

DOI: <https://doi.org/10.56936/18290825-3.v18.2024-106>**ANTIOXIDANT DRUGS FROM HYDRO-ETHANOLIC FLORAL EXTRACTS OF IMPATIENS BALSAMINA L.: AN IN VITRO ANALYSIS****QAMER S.<sup>1\*</sup>, BAKAR I.<sup>2</sup>, ALSANOUSI N.<sup>1</sup>**<sup>1</sup> Department of Basic Medical Sciences, College of Medicine, Prince Sattam bin Abdulaziz, University, Al-Kharj, Saudi Arabia<sup>2</sup> Department of Pathology, Hamdard College of Medicine and Dentistry, Hamdard University, Karachi, Pakistan*Received 16.04.2024; Accepted for printing 04.08.2024***ABSTRACT**

Oxidative stress or oxidative cell damage may lead to various systemic or chronic diseases including cancer. Therefore, there is a need to prevent the cells from oxidative stress resulting prevention of disease.

As a consequence of this, our study investigated the anti-oxidant property of hydroethanolic *Impatiens balsamina L.* flower extracts using various antioxidant assays such as 2,2-diphenyl-1-picrylhydrazyl free radical scavenging assay, 2,2'-Azino-bis (3-ethylbenzthiazoline-6-sulfonic acid) scavenging assay, catalase assay, hydroxyl radical scavenging activity, and nitric oxide scavenging activity.

The results revealed the potent antioxidant activity through 2,2-diphenyl-1-picrylhydrazyl, 2,2'-Azino-bis (3-ethylbenzthiazoline-6-sulfonic acid), catalase, hydrogen peroxide and nitric oxide scavenging activities. The extract showed efficient inhibitions at 100 µg/ml as 56%, 69%, 67%, 56%, and 59% for 2,2-diphenyl-1-picrylhydrazyl, 2,2'-Azino-bis (3-ethylbenzthiazoline-6-sulfonic acid), catalase, hydrogen peroxide and nitric oxide, respectively.

Overall, hydroethanolic *I. balsamina* flower extracts had potent antioxidant activity that could be used as a therapeutic agent in the management of oxidative stress.

**KEYWORDS:** antioxidant, DPPH, hydroethanolic extract, *impatiens balsamina L.***INTRODUCTION**

The medicinal plant is an important source of bioactive components with a wide range of virtually useful properties. Different types of antioxidants synthesized in plants are the main reasons for their application in medicine, aromatherapy, and phototherapy. Antioxidants are significant molecules that inhibit or slow down the process of unstable molecule oxidation resulting in cell damage prevention from free radicals which are short-term molecules, unstable, and extremely reactive owing to their unpaired elec-

trons to bind with nearby molecules to get stability [Firuzi O et al., 2011; Qazi M, Molvi K, 2018]. The free radicals can cause cell damage when the molecules get attacked and the free radical's overproduction, as well as inadequate antioxidant production, may lead to oxidative stress responsible for various life-threatening diseases like cancer, diabetes, myocardial infarction, and stroke [Phaniendra A et al., 2015; Espinosa-Diez C et al., 2015; Pizzino G et al., 2017; Padureanu R et al., 2019; Sharifi-Rad M

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