



## A Retrospective Review on Indian Traditional Herbs and its Biocompounds in Diabetes

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**Abstract :** In the last few years there has been an exponential growth in the field of herbal medicine and its products are gaining popularity both in developing and developed countries because of their natural origin and less side effects. The World Health Organization (WHO) has listed 21,000 plants, which are used for medicinal purposes around the world. Among these 2500 species are in India, out of which 150 species are used commercially on a fairly large scale. India is the largest producer of medicinal herbs and is called as botanical garden of the world.

Diabetes is a chronic metabolic disorder including causative factors like obesity, life style, environment and genetics. Diabetes mellitus is estimated to increase from 4.0 percent in the year 1995 to 5.4 percent by the year 2025. By 2030, India's diabetes numbers are expected to cross the 100 million mark. This led to sudden increase in the number of herbal drug industries utilising traditional herbs for the preparation of herbal formulations in the treatment of Diabetes mellitus. Presently about 25% of pharmaceutical prescriptions in the United States contain atleast one plant-derived ingredient. In the 20th century, roughly 121 pharmaceutical products were formulated based on the traditional knowledge obtained from various pharmacopeias. Based on the above facts in our mind, we focussed our aim on the scientific approach of the Indian traditional plants and bioactive compounds in the treatment of Diabetes mellitus. From the presented scientific data of the Indian indigenous drugs for Diabetes mellitus, the leaves have been used predominantly in the treatment of diabetes. The families of plants with the most potent hypoglycemic effects include Liliaceae, Leguminosae, Lamiaceae etc. The most commonly used species are Momordica charantia, Trigonella foenum graecum, Ficus benghalensis and Gymnema sylvestre. The present review also revealed the antidiabetic potential of terpenoids, alkaloids and flavonoids through the insulinomimetic activity. The flavonoids majorly exhibit the antidiabetic activity by preventing beta cell apoptosis and promotes beta cell proliferation and insulin secretion. The herbal drugs Gymnema slyvestre, Syzgium cumini, Phyllanthus amarus, Aloe vera, Momordica charantia, Trigonella foenum graecum, Emblica officinalis, Azadirachta indica are more frequently found in herbal formulations for Diabetes. The present review work concluded that about forty traditional herbs and twenty phytochemicals are still used either alone or in combination for the silent killing disease – Diabetes.

**Key Words :** Herbal medicine, Diabetes, Hypoglycemic, Antidiabetic activity, Traditional herbs, Phytoconstituents