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Review Article

Gymnema Sylvestre- An Indian Drug in Homoeopathy

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Abstract: When we discuss homoeopathy, invariably the Indian drugs are an integral part of homoeopathic material medica. Out of the leading 50 drugs of Indian origin, one drug that the article discusses the drug 'Gymnema Sylvestre'. The common name of this plant is 'Gurmar' in hindi language which means 'sugar killer'. This indicates its ancient use in diabetes since the last 2000 years. The article looks into the scientific aspects of the drug, human proving of the drug in homoeopathy & the various literatures that mentions about drug. The future use of the drug in the Non Communicable Disease like diabetes on a large scale will only benefit the masses. The drug is cost effective, therapeutically active with no side effects & these properties only augur well for its large scale application. For the benefit of the masses, the homoeopathic perspective, use, method of preparation is described. The authority books of homoeopathic material medica & the encyclopedia of homoeopathy are referred in the article.

Keywords: Materia Medica, Mother Tincture, Saponins, Phytochemicals.

INTRODUCTION

J.W. Hershberger invented the term 'Ethnobotany' in 1895 to describe plants used by aborigins. It is concerned with the research & evaluation of plant-human relations at all stages as well as the impact of the plant environment on human civilization [1].

Gymnema Sylvestre (GS) often known as Gurmar is widely used for its anti diabetic properties. It is a perennial woody climber in the milk weed family Asclepiadacae. The leaves are opposite, elliptic, oval in shape. The inflorescence is a lateral umbel in cymes. The corolla is pale yellow in hue with two carpels & one unilocular ovule locule [2].

LITERATURE REVIEW

One study mentions that through use of GS beta cells may be regenerated or repaired in Type 2 diabetic patients on GS supplementation. Further, this is supported by the appearance of raised insulin levels in the serum of patients after GS supplementation [3].

Another study concluded that it has comparable effects with 'Metformin' in normalizing blood sugar levels & more than 'Metformin' in restoring the serum biochemical parameters [4].

A study by two authors in 2019 found that there was a relation between antioxidants & antidiabetic compounds regarding blood sugar reduction in diabetics through the use of GS [5].

An article in the international Journal of Creative Research Thoughts (IJCRT) in 2024 found that GS stands out among the medicinal plants of Brahmayoni hills of Gaya in the state of Bihar for its anti diabetic properties. The study says that GS use can manage diabetes that is on the increase due to poor life style & unhealthy diet [6].

Further, the study mentions that GS's effectiveness in reducing blood sugar is attributed to Gymnemic Acid that interferes with sugar absorption in the intestine by blocking receptor sites. This action helps diminish craving for sweets & lowers blood sugar levels. Additionally, GS contains Flavonoids & Saponins. Flavonoids offer antioxidant benefits while Saponins assist in lowering cholesterol & regulate lipid metabolism. The study was conducted by professors of Magadh university, Bihar [6].

Similarly, a study led by Dr. Sudhir Charan Sarangi of pharmacology department of All India Institute of Medical Sciences (AIIMS) Delhi mentions that the faster growth of diabetes can be paused when the allopathic dug 'Glibenclamide' was integrated with the herbal combination developed by Council of Scientific & Industrial Research (CSIR) named BGR-34, that had GS in its formulation. The study also found that the combination checks poor cholesterol in the body [7].

Another study in the World Journal of Diabetes mentions that the study of natural products is expected to open the door for the development of novel drugs in the modern management of diabetes in the future. The study mentions that GS is a perennial climber found in India & Africa. Various studies used 0.4-10grams/d GS leaf powder. GS is available in tablet or capsule form. Its active compound known as Gymnemic acid is believed to block glucose absorption in the small intestine. Gurmarin, another molecule of GS has anti sweetner activity [8, 9].

A study also mentions that GS is used as a plant is also used to control obesity in the form of GS tea. The study also mentions that there is a possible link between obesity, gymnemic acids & diabetes [9].

A study in Pakistan demonstrated the effect of 1gram powder on 32 middle aged diabetic patients in a non-randomized trial. After one month, mean Fasting Blood Sugar decreased by 81mg/dl. Fall in HbA1C ranges from 0.32% to 1.57% in different studies [3-11].

BGR-34 is the combination of Berberis Aristata, Tinospora Cordifolia, Pterocarpus Marsupium, Gymnema Sylvestre, Rubia Cordifolia, Trigonella Foenumgraecum that are known to control DM. Here, we see that GS is a part of the combination [12, 13].

Another study mentions that BGR-34 has a number of active molecules that act by increasing endogenous GLP-1 & GIP concentrations. Through this mechanism, insulin secretion is glucose dependently stimulated & glucagon secretion inhibited [14].

A 2014 study cites that phytoconstituents responsible for sweet suppression activity includes triterpene saponins known as gymnemic acids, gymnema saponins & a polypeptide gurmarin [15].

Some authors mention that GS is a powerful antidiabetic plant that has been utilized in ayurvedic, folk & homoeopathic medicines for centuries. Compounds identified from GS were found to have antidiabetic potentials with orcinol displaying the most effective binding affinity in potential for drug development [16].

Another study done in 2019 mentions that GS is also known to have antioxidant, antibiotic, anti-inflammatory, antiviral, gastro, hepatoprotective, anticancer & lipid lowering activities [17].

A homoeopathic study using the homoeopathic drug GS in 2019 found that there was significant reduction in FBS, PPBS levels of test group (GS) compared to control group (placebo) in Type 2 DM cases [18].

After the literature review, we find that GS is mentioned in leading journals through allopathic use, ayurvedic use, folk medicine use & herbal use. None of these studies highlights the use of GS in homoeopathy.

Use in Homoeopathy

GS was proved as a homoeopathic medicine by Lt.Col. R.N. Chopra. Clinically, besides diabetes, the drug is used in hives, snakebite and altered taste. Further, the homoeopathic literature adds that the leaves have a bitter, astringent & slightly acid taste. Immediately, after chewing the leaves, the sense of tastes for sugar & for bitter was lost & the effect lasted for some hours [19].

The history & authority of this drug is the dictionary of practical material medica, v1.page 859. It is a drug in homoeopathy that is used for mind, stomach, urinary issues, skin issues, poisonous snake bites & all conditions aggravate during sexual intercourse [20].

Usually, GS Mother Tincture is used in Homoeopathy. To prepare this, 100 grams of GS leaves in moderately coarse powder is taken in a bowl in which 200ml of purified water is taken. Thereafter, strong alcohol in sufficient quantity is taken to make one litre of the Mother Tincture till the drug strength becomes 1/10 [21].

This potency is 1X. Further potencies or dilutions are prepared with 2X. The 2X potency to contain one part Mother tincture, three parts of strong alcohol. Potencies like 3X & higher potencies are prepared with dispensing alcohol [21].

Future Steps

To deal with the menace of Non Communicable Diseases, medical pluralism approach has to be applied. The complementary approach as mentioned by a study in the article is the way out for the future.

India has a policy for the AYUSH system & studies have shown that homoeopathy is popular in India. If complementary approaches are used, the nation can become an example for other nations to deal with the NCD menace through AYUSH integration.

CONCLUSION

With new diabetic cases being an obstacle & no effective cure, it is time to look into the homoeopathy system of Ministry of AYUSH that addresses the unreached areas of the current intervention. A long term cost effective, therapeutically effective with no side effects approach can be in place on integration of homoeopathy into the domain of diabetic related interventions.

The integration of homoeopathy into the diabetes related interventions will not only help India but also it will be a successful pilot to deal with diabetes at the global level through adoption of the pilot especially in the diabetic endemic countries. India can set an example in this regard. The intervention related to homoeopathy of AYUSH can also be initiated with the leading stake holders or development partners in India who work on NCDs.

As homoeopathy has become a part of the culture in India, the intervention will help to deal with the related life style issues of NCDs like diabetes.

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