



Invitro Antioxidants and Antidiabetic Potentials of Ethanol and N-Hexane Extract of *Ficusexasperata*(Sandpaper)Leaf

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Introduction

Diabetes mellitus is a chronic illness that is characterized by the body's incapacity to control blood glucose levels. Studies on anti-diabetic medications have been prompted by the rapid rise in the incidence and prevalence of diabetes mellitus in society. Therefore, the aim of this study was to determine the in-vitro antioxidants and anti-diabetic potential of ethanol and n-hexane extract of *Ficusexasperata*.

Materials and Methods

The *F. exasperata* extracts were subjected to phytochemical screening, antioxidant assay using standard methods. The antidiabetic activity of the extracts was assessed using an invitro model (α - amylase and α -glucosidase).

Results and discussion

The qualitative identification of phytochemicals in the ethanol and N-hexane extract of *F. exasperata* revealed the presence of Tannins, flavonoids, alkaloids, saponin and so on. Ascorbic acid, a standard medication, and extracts from *F. exasperata* demonstrated radical inhibition. N-hexane extracts exhibited the highest level of action in the DPPH radical scavenging experiment, with an IC₅₀ value of 184.06 μ g/ml. The standard, ascorbic acid, had the lowest activity, with an IC₅₀ value of 72.65 μ g/ml. The enzymes α -amylase and α -glucosidase activities were used to measure the antidiabetic activity. When compared to ethanol and n-hexane plant extracts, the standard (acarbose) showed maximal activity of α -amylase and α -glucosidase, with IC₅₀ values of 0.30 μ g/mlfor α -amylase inhibition and 0.34 μ g/mlfor α -glucosidase inhibition.

Conclusion

Thus, it may be said that *F. exasperata* partially exhibits its antidiabetic potential by inhibiting alpha-amylase and alpha-glucosidase. These plants have tannins and flavonoids that lower oxidative stress, scavenge free radicals, and may be used as an alternative treatment for a number of human diseases. The results validated the potential of *F. exasperata*extracts in the management of diabetes mellitus.

Keywords: *Ficusexasperata*, Phytochemicals, Antioxidants, Anti-diabetics, Ascorbic acid, Acarbose