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RESEARCH ARTICLE

In-vitro Antioxidant and Cytotoxic properties of *Strobilanthes kunthianus*

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ABSTRACT:

Background: *Strobilanthes kunthianus* Nees T Anders (*S. kunthianus*, Neela kurinji) is a shrub in the grasslands of Western Ghats in India. The Nilgiris, which literally means the blue mountains got its name from the purplish blue flowers of Neelakurinji that blossoms gregariously once in twelve years. It is well known for its biological properties. However, so far there is no detailed antioxidant and cytotoxic studies has been carried out. **Objective:** The present study aimed to evaluate *in-vitro* antioxidant and cytotoxic activities of various parts of *S. kunthianus* extracts. **Methods:** Fourteen extracts were prepared in different parts of *S. kunthianus* including stem, leaves, flowers and roots. All the extracts were examined for *in-vitro* antioxidant and cytotoxic activities using standard methods. The total phenol content was estimated by Folin Ciocalteau method. **Results:** The crude methanol flower extract was found to contain very high total phenol content among all the extracts. Among the tested extracts, the ethyl acetate extracts of root and stem showed potent *in-vitro* antioxidant activity, when compared to ascorbic acid in ABTS method. These extracts showed better activity than other successive extracts of root and stem. In case of methanol extracts, the crude extracts showed potent antioxidant activity in ABTS, H_2O_2, and total antioxidant capacity methods. The crude methanol flower extract was found to be the most potent among the methanol extracts. Many natural products have served as anticancer agents in the treatment and also as lead compounds for further research. All the extracts were tested for their cytotoxic activity against Hep-2 and HeLa cell lines. But all the extracts showed weak activity in the tested cell lines. **Conclusion:** *S. kunthianus* merits further investigation in animal models to confirm its antioxidant and anticancer properties and to isolate the phytoconstituents that are responsible for their biological activities.

KEYWORDS: *Strobilanthes kunthianus*, antioxidant, cytotoxicity, total antioxidant, total phenol content.

INTRODUCTION:

The reactive oxygen species (ROS) play an important role in the pathogenesis of various serious diseases, such as cardiovascular diseases, neurodegenerative disorders, cataracts, cancer, inflammation, atherosclerosis, etc. Antioxidants are molecules which can safely interact with free radicals and terminate the chain reaction before vital molecules are damaged. Natural products now have received special attention as dietary supplements because of their potent antioxidant activity. Most beneficial health effects are attributed to their capacity to transfer electrons to free radicals, chelate metal catalysts, activate enzyme system, reduce α-tocopherol radicals and have

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