

Shatpushpa (Anethum Sp.): An Ayurvedic Herb with Vast Therapeutic Potentials-A Short Communication

Rupa Singh¹, Piyush Verma², Ashutosh Kumar Pathak³, Sunita Suman⁴

^{1,2}PhD Scholar, Faculty of Ayurveda, Institute of Medical Sciences, Institute of Medical Sciences, Banaras Hindu University, Varanasi, U.P. (India)

³Assistant Professor, Department of Rachana Sharir, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi, U.P. (India)

⁴Professor and Former HOD, Department of Prasuti Tantra and Stree Roga Faculty

Abstract

Shatpushpa is a popular herb in the Indian subcontinent whose seeds are used in various medicinal preparations and as dietary supplements for ages. Recent researches have shown its promising therapeutic potential in various metabolic diseases like type II Diabetes Mellitus, cardiovascular diseases and PCOS etc.

Keywords: Shatpushpa, Anethum sowa, Anethum graveolens

Introduction-

Shatpushpa is a popular herb in the Indian subcontinent whose seeds are used in various medicinal preparations and as dietary supplements for ages. The herb belongs to the Umbelliferae family with the scientific name "*Anethum sowa*" (Indian Dill). Its other variety, known as *Anethum graveolens* (European Dill), is slightly different in morphology and is found all over the world. The seeds of *Anethum sowa* are sometimes called *Tukhme soya* in the Indian subcontinent. For a long time, this herb has been used in various civilizations for its medicinal value. In the Indian subcontinent, *Shatpushpa* has been mentioned in multiple formulations in the ancient Ayurveda text of Charak Samhita. The recent advancements in studies related to the functions of alkaloids inside *Shatpushpa* in metabolic disorders have given light towards developing a different management approach towards these diseases which may include this herb as a medicinal or dietary component.

Review of Literature

The taxonomical classification of *Shatpushpa*-

- Kingdom- Plantae
- Division –*Magnoliophyta*
- Class –*Magnoliopsida*
- Order –*Apiales*
- Family –*Apiaceae*
- Genus –*Anethum*
- Species – *Sowa* (Indian sowa) or *Graveolens* (European Sowa)

Very frequently, both the species' name is interchangeably used.

Descriptions of *Shatpushpa* have been there very frequently in Ayurveda Literature. *Shatahva* has been used as a synonym of *Shatpushpa* in various places. In Charak Samhita *Shatpushpa* has been mentioned in several formulations like *Shatpushpadianuvasanbasti* in *Atisaar*, *Shatpushpadi Pichu* in *Apara-paatan* (removing placenta), *Shatpushpadilepa* in *Shirahshool*, *Parshvashool*, *Ansashool* etc.¹ In Kashyap Samhita, *Shatpushpa* has been described as having *Madhur rasa*, with *Balya* (strengthening) properties, *Pusti* (nourishing), *Agnivardhini* (helpful in improving metabolic reactions), *Ritupravartini* (maintains female menstrual cycle), *Yoni-sukravishodhini* (purifies uterus and female reproductive gametes) and *Putraprada* (removes sterility).²

Shatpushpa or *Anethum sowa* contains various naturally occurring phytochemicals like apiol; the European counterpart, *Anethum graveolens*, contains carvone in the majority. Other phytochemicals present are limonene, quercetin, alpha-phellandrene, terpinene, caryophyllene, eugenol, and myristicin. *Shatpushpa* also includes fixed oil and fatty acid oils like petroselinic, oleic, linoleic, palmitoleic, linolenic, lauric and arachidic etc.³

Recent studies on the medicinal value of *Shatpushpa* have also revealed its importance in various metabolic conditions. *Shatpushpa* helps lower serum cholesterol and, more effectively, lower serum triglycerides in both hyperlipidemic and Type II Diabetes Mellitus.⁴ Carvone, limonene, alpha-phellandrene, ratin and quercetin present in the *Shatpushpa* have hypolipidemic properties. They have been linked to reducing serum cholesterol levels and LDL levels.⁵ They also have been linked to decreasing liver cholesterol. A study has shown that *Shatpushpa* inhibits intestinal cholesterol absorption by binding to bile acids in the intestine, promoting its faecal excretion.⁶ *Shatpushpa* or *Anethum* species have also shown antioxidant properties in some studies. They reduce oxidative stress by neutralizing the toxic Intermediate reactive species like free radicles.⁷ Progression of Type II Diabetes and Cardiovascular diseases are directly linked to this oxidative stress and vascular injury. *Shatpushpa* or *Anethum* species have shown antidiabetic properties by decreasing the mean serum insulin levels in Type II Diabetes by improving insulin sensitization.⁸ The Phytochemical present in the *Shatpushpa* or *Anethum* species have also shown phyto-estrogenic activities, and case reports are there which showed its therapeutic effects in PCOS.¹⁰ *Anethum* species have also been found to be having anti-cancerous activity.¹¹

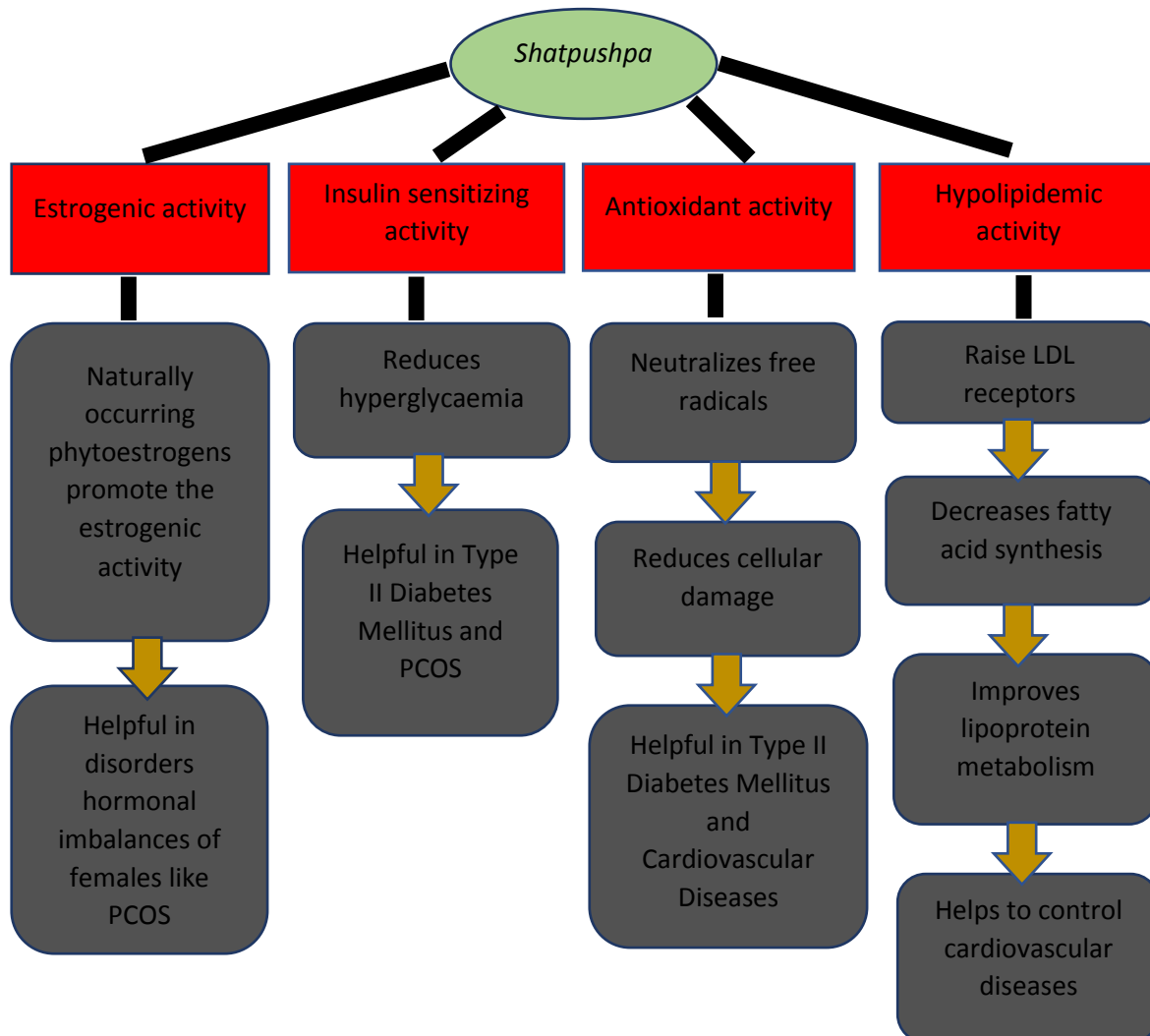
Discussion

Metabolic Disorders like Diabetes Mellitus type II and cardiovascular diseases are increasing at an alarming speed worldwide. India is now considered the diabetes capital of the world. Besides these, conditions like PCOS in females are also rising due to dietary and environmental factors. Dyslipidemia, vascular injury and Insulin resistance have been found to be causative factors of these metabolic disorders. Oxidative stress due to vascular damage in hyperglycaemia in Type II Diabetes causes lipid peroxidation, which worsens diabetes. This negative effect of oxidative stress is also responsible for the progression of cardiovascular diseases as these free radicals react to the PUFA, which again causes lipid peroxidation and results in endothelial injury and chronic changes. Insulin resistance is the key mechanism in the development of Diabetes mellitus and is involved in Poly Cystic Ovarian Syndrome (PCOS).

Shatpushpa has been found to be useful in breaking or reducing the pathogenic cycle causing these metabolic diseases. *Anethum* species, or *Shatpushpa*, has been found to raise the LDL receptors,

decreasing fatty acid synthesis and improving lipoprotein metabolism. Through antioxidant properties, it neutralizes the free radicals which cause vascular stress and lipid peroxidation, thus reducing cellular damage. The insulin-sensitizing properties help in managing hyperglycaemia in Type II Diabetes Mellitus and also help in PCOS patients. The Phytoestrogens present in *Shatpushpa* promote the suppressed estrogenic activity and thus may improve the hormonal imbalances. (figure 1)

Figure 1- Showing therapeutic properties of *Shatpushpa*



Conclusion-

Shatpushpa is a commonly occurring herb that has been consumed widely for various medicinal and dietary purposes. Recent researches have shown its promising therapeutic potential in various metabolic diseases like type II Diabetes Mellitus, cardiovascular diseases and PCOS etc.

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