

Extraction of Herbal from Medicinal Plant Application from Antioxidant, Anti Microbial and Anti Diabetic Properties

Mrs Nivedha S¹, Nivetha J², Deepa P², Deepika E², Akshayasri A²

¹Assistant Professor, Department of Pharmaceutical Technology, Gnanamani College of Technology, Namakkal – 637018

²Fourth Year, Department of Pharmaceutical Technology, Gnanamani Collge of Technology, Namakkal – 637 018

ABSTRACT

Aloe vera is a well-known medicinal plant recognized for its rich phytochemical content and wide range of therapeutic properties. In this study, a hydroalcoholic extract of *Aloe vera* was prepared and evaluated for its **antioxidant**, **antibacterial**, and **anti-diabetic** activities using in vitro methods.

INTRODUCTION

This scenario has highlighted the use of *Aloe vera*, a plant known for its significant therapeutic potential that has been used since ancient times in various parts of the world. Plant extracts are rich in bioactive compounds that possess a diverse array of chemical ingredients, including alkaloids, polyphenols, and flavonoids, all of which play a pivotal role in drug development. DM is considered a debilitating and life-threatening endocrine disorder that causes a high mortality rate worldwide and is defined as a serious metabolic disorder that causes hyperglycemia as a result of insufficient insulin action and/or secretion (Ansari et al., 2021a). The global diabetes prevalence in 2019 is estimated to be 9.3% (463 million people), rising to 10.2% (578 million) by 2030 and 10.9% (700 million) by 2045 (Sun et al., 2022). Type-1 DM prevalence represents around 9.5% in the world (Mobasserri et al., 2020) while T2DM cases range from 90% to 95% around the world (Ansari et al., 2021b; Kaiser et al., 2018).

METHODOLOGY

The results of the preliminary phytochemical examination of the total extracts and fractions of the flowers are summarized in Table 3) all extracts confirmed the existence of medicinally active ingredients such as Flavonoids, anthraquinones, and tannins. The phytochemical composition of the AVFME.

The present study was conducted to assess preliminary phytochemical study, quantitative screening of total phenolics and flavonoids, *in-vitro* antioxidant activity, and pharmacological *in-vivo* acute oral toxicity and anti-diabetic studies of Yemini *A. vera* flowers in experimental rats besides new insights to the histopathological study of pancreatic tissues and molecular docking study of AVFME to investigate the proposed anti-diabetic mechanism. The total phenol content of methanol and aqueous extracts of *Aloe vera* revealed 20 mg GAE/g extract and 8 mg GAE/g extract respectively. The tannin content showed 10 mg GAE/g extract and 6 mg GAE/g extract respectively while the total flavonoid content revealed 0.042 mg QE/g extract and 0.064 mg.

REFERENCE

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RESULT AND DISCUSSION