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Anti-Diabetic potential of herbal remedies on the glucose transport gene (GLUT) in liver and skeletal muscles

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ABSTRACT:

For a long time, several herbal medicines have been used for the treatment of diabetes in the form of compound drugs. Moreover, after the references made by researchers on diabetes mellitus, investigations on the hypoglycemic activity of compound drugs from medicinal plants have been more important. Although, the molecular mechanisms behind this effect is not much explored yet. There are various approaches to reduce the diabetes effect and its secondary complications, and herbal drugs are more preferred due to its less side effects and low cost. One of the major factors in the development of diabetes and its complications is the damage induced by free radicals. Therefore antidiabetic compounds with antioxidant properties would be more beneficial. It is hypothesized that the insulin mimetic effect, hypoglycemic effect and β-cell function of herbal remedies might add to glucose uptake through improvement in the expression of genes of the glucose transporter (GLUT) family in liver and skeletal muscles. Here we selected some plants with the ability to control blood glucose as well as to modulate some of the mechanisms involved in insulin resistance like β-cell function, glucose transport (GLUT) gene and incretion related pathways. Therefore, plants remedies may be appealing as an alternative and adjunctive treatment for diabetes mellitus.

Keywords:

Herbal remedies, Glucose Transporter (GLUT), mRNA.

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