



Study on *In Vitro* Antidiabetic Potential of Whole Plant Part of *Urtica parviflora* Roxb.

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SUMMARY. Diabetes mellitus is a chronic metabolic illness that has a significant impact on society's health and economy. Because the currently available treatments have so many disadvantages, it's important to look for alternatives. Traditional treatments employ medicinal plants, which are great options. As a result, this study proposed to evaluate the phytochemical evaluation and *in vitro* antidiabetic potential of whole parts of the plant *Urtica parviflora* Roxb. It is a perennial, polygamous herbaceous plant that grows in damp and partially shaded places. The plant *Urtica parviflora* Roxb. belongs to the family Urticaceae. Traditionally, whole plant parts are used in the treatment of goiter, cough, allergies, alopecia, and fevers. This plant has specialized characteristics and features of stinging hairs which are a rich source of phytoconstituents majorly 5-hydroxytryptamine and histamine. The literature study shows that very few activities and research have been done on the plant. The present study was based on an investigation of its preliminary phytochemical screening and evaluation of *in vitro* antidiabetic potential alpha-glucosidase and alpha-amylase enzyme inhibition. Results found that various phytochemical constituents are present in the hydro-alcoholic extract in different percentages like loss on drying (11.4%), starch (0.92%), sugar (0.66%), flavonoids (0.24%), tannins (1.24%), phenolic compounds (3.10%), proanthocyanidin (2.18%), and flavonols (0.23%) respectively.

RESUMEN. Diabetes mellitus es una enfermedad metabólica crónica que tiene un impacto significativo en la salud y la economía de la sociedad. Debido a que los tratamientos actualmente disponibles tienen tantas desventajas, es importante buscar alternativas. Los tratamientos tradicionales emplean plantas medicinales, que son una gran opción. Como resultado, este estudio propuso evaluar la evaluación fitoquímica y el potencial antidiabético *in vitro* de partes enteras de la planta *Urtica parviflora* Roxb. Es una planta herbácea perenne, polígama, que crece en lugares húmedos y parcialmente sombreados. La planta *Urtica parviflora* Roxb. pertenece a la familia de las Urticáceas. Tradicionalmente, las partes enteras de la planta se utilizan en el tratamiento del bocio, la tos, alergias, alopecia y fiebre. Esta planta tiene características especializadas y características de pelos punzantes que son una rica fuente de fitoconstituyentes, principalmente 5-hidroxitriptamina e histamina. El estudio de la literatura muestra que se han realizado muy pocas actividades e investigaciones sobre la planta. El presente estudio se basó en una investigación de su cribado fitoquímico preliminar y la evaluación del potencial antidiabético *in vitro* de la inhibición de la enzima alfa-glucosidasa y alfa-amilasa. Los resultados encontraron que varios constituyentes fitoquímicos están presentes en el extracto hidroalcohólico en diferentes porcentajes como pérdida por secado (11,4%), almidón (0,92%), azúcar (0,66%), flavonoides (0,24%), taninos (1,24%), compuestos fenólicos (3,10%), proantocianidina (2,18%) y flavonoles (0,23%) respectivamente.

KEY WORDS: alpha-amylase, alpha-glucosidase, antidiabetic, phytoconstituents. *Urtica parviflora*.

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