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ANTI DIABETIC MEDICINAL PLANTS

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1. INTRODUCTION

Diabetes is a world leading disease, 7th leading cause of death, percentage of people suffering from diabetes throughout the world was 9.3% which may increase by the end of 2020. Diabetes is a long-term condition that causes high blood sugar levels over a prolonged period. Diabetes is due to either the pancreas not producing enough insulin or the cells of the body not responding properly to the insulin produced.[1-4]

Causes of Diabetes: [5-8]

Genetic makeup, Family history, Ethnicity, Health, Life style and Environmental factors, during pregnancy

Consequences of Diabetes: [9-15]

Diabetic dermadromes, Polyuria, Polydipsia, Polyphagia, Fatigue, causing problems in the Eyes, Kidneys, Feet and Nerves , Macrovascular and Microvascular complications

Types OF Diabetes: [16-18]

Type 1 Diabetes- Insulin-dependent diabetes, juvenile diabetes, or early-onset diabetes.

Type 2 Diabetes- Non insulin-dependent diabetes

Gestational Diabetes - Affects females during pregnancy

2. DISCUSSION

Treatment for Diabetes: [19-25]

- **Life style modification**: Diet, Exercise, Stress management, Increased social support
- **Synthetic Drugs**: By using Synthetic Drugs people will suffer from serious side effects
- Few examples of Synthetic Drugs: Sulfonylureas, Biguanides/Metformin, Alpha-glucosidase inhibitors, Thiazolidinediones, Meglitinides
- **Homeopathy:** Homeopathy have a long history of chronic ailments, and hence the treatment takes time. homeopathy is slow acting

- **Herbal medicines:** The natural medications with antidiabetic activity are widely formulated because they are better compatibility with human body, easily available and less side effects when compared with the synthetic antidiabetic medications. Antidiabetic herbal formulations are considered to be more effective for treatment of diabetes. More number of plant and plant products have been scientifically tested and reported to posses anti diabetic activity [26-35]

Examples of herbal medicines with proven Anti diabetic activity/ plant part used: [36-60]

Roots -Asiatic ginseng, Ashvagandha, winter cherry, Acontium carmichaeii, Oriza sativum

Leaves,Stems – Sapphire-berry (Asiatic sweet-leaf)

Fruits/Flowers- Musa paradisiaca (Banana)

Bark – Ficus bengalensis **(**Banyan tree)

Leaves -Barbados, Betel, Betel vine, Black tea, Common fig,Wattakaka volubilis, Abrus precatoriusL , Aloe vera and Aloe barbadensis, Mangifera indica, Gudmar , Adulsa, Piper longum

Leaf extract -Bilwa, bael fruit

Fruit pulp - Annona reticulata (Custard apple)

Husks extract -Desert Indian wheat, Ispghul

Whole plant -Prickly chaff flower, Tinospora cardifolia

Fruit -Anemarans, Atractylodes japonica, Dioscorea japonica, Nagarmotha, Zi ngiber officinalis-Rhizomes

Capsicum annum, Gandoderma lucidium

Aerial part -Coptis chinensis, Brahmi

Seeds -Galega officinalis, Lathyrus japonica, Trigonella foenum graecum

Plant extract -Acacia Arabica, Tinospora cordifolia

Paste -Allium cepa, Allium sativum

Fruit pulp,seed leaves,whole plant -Momordica charantia

Extracts -Azadirachta indica

Root extarct -Annonasquamosa

Extarct -Nigella sativa

Dried stem -Arjunsa

Oleo gum resin incision of stem bark -Guggul

Flower -Jaswand

Gummy exudation of stem and bark -Babhul

Root leaves -Withania somnifera

Stem roots -Ti nospora cardifolia

Roots,stolen -Glycyrrhiza glabra

Mature fruit and dried seeds -Syzygium cumini

Entire herb -Ocimum sanctum

Fruits -Terminalia chebula, Terminalia bellerica

Dried ripe seeds -Areca catechu

Matured fruits and dried seed- Syzygium cumini

3. CONCLUSION

From the above stud it was concluded that the most common disadvantage of using synthetic drugs is their serious side effects. This led to the use of medicines which have less/no side effects i.e., herbal medicines. The herbal medicines are considered to be better compatible with human body and are made from renewable resources of raw materials, easily available as well as cost effective. In this context, plants either wholly or a part of it or combination of its parts is used either directly or as a formulation. Various plants have been cited as examples.

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