Short Communication

Brief review on important plants used in Diabetes

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Abstract: Diabetes is a serious metabolic disorder, which needs to be controlled.Various plants with antidiabetic properties have been recognised.These plants are available in our daily diet which can be taken accordingly to control the diabetic disorder.

Key words: Diabetes, Medicinal Plants

Introduction

In the last decade the cases of people living with diabetes jumped almost 50 percent. Worldwide it afflicts more than 380 million people. And the World Health Organization estimates that the number of people living with diabetes will more than double.

About Diabetes: When you eat, your body turns food into sugars or glucose. At that point the pancreas is supposed to release insulin. Insulin serves as a key to open the cells to allow the glucose to enter and allows you to use the glucose for energy. But with diabetes this system does not work.

Type 2 Diabetes or Non insulin dependent diabetes: This is also called adult onset diabetes since it typically develops after age 35. People with type 2 are able to produce some of their own insulin often its not enough. And sometimes the insulin will try to serve as the key to open the body's cells, to allow the glucose to enter. But the key won't open. This is called insulin resistance. Type 2 is tied to people who are overweight with a sedentary lifestyle.

Plants used in Diabetes with their chemical constituents:

Psidium guajava (Guava):

It helps slow down the sugar absorption. Guava leaf extracts possesses quercetin, a flavonoid with hypoglycemic effect that helps lower blood sugar. The guava fruit and leaves contain at least 13 substances against diabetes. Administering natural guava juice for 4 weeks helped a 25% reduction in blood sugar in diabetic animals.

Allium sativum (Garlic):

It has allicin. Administration of 100-125 mg/kg of Allicin to fasting humans resulted in decrease of blood glucose levels and in araise of serum insulin.

Cuminum cumin (Black Cumin):

The antiradical profile of cumin has been proposed as the underlying mechanism for its pharmacological property of being antidiabetic.

Cinnamomum zeylanicum (Cinnamon):

It lowers blood glucose and cholesterol. 1 gram a day of cinnamon benefits people with type 2 diabetes.

Commiphora wightii (Guggul):

Study in mice found potential antidiabetic effects. The sticky gum resin from the tree plays a major role.

Capsicum annum (Red Chilly):

The role played by Capsicum annum in diabetes could be traced to its antioxidant properties embedded in its phytoconstituents.

Gymnema sylvestre:

Due to its active component GS4 which raises the number of beta cells in the pancreas. Thus the internal production of insulin is enhanced.

Trigonella foenum graecum (Fenugreek):

Its seeds can improve most metabolic symptoms associated with both type 1 and type 2 diabetes in humans by lowering blood glucose levels and improving glucose tolerance.

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Pterocarpus marsupium:
Treatment of diabetic rats with methanol extracts of P. marsupium aerial part for 14 days resulted in significant alterations towards normalcy in seru, glucose, lipid profile and tissue parameters.

Aloe vera:
It has immune boosting and antioxidant rich properties. It is a supplement in management of type 2 diabetes.

Syzygium cuminii (Jamun):
The seed powder and fruit is good for diabetes.

Coccinea grandis (Ivy Gourd):
It acts like insulin by correcting the elevated enzymes. Glucose 6 phosphatase, lactase dehydrogenase and thus controls hyperglycemia in diabetes.

Carica papaya (Papaya):
It is a low sugar food choice and an antioxidant source. It has low sugar amounts.

Lycopersicum esculentum (Tomato):
It is an abundant source of antioxidants. It affords significant cardiovascular support.

Cucumis sativus (Cucumber):
It contains 0. 9 gram of starch and 1. 7 grams of sugar. It has little potential to cause a boost in blood sugar.

Avena sativa (Oats):
It helps reduce cholesterol and blood sugar levels by causing a feeling of fullness.

Malus pumila (Apples):
It is high in soluble fibre pectin, making them good at controlling blood sugar by releasing it a little more slowly into the blood stream.

Lagenaria siceraria (Bottle gourd):
It is easily digestable and low in calories. It is 96. 1% water.

Zingiber officinale (Ginger):
It is 100% effective in preventing development of type 2 diabetes in prediabetics. It improves insulin sensitivity.

Allium cepa (Onion):
The fibrous roots of onion is effective in controlling hyperglycemia in animal models of diabetes mellitus.

Ocimum sanctum (Tulsi):
The extract is hypoglycemic. The alcoholic extract of leaves led to marked lowering of blood sugar level in diabetic rats.

Murraya koenigii (Curry leaves):
It slows down the rate of starch to glucose breakdown in people with diabetes, the leaves could control the amount of glucose entering the blood stream.

Citrus limon (Lemon):
It is good for diabetics mainly because of its high concentration of vitamin C.

Citrus sinensis (Orange):
They are not very high in natural sugar and yet high in fibre and other minerals like thiamin. They are low glycemic food that releases glucose slowly into the blood.

Pyrus pyrifolia (Pear):
It is a high fibre fruit good for diabetics. It is low in carbohydrates.

Actinida deliciosa (Kiwi fruit):
It has fibre and fructose. The glycemic index is extremely low. It contains inositol necessary for controlling blood sugar levels in diabetics.

Phaseolus vulgaris (Beans):
It is a rich source of protein. It can help lower cholesterol levels. It slows down the breakdown of carbohydrates into sugars.

Persia Americana (Avocado):
It is a source of monounsaturated fats. It is also a source of oleic fatty acids. Oleic acid help reduce high triglyceride levels in the blood. Monounsaturated fats process glucose and use insulin more effectively.

Ananus comosus (Pineapple):
It has significant amount of vitamin c, thiamin and manganese.

Prunus avium (Cherry):
It contains chemicals that boost insulin which helps control sugar levels. The chemicals in it are anthocyanins.

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