, Uttar Pradesh and Karnataka. The husk (outer covering of seed) is obtained as milling product of the seed yielding 10- 25% of dried seed weight.

Botanical description

It is a stemless, soft, hairy annual herb which grows upto a height 1-1.5. ft. Leaves are opposite, narrow and linear in shape. A large number of flowering shoot arises from the base of the plant. Flowers are numerous, small and white in colour. Flowering occurs after 50-60 days of plantation. Seeds are ovoidoblong, boat-shaped, smooth, rosy-white, concave on one side and convex on the other. The concave side of the seed is covered with a thin white membrane, forming the seed coat

Chemical Composition

Isabgol (*Psyllium*) Husk contains high fiber content, which varies from 75 to 80% (about 50 to 55% soluble fiber and 25% insoluble fiber). Isabgol husk (*Psyllium*), an indigenous natural dietary fiber, official in IP, BP and USP consisting of the epidermal and collapsed adjacent layers removed from the seeds of *Plantago ovata* Forsk. (*P. ispaghula* Roxb.), is particularly rich in alimentary fibres and mucilage. The husk mucilage is a clear, colorless gelling agent, able to increase in volume upon absorbing water up to 40 times its own weight. It consists of 85% water-soluble fiber; partly fermentable (in vitro 72 % unfermentable residues) and acts by hydration in the bowel. Made up of polysaccharides, it is popularly used as a bulk laxative.

Chemical Composition

Table 1

Xylose	59%
Galactose	3.7%
Glucose	3.5%
Rhamnose	3%
Mannose	1.6%

Medicinal Value

Isabgol husk (*Psyllium*), an indigenous natural dietary fiber, official in IP, BP and USP consisting of the epidermal and collapsed adjacent layers removed from the seeds of *Plantago ovata* Forsk. (*P. ispaghula* Roxb.), is particularly rich in alimentary fibres and mucilage. The health improving properties are attributed to its active fiber fraction the arabinoxylan (AX); a polysaccharide containing heteroxylan, with main monosaccharides; arabinose and xylose, collectively referred as arabinoxylan (Marlett and Fischer, 2003; Fischer *et al.* 2004). This active fraction of *psyllium* husk, the arabinoxylan is a highly branched polysaccharide constituting more than 60% of the weight of *psyllium* husk. Exclusively, arabinoxylan from *psyllium* husk is resistant to fermentation as compared to those extracted from wheat, oat or barley (Van-Craeyveld *et al.* 2008).

Isabgol husk is an herbal medicine and used for the treatment of habitual constipation; In conditions in which easy defecation with soft stools is desirable, e.g. in cases of painful defecation after rectal or anal surgery, anal fissures and hemorrhoids; and In patients to whom an increased daily fibre intake may be advisable e.g. as an adjuvant in constipation predominant irritable bowel syndrome, as an adjuvant to diet in hypercholesterolemia. *Psyllium* husk may also have a symbiotic relation with medicines being used to reduce the problems related to obesity, dyslipidemia and CVD. Different cereal and vegetable based soluble and insoluble fibers are in use to overcome the menace of high cholesterol and glycemic disorders. The foremost fiber sources are *psyllium* husk, oat, guar gum and some other cereals. However, *psyllium* husk fiber appears one of the effective sources with least adverse effects (Galisteoa *et al.* 2010). It has high water soluble fiber that soothes the lipid profile and glycemic response in individuals with hypercholesterolemia. High fiber diets increase peripheral insulin sensitivity in healthy adults (Karhunen *et al.* 2010).

It is to be taken with at least 150 ml of water or other fluid. It may cause blockage of throat or oesophagus after swelling if not taken without adequate traditional use fluid. Intestinal obstruction may occur if an adequate fluid intake is not maintained. This product should not be taken in case of difficulty in swallowing or having any throat problems. If chest pain, vomiting, or difficulty in swallowing or breathing after taking this product is experienced, immediate medical attention may be required. The treatment of the debilitated patient requires medical supervision. The treatment of elderly patients should be supervised.

Uses

1. Isabgol is mainly used to treat Constipation

There is a gelatinous substance that is present in Isabgol which forms a gel when soaked in water. The laxative properties of this gel help in easing bowel movement in your intestines. The gel absorbs bacteria and other harmful toxins that are present in the intestine. This provides good lubrication inside the

intestine walls which help in relieving constipation related problems.

2. Natural Remedy for Diarrhea

The cure for diarrhea is right here if done the right way. The Psyllium Husk powder is an amazing remedy for diarrhea.

- ☐ Mix Isabgol with curd & consume.
- ☐ Curd is enriched with probiotics which help in healing the infection.
- ☐ Isabgol powder will help in hardening the stool thus getting rid of diarrhea.

3. Relief From Acidity

Psyllium Husk helps in creating a protective wall of the stomach and reduces the excessive secretion of digestive acids. Due to this, you get relief from acidity as the effect of acid in your stomach is nullified.

- ☐ Mix Isabgol Powder with cold water.
- ☐ Take it after a meal.

4. Aids in Weight Loss

Isabgol can help you curb your food craving and it cleanses the colon. This helps in proper digestion of food and also keeps you satiated – preventing you from eating more.

- ☐ Prepare a mixture of the husk with warm water.
- ☐ Add a bit of lemon juice to the mixture and stir well.
- ☐ Take this on an empty stomach every morning.
- ☐ This will also address your food cravings.

5. Better Digestion

Isabgol helps in overcoming indigestion problems. The takeaway point is that Isabgol is enriched with

fiber. This cleans your stomach walls from excessive toxins and also helps in the movement of food through your intestines.

- ☐ Take Isabgol powder with buttermilk right after your meal.
- ☐ Do this every day for an improved digestive system.

6. Control Diabetes

Isabgol has a natural gelatin substance. This helps in breaking down and also absorbing glucose in your body. This lowers your glucose intake and thereby helps to control Type 2 diabetes.

- ☐ Take Isabgol right after your meal along with water.
- ☐ Control Diabetes & stay healthy.

7. Lowers High Blood Cholesterol

A major health benefit of taking Isabgol is that it lowers your bad cholesterol levels in the body. This is because Isabgol forms a thick wall around your walls and prevents your body from absorbing cholesterol.

REFERENCES

- Cummings, J.H., Edmond, L.M. and Magee, E.A. 2004. Dietary carbohydrates and health: Do we still need the fiber concept. *Clin. Nutr. Suppl.*, **1**: 5-17.
- Fischer, M.H., Yu, N.X., Gray, G.R., Ralph, J., Anderson and Marlett, J.A. 2004. The gelforming polysaccharide of *psyllium* husk (*Plantago ovata* Forsk). *Carb. Res.*, **339**: 2009–2017.
- Karhunen, L.J., Juvonen, K.R., Flander, S.M., Liukkonen, K.H., Lahtenmaki, L., Siloaho, M., Laaksonen, D.E., Herzig, K.H., Uusitupaand, M.I. and Poutanen, K.S. 2010. A *psyllium* fiber-enriched meal strongly attenuates postprandial gastrointestinal peptide release in healthy young adults. *J. Nutr.*, **140**: 4737-4744.