



Rajmahal Hills Used in Diabetes Management

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Annotation: Medicinal plants possess an important therapeutic aid for alleviating ailments of humankind. Five such plants namely *Moringa oleifera* (MORINAGACEAE), *Raphanus sativas* (BRASSICACEAE), *Murraya koenigii* (RUTACEAE), *Withania coagulans* (SOLANACEAE) and *Embllica officinalis* (EUPHORBIACEAE) have been taken into account as aid in diabetes management. Actually diabetes mellitus is a serious metabolic disorder affecting about 20% of the world population. An increasing number of people are therefore, seeking alternative therapies from medicinal plants having minimal side effects.

Keywords: Medicinal plants, diabetes mellitus.

INTRODUCTION

Diabetes mellitus is a disorder of altered metabolism resulting due to hereditary and environment reason. This consequently give rise to hyperglycemia (-increased blood sugar levels) due to anomalies in either insulin secretion or insulin action or both phenomenon in our body. persistent hyperglycemia during diabetes duely causes secondary complications affecting eyes, kidneys, nerves and arteries. The general prevalent practice for diabetes management includes diet, exercise, use of oral hypoglycemic drugs and insulin. Present available synthetic drugs for controlling diabetes are costly and produce adverse side effects.

RESULTS AND DISCUSSION

Presently remedial alternative, some herbal medicines are available for the management of diabetes mellitus without any side effects. Medicinal plants continue to be an important therapeutic aid for alleviating other ailments of human kind. The present research article

provides an overview of a diverse range of folkloric medicinal plants (KK kirtikar, et al, 1980; MA Nauck et al, 2007; A Elosta et al, 2012, R. Pandit et al, 2010). The details of plants species in present text are as such-

1. *Moringa oleifera*



MORINGACEAE

Common Name: Drumstick

Native North-West India

Parts used: Leaves capsule.

A much-branched, perennial, moderate-sized tree with tripinnate compound leaves. Flowers: White, with greenish base and honey-scented in axillary panicles. Stamens: 5+5 ie 5 fertile and 5 remains staminode, Capsule 30-40 cm long, drooping, ribbed, with beak and many seeded.

Flowering-fruiting: January-April

Uses:

The leaflets are used as pot-herbs in diabetes.

The Capsules are cooked as vegetable which bears antidiabetic activity. (KK. Bhishagratna, 1991).

2. *Raphanus sativus*



BRASSICACEAE

Common Name: Raddish

Native: Latin America

Parts used:

Root (Fusiform tap-root)

Leaves

A stiff-hairy, annual herb, with fusiform type of modified tap-root-Lower. Leaves: radical; cauline, Leaves: lyrate,

hispid, coarsely-toothed, acute and I-nerved at base. Flower: cruciform, white with purple veins. Siliqua 3-4 cm long dehiscent and many-seeded. Seed: brown or dull-red, globose. Uses: The juice of raddish bears tonic and taxative action on our intestine and indirectly stimulates the flow of bile. Raddish are taken raw as a household remedy for the treatment of gall bladder stone, jaundice, flatulence and other gastric disorders.

(M. Aman, 1969)

3. *Murraya koenighii***RUTACEAE**

Common Name: Curry patta

Native: Tropical countries, South Africa

Parts used: Leaves

A moderate-sized aromatic shrub, with grey-coloured bark. Leaves: unipinnate, imparipinnate, with lanceolate leaflet. Flower White, Scented in corymbose cyme. Stamens 10, inserted around the disc.

Uses: Leaflets form a valuable condiment. The leaflets also mixed with to cure diabetes. Aqueous extract of its leaflet possesses hypoglycemic and antidiabetic effect.

(N. Narayana et al., 1975)

4. *Withania coagulans*



SOLANACEAE

Common name: Cheese maker.

Native Australia

Parts used:

Fruit

A much-branched, annual fruticose herb, with tap root stock. Stem cylindrical, hairy, with variable length of internodes. Flowers: white, in leaf axils. berry: Bright-red when ripe being enclosed in inflated bladder like persistent calyx. Uses: The hot aqueous extract of berry bears antidiabetic effects.

5. *Emblica officinalis*



EUPHORBIA

Common name: Amla

Native: Latin America

Parts used: Drupe

A much-branched, perennial tree with drooping branches and tap-root stock. Leaves: Simple, distichous, linear-oblong, stipulate. Flower: Yellowish green, in axillary clusters. Stamens: 3. Drupe pale-yellow, tinged with pink, with stony, 3-celled endocarp.

Uses: The drupe bears Vitamin-C, with hypolipidemic activity (J. Torel, 1986)

CONCLUSION

It has been estimated that 25% of world population is affected by diabetes mellitus. The World Health Organization (WHO) also estimated that the number of diabetic people have increased from 30 million in 1985 to more than 180 million in 2023. It is further estimated that this number will cross the 366 million mark by 2030 especially in developing countries like India in the age group 45 to 65 years (V.Tripathi et al., 2014).

Above mentioned medicinal plants are supposed to be gentle, effective and specific in function to organs or systems of our body (R.K. Singh et al., 2009). These medicinal plants have been found to contain secondary metabolites like glycosides, alkaloids, terpenoid and flavonoids etc. which possess antidiabetic effects therefore, the antidiabetic activity of these plants could be due to the synergy of these plant constituents.

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