Mini Review

BIOMEDICAL Journal of Scientific & Technical Research

ISSN: 2574 -1241

DOI: 10.26717/BJSTR.2021.40.006417

Anti-Aging Potential of Catharanthus Roseus: Literature Review

Fatma S Ruffaida, Windy Yuliana Budianto*, Widya Nursantari, Prinandita Syafira and Ajrina Nurwidya Sari

Universitas Lambung Mangkurat, Indonesia

***Corresponding author:** Windy Yuliana Budianto, Universitas Lambung Mangkurat, Indonesia

ARTICLE INFO

Received: November 16, 2021

Published: November 24, 2021

Citation: Fatma S Ruffaida, Windy Yuliana Budianto, Widya Nursantari, Prinandita Syafira and Ajrina Nurwidya Sari. Anti-Aging Potential of Catharanthus Roseus: Literature Review. Biomed J Sci & Tech Res 40(2)-2021. BJSTR. MS.ID.006417.

ABSTRACT

Catharanthus roseus, also known as Vinca rosea, is a member of the *Apocynaceae* family. *C. roseus* parts are used for a variety of medical purposes. Aging is a natural human "aging mosaic" that manifests and follows different trajectories in various organs, tissues, and cells over time. Previous study showed that *C. roseus* also has a high antioxidant capacity. Antioxidants are free radical scavengers that protect the human body from free radicals by suppressing oxidative chain reactions. Aging is a natural human "aging mosaic" that manifests and follows different trajectories in various organs, tissues, and cells over time Thus, *C. roseus* could be used as anti-aging properties.

Introduction

Catharanthus roseus, also known as Vinca rosea, is a member of the *Apocynaceae* family (Genus catharanthus) [1]. Other common names include periwinkle, Madagascar periwinkle, and tapak dara in Indonesia. The plant is easy to grow and widely available in Indonesia [1]. It is a herbaceous plant or an evergreen subshrub that grows to a height of 32 in 80 cm [2]. It has glistening, dark green leaves and blooms all summer [2]. The flowers of the plant are naturally pale pink with a purple "eye" in the center [2]. To 1 m tall suffrutex with white latex. Stems are green and often tinged with purple or red [2]. Pink, purple, and white flowers are produced by these plants, which are planted for decorative purposes [2]. *C. roseus* parts are used for a variety of medical purposes [3]. The dried root, leaves, flowers, and stalks of the plant have all been used in regional herbal medicine [4]. *C. roseus* has traditionally been used to treat a variety of ailments including high blood pressure, infection, and diabetes mellitus [2]. *C. roseus* also has a high antioxidant capacity [3,5].

Anti-Aging

Aging is a natural human "aging mosaic" that manifests and follows different trajectories in various organs, tissues, and cells over time [6]. The 'successful aging' paradigm, which focuses on health and active participation in life, challenges traditional views of aging as a time of disease and is increasingly associated with minimizing age signs on the skin, face, and body [6]. Antioxidants, such as vitamins, polyphenols, and flavonoids, reduce collagen degradation and could be used as anti-aging properties [6]. Antioxidants are free radical scavengers that protect the human body from free radicals by suppressing oxidative chain reactions [1].

Catharanthus roseus contains a high concentration of volatile and phenolic compounds, such as caffeoylquinic acids and flavonol glycosides, which have antioxidant activity [7]. It is important in the body's defense system because it acts as an antioxidant against reactive oxygen species (ROS) [7]. Alkaloids and phenolic compounds are the most important chemical compounds biosynthesized by *C.*

roseus, and the presence of several chemical groups such as polyphenols, alkaloids, steroids, flavonoid glycosides, anthocyanins, and iridoid glycosides is normally found in several plant structures [4,8]. The previous study also tested the antioxidant activity of *C. roseus* at various concentrations (200, 400, 600, 800, and 1000 g) [2]. Catharanthus roseus flower petals, seeds, and other parts have antioxidant properties [7]. As a result, phenolic compounds have redox properties that allow them to act as reducing agents, hydrogen donors, or singlet oxygen quenchers [7]. Thus, Catharanthus roseus could be used as anti-aging properties.

Conclusion

In this review, we highlight the amazing anti-oxidant properties of the plant Catharanthus roseus. Similarly, billions of medicinal anti-oxidant plants are waiting to be invaded and explored. With rapid advancements in treatment and extensive research into anti-aging, the anti-aging properties will become more prevalent.

Conflict of Interest Statement

We declare that we have no conflict of interest.

Acknowledgement

This study was sponsored by Universitas Lambung Mangkurat Research Grant 2021.

References

1. Rasool N, Rizwan K, Zubair M, Naveed KUR, Imran I, et al. (2011) Antioxidant potential of different extracts and fractions of Catharanthus roseus shoots. Int J Phytomedicine 3(1): 108-114.
2. Padmaa Paarakh M, Swathi S, Taj T, Tejashwini V, Tejashwini B (2019) Catharanthus Roseus Linn—A Review. Acta Sci Pharm Sci 3(10): 19-24.
3. Aziz S, Saha K, Sultana N, Nur HP, Ahsan MA, et al. (2016) Comparative studies of elemental composition in leaves and flowers of Catharanthus roseus growing in Bangladesh. Asian Pac J Trop Biomed [Internet] 6(1): 50-54.
4. Baran A, Bidhan S, Krishi Viswavidyalaya C, Das S, Sharangi AB (2017) Madagascar Periwinkle (Catharanthus roseus L.,): Diverse medicinal and therapeutic benefits to humankind. J Pharmacogn Phytochem [Internet] 6(5): 1695-1701.
5. Gajalakshmi S, Vijayalakshmi S, Rajeswari DV (2013) Pharmacological activities of Catharanthus roseus: A perspective review. Int J Pharma Bio Sci 4(2): 431-439.
6. Ganceviciene R, Liakou AI, Theodoridis A, Makrantonaki E, Zouboulis CC (2012) Skin anti-aging strategies. Dermatoendocrinol 4(3): 308-319.
7. Nisar A, Mamat AS, Hatim I, Aslam MS, Syarhabil M (2016) an Updated Review on Catharanthus Roseus: Phytochemical and Pharmacological Analysis. Indian Res J Pharm Sci 3(2): 631-653.
8. Barrales-Cureño HJ, Montiel-Montoya J, Espinoza-Pérez J, Cortez-Ruiz JA, Lucho-Constantino GG, et al. (2021) Metabolomics and fluxomics studies in the medicinal plant Catharanthus roseus [Internet]. Medicinal and Aromatic Plants. Elsevier Inc, p. 61-86.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2021.40.006417

Windy Yuliana Budianto. Biomed J Sci & Tech Res