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Guduchi is Powder Dosage Form is used in Treatment of Diabetics Mellitus

Miss. Ghodake Rutuja Lakshman[1], Prof. Bagwan L. R.[2], Dr. Hingane L.D.[3]
[1]*ditya Pharmacy College, BEED 431122*

Abstract: ***Guduchi is one of the most versatile rejuvenating herb, possessing numerous therapeutic attributes. Madhumehahara (Antidiabetic) properties of Guduchi are highly appreciated in Ayurveda and even in recent modern researches. Scattered information pertaining to antidiabetic role of Tinospora is accessible in Ayurvedic literature and there is need to assemble it. Present review Present review encompasses indepth information of antidiabetic potential of Guduchi and its various dosage forms from Ayurvedic view and to understand the possible mechanism of its action in combating the complex pathology of diabetes. Over the centuries, herbs have served as a major source of medicines for prevention and treatment of diseases including diabetes mellitus. These herbs are getting more importance around the globe and many studies have provided safety and efficacy of such herbal drugs in different condition. Guduchi Tinospora cordifolia is reported as highly potent -antidiabetic herb in and Guduchi Satva (GS) is popularly used to treat . In the present study, GS prepared from the stem of T. cordifolia was evaluated for hypoglycemic and Antidibetic. GS was powder dissolve in distilled water and administered to oral route of powder dosage form. Present review encompasses (i) in-depth information of antidiabetic potential of Guduchi and its various dosage forms from Ayurvedic view and (ii) to understand the possible mechanism of its action in combating the complex pathology of diabetes.***

Keyword: Diabetes Mellitus, Guduchi, Madhumeha, Tinospora cordifolia.

I. INTRODUCTION

Diabetes Mellitus (DM) is an age old disease described in Ayurveda as ‘Madhumeha’, a Tridosha predominant disease. The disease, if neglected, has far-reaching clinical, economical, and social impacts. Synthetic antihyperglycaemic agents are running in practices blindly. Do they really help diabetics?

Then whynative Ayurvedic herbs provide better alternatives, owing to lesser side-effects and low cost than conventional antidiabetic drugs. World Health Organization has also substantiateTinospora cordifolia (Willd.) Miers, commonly known as Guduchi, is one of such highly potent herbs used since ancient times by physicians to combat diabetes. Contemporary researches are now validating and approving those classical theories. Its various dosage forms and wide array of derived products (active, natural principles and crude extracts) have been Diabetes Mellitus (DM) is an age old disease described in Ayurveda as ‘Madhumeha’, a Tridosha predominant disease.

The disease, if neglected, has far-reaching clinical, economical, and social impacts. Synthetic anti-hyperglycaemic agents are running in practices blindly.

Do they really help diabetics? Then why to endure synthetic drug woes? Ayurvedic herbs provide better alternatives, owing to lesser side-effects and low cost than conventional antidiabetic drugs. World Health Organization has also substantiated the utilization of herbal remedies to combat diabetes.1 Commonly known as Guduchi, is one of such highly potent herbs used since ancient times by physicians to combat diabetes. Contemporary researches are now validating and approving those classical theories.

Its various dosage forms and wide array of derived products (active, natural principles and crude extracts) have been mentioned/used in traditional system of medicine. Though plentiful researches already carried out during the only scattered information pertaining to its antidiabetic activity is accessible in ayurvedic system and there is need to assemble it. information discussing its effects and method of action is lacking. Therefore, a need was felt to compile available on the antidiabetic utility of this plant till recent, from the early begin used in Antidibetic patients. Tinospora cordifolia (Willd.) Miers, commonly known as Guduchi, is one of such highly potent herbs used since ancient times by physicians to combat diabetes. Contemporary researches are now validating and approving those classical theories. Its various dosage forms and wide array of derived products (active, natural principles and crude extracts) have been

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II. CLINICAL SUPPORT ANTIDIBETIC

Until now, extensive pre-clinical studies are reported to rate effectiveness of Tinospora cordifolia (TC)for diabetes; however, sufficient clinical evidence is lacking.

1) Hypoglycaemic potential of TCwassubstantiated in a study (CTRI/2012/01/002368), wherein the two dosage forms of Guduchiviz.

2) GuduchiGhana (solidified aqueous extracts Clinical support to antidiabetic claims Until now, extensive pre-clinical studies are repoand GuduchiSatva (sedimented starchy aqueous extract) exerted significant hypoglycemic and anti-hyperglycaemic activityalong with significant relief in signs and symptoms of type 2 diabetics.Statistically, GuduchiGhana proved to be more effective than Satvato control glycemic level. The study proved that, Ghanaand Satva may be chosen as per Prakriti (individual constitution) as well as dosha pradhanya (dosha predominance) of disease; as Ghanawas found more efficacious in Vata Kapha Prakriti patients

III. TAXONOMICA LCLASSIFICATIONOF GUDUCHI

A. Scientific Name
Tinospora cardiofolia.

B. Family
Menispermaceae

C. Order
Ranunculales

D. Kingdom
plantae

E. Subkingdom
Tracheophyta-vascular plants

F. Super Division
Spermatophyta-vascular plants

G. Division
Magnoliophyta-flowering

H. Class
Magnolipsia-dicotiledons

I. Subclass
Polypeptalae-petal are free;

J. Tribe
Tinosporacae

K. Genus
Tinospora

L. Distribution
Guduchi is distributed throughout tropical and subtropical of regions of India It is indigenous to area of India, srilanka, china, Myanmar, Philippines, Malaysia, Bangladesh, and South Africa.

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M. Morphological Characteristics

Gurcha is a gregarious glabrous, twiner. Older stems are up to 2 cm in diameter and have corky bark.Aerial roots arise from nodal scars of branches. Stem and branches are specked with white vertical lenticels. Bark is grey-brown or creamy white, warty, papery thin, and peels off easily. Leaves are 5–15 cm, ovate, and acute.

They are membranous when young but become more or less leathery with age.

IV. PROPERTIES OF GUDUCHI

A. Stem

Fleshy and climbing in nature Stem is made up of powder form used fever. Starch is obtained stem is also called giloy/ guduchi satava. Guduchi is powder dosage form is used intreatment of diabetics mellitus



B. Bark

White to grey colour. bark is used in treatment of type-1 diabetes and type-2diabetes.bark is also used to prepare powder dosage form.



C. Leaves

Leaves of this plant are similar long petiolate alternate round, pulvinate, and heart shaped also twisted partially and half way around.



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D. Roots

Roots are thread like aerial squarishin sometimes aerial roots are Roots are characterized tetra to penta primary structure

E. Seeds

Seeds are curve shaped and endocarp is various provide taxonomic Properties.



V. TYPE OF DIABETES

A. Type-1 Diabetes

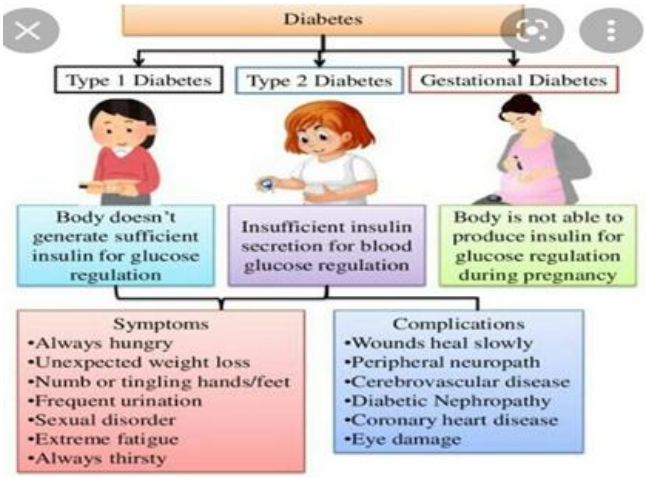
is insulin dependent diabetes, diabetes is also patients/people need of insulin, This Diabetes is also called as insulin dependent diabetes- mellitus/juvenile onset diabetes, Diabetes may be found to be 5-10%of diagnose case of diabetes diabetes is occure before age 30 especially for children, diabetes is pancreas cannot produce insulin

B. Type-2 Diabetes

Type-2 Diabetes is also called as resistance diabetes or non insulin dependent diabetes mellitus or adult onset diabetes Diabetes may be found to in 90-95%diagnosed case of diabetes. Diabetes occure age of 40 but more common in young

C. Gestational Diabetes

Gastistional diabetes is mainly found in pregnant womenIt is develop pragnancy 2-5%. Gestational diabetes occure people with family history of diabetes. Diagram of diabetic personand normal person:



Sr.No.	Normal person	Diabetic person
1	Food	Pancreas
2	Stomach	Produce insulin out either produce enough
3	Glucose	Insulin does not work properly
4	Absorbed through intestine	Sugar cannot go into cell by itself
5	Glucose go in blood vessels	Ultimately increases sugar level in blood.
6	Glucose transporated in other cell	Glucose transported plasm membrane

D. Environmental Factors of Diabetes

Viral infection Vaccination Climatic influence Stress
Dietary factor in early infancy

E. Risk Factors of Diabetes

There have been two ideas of type-1& type-2 diabetes one is directly attack beta cell and pancreas.
Another affecting immune system of human body.

F. Risk Factors of type-2diabetes

More fatty tissue you have the more resistance your cell become to insulin.

G. Inactivity

Less active your greater risk. Family history Age Gestational diabetes polycystic of over syndrome High blood pressure Race or ethnicity.

H. Formulation

Giloy Satva Powder Satva is termed as the Sara bhaga or essence of plant material and in this case, it is the essence of the giloy or guduchi plant obtained from maceration in water.

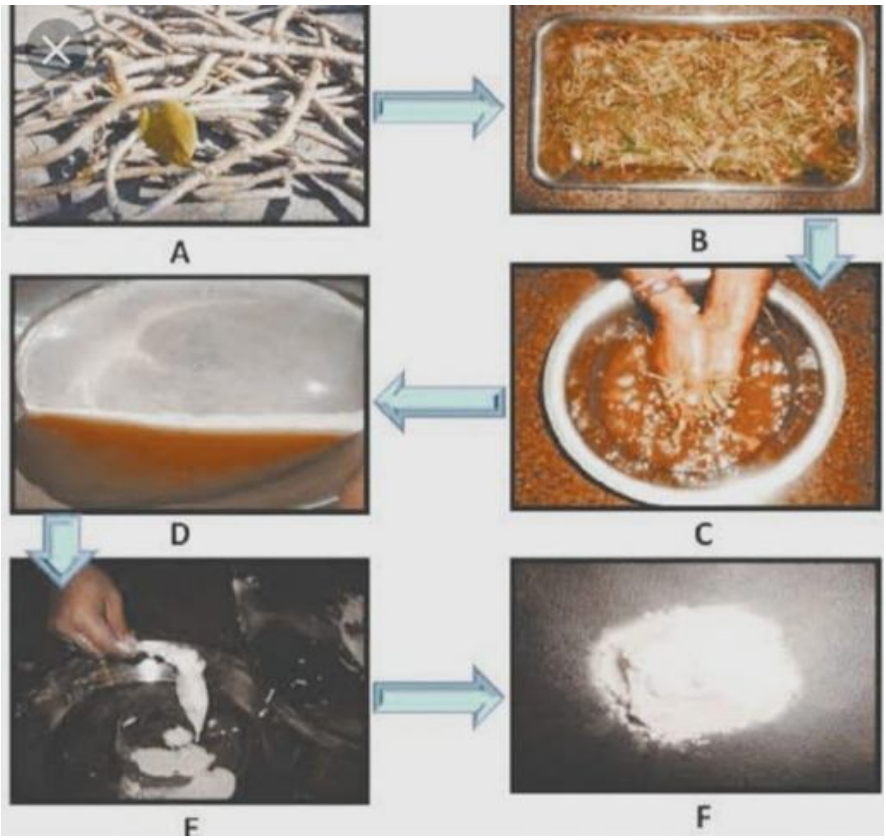
I. Ingredients

5 parts of fresh guduchi stem, 20 parts of water

1) Flavouring Agent: Lemon flavour
2) Glidant: Talcum.

J. Method

Wash the guduchi or giloy stems, remove the outer husks and cut the stems into smaller pieces of 2-3 inches length. Mash the stems inside the given quantity of water and allow it to settle overnight for about 10-12 hours. In the following morning, vigorously macerate the partially mashed giloy partially mashed giloy stems so as to release the mushy starchy material into the liquid. Filter the mixture a few times through mesh no.85(with minute sized pores) to remove any woody hard particles of the stem. And also added glidant and flavouring agent. Keep the liquid aside uninterrupted for 4-5 hours so that the filtrate separates from the residue. Carefully remove the supernatant liquid and collect the starchy sediment onto a tray. Air-dry the sediment under the fan and store it in air-tight vessels for future use To form fine powder to take patients in warm water and cool water take morning.



VI. CHEMICAL COMPOSITION

- PROTEIN
- CALCIUM
- STEROIDS
- LACTONES
- ALKALOIDS
- ALIPHATICS
- GLYCOSIDES
- HOSPHORUS
- DITERPENOID
- POLYSACCHARIDES
- PHENOLICS COMPOUNDS



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VII. BENEFITS OF GUDUCHI

Guduchi is antioxidant activities. Guduchi is Antidibetic activity. Guduchi is antistress activity. Guduchi is used in traditional Ayurveda medicine and several properties. guduchi of plant part like body include root, stem, leaves, whole part are used in corona virus.

A. Modern Medicine use of type1&type2diabetes

What are the benefits of Giloy for Diabetes mellitus (Type 1 & type2Giloy might be useful in managing diabetes by improving blood glucose levels It also helps to manage diabetes-related complications such as ulcers, wounds, kidney damage due to its antioxidant and anti inflammatoryproperties

B. Ayurvedic System of Medicine is used to treat type-1and type2diabetes

Giloy helps control high blood sugar level and various diabetic complications by improving digestion and absorption due to its Deepan (appetizer) and Pachan (digestive) properties which in turn prevents the formation of Ama.

- *Tip:* Take 1/2 teaspoon of Giloy Churna twice a day with water after taking lunchand dinner.

VIII. POWDER DOSAGE FORM

Fine powder of guduchi take oral dosage form Provide conveinantly made of administration.

IX. ADVANTAGES OF POWDER DOSAGE FORM

A powder can be dispersed in water or another liquid and more easily swallowed.
Oral powders can be mixed with beverage or applesauce immediately before use.
Manufacturing of powder dosage form is economic, hence, poduct cost is quite economic as compared to other dosage forms. Powders offer a lot of flexibility in compounding solids.

X. DISADVANTANGES OF POWDER

Powders are not the dosage form of choice for drugs with unpleasant taste. This is because masking of unpleasant tastes may be a problem with this type of preparation. Drugs that deteriorate rapidly with exposure to atmosphere or acidic pH should not be dispensed as powders.

XI. PRECAUTIONS OF WHEN GUDUCHI POWDER DOSAGE FORM

May cause the immune system to become more active which could further increase the symptoms of autoimmune diseases. Therefore, it is advisable to avoid Giloy if you are suffering from autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and lupus . Giloy may lower blood glucose level. So it is generally advised to monitor the blood glucose if you are taking Giloy along with anti-diabetic

XII. PRAGNANCY

Avoid medicinal use of Giloy during pregnancy due to the lack of scientific evidence

XIII. SYMPTOMS OF DIABETES

Excessive thirst Blurred vision Increase fatigue Extreme hunger Feeling tired
Dry skin
Burning sensation
More infection than usual
Slow healing of cuts and wound
Nausea, vommiting and stomach pain some of the
Symptoms in the onset of insulin dependent diabetes.

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XIV. RESULTS

Results is statistically non-significant decrease in BSL was occurred in the control at few days like 3-5days, but significant decrease was in comparison to its initial BSL also take powder dosage form of guduchi also and control type-1 and type-2 non-significant decrease in BSL occurred at all the few day intervals in comparison to its initial BSL. Administration of powder dosage form take oral route in cool water/warmwater to overnight fasted leads to a significant decrease in the blood glucose level at almost all the time intervals progressively to the end of the study.

XV. CONCLUSION

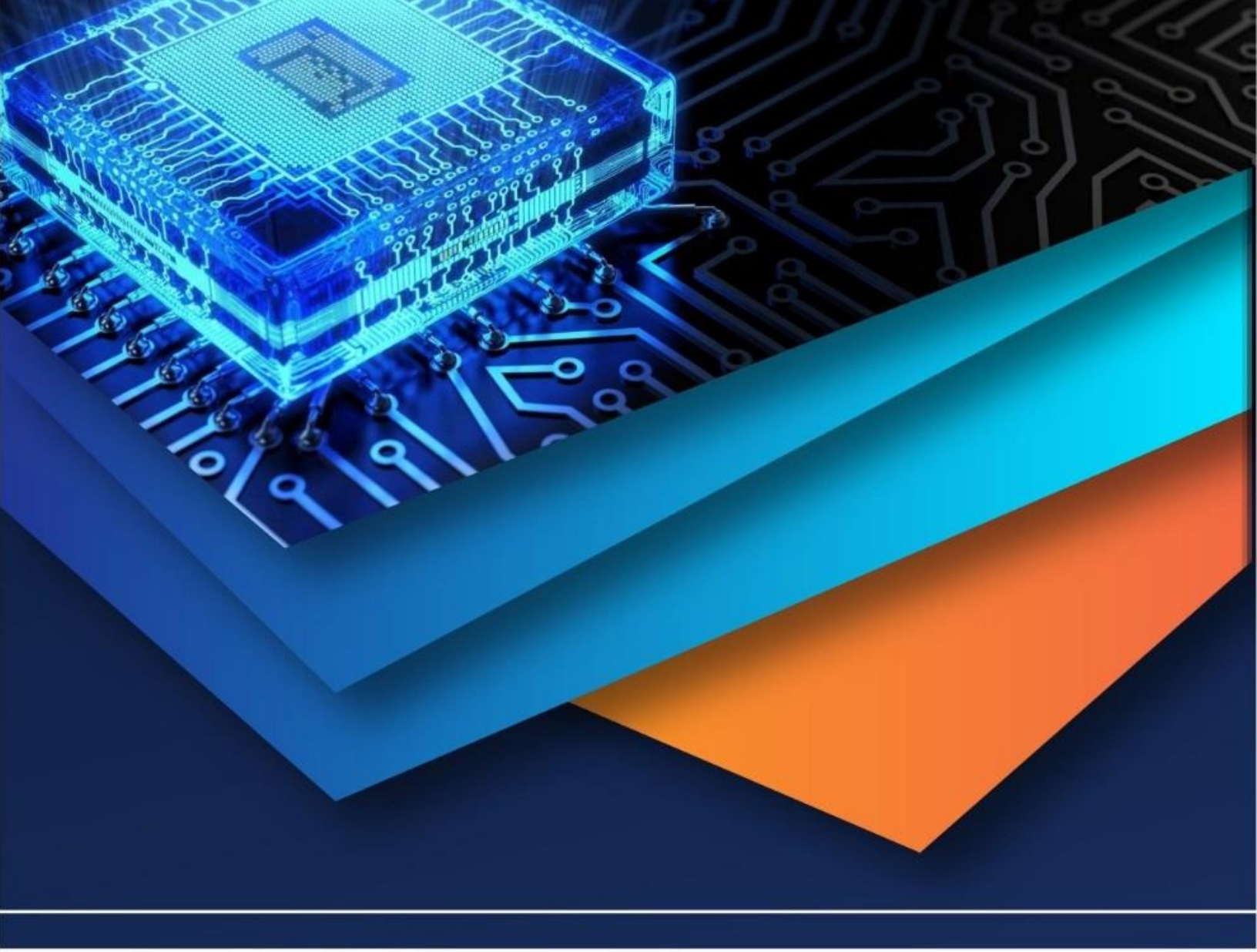
Current reasearch spotlights the antidiabetic profile of Guduchi from Ayurvedic perspective and contemporary researches validating and approving it; which proves the herb a helping aid to prevent, reverse, or even delay the sequences of diabetes pathology.Conventional management options available are expensive and often associated with negative side effects; therefore, the use of Guduchi provides better alternative which are usually less toxic and affordable.

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