

PHYTOCHEMICAL ANALYSIS AND ANTIOXIDANT ACTIVITY OF ATHIMATHURAM CHOORANAM

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Abstract

Cancer cells has the ability to invade any tissue of the body can spread from the area of origin throughout the body. Chemotherapy has been used to treat cancer however, the effectiveness of chemotherapeutic drugs are severely limited by drug resistance. Traditional medicine has been used for thousands of years to treat and prevent diseases plays an integral role in primary health care. The phytochemical analysis of Athimathuram Chooranam showed the presence of alkaloid, flavonoid, phenol, terpenoid, steroid and absence of saponin, tannin and glycoside. The hydrogen per oxide and reducing power activity showed good antioxidant potential of tested medicine.

Keywords: Traditional medicine, Athimathuram, Chooranam, Antioxidant

INTRODUCTION

Phytochemical are synthesized by specific biochemical pathways plays a major role for plant defense and adaptation to environmental stress. The bioactive compounds are accumulated as secondary metabolites in all plant cells but their concentration varies according to the plant part used for the formulations. They range from medicinally useful agents to deadly poisonous one are used in pharmaceutical drug industry. Athimathuram Chooranam is an internal form of Siddha medicine prescribed to cure cancer using plant ingredients. Over the centuries, the use of medicinal herbs has become an important part of daily life despite the progress in modern medical and pharmaceuticals research. Approximately 3000 plants species are known to have medicinal properties in India (Prakasha *et al.*, 2010). Our traditional systems of medicines, viz., Ayurveda, Yunani, Siddha and Homeopathy etc use herbs for the treatment of diseases. It is estimated that 40% of the world populations depends directly on plant based medicine for their health care (WHO, 2000).

Herbal medicine, rather than merely curing a particular disease, aims at returning the body back to its natural state of health (Srivastava, 2009). The phytochemical components of medicinal plants often act individually, additively or synergistically in improvement of health (Schutz *et al.*, 2006). Various plant parts such as leaves, bark, fruits, roots and seeds are used in treatment of various diseases. It had been reported that aqueous and methanolic extracts from plants used in allopathic medicines, potential sources of antiviral, antitumour and antimicrobial agents (Vlietinck *e t al.*, 1995).

METHODOLOGY

The formulated medicine prescribed to cure cancer were subjected to qualitative analysis for the presence of alkaloid, flavonoid, saponin, phenol, terpenoid, tannin, steroid and glycoside constituents (Harborne, 1999). The ability of the medicine and extracts to scavenge hydrogen peroxide was done as per the standard protocol (Ruch *et al.*, 1989) and reducing power (Yen and Duh, 1993).

RESULT AND DISCUSSION

Flavonoid exhibits a broad pharmacological function such as anticancer, anticarcinogenic, antiviral, antioxidant, antithrombogenic and antiatherogenic activities. Their synthetic analogues have been intensely investigated in the treatment of ovarian, breast, cervical, pancreatic and prostate cancer. The earlier observations cited on the phytochemical analysis revealed the presence of flavonoid constituents in Chittiramoola Kuligai prescribed to cure chronic ulcers (Ravichandran and Mubarak, 2014). In the present study qualitative analysis of **Athimathuram Chooranam** showed the presence of alkaloid, flavonoid, phenol, terpenoid and steroid. **Aqueous extract** showed the presence of alkaloid, phenol and tannin. **Ethanol extract** revealed the presence of alkaloid, flavonoid, tannin, steroid, terpenoid and glycosides constituents. The earlier studies on hydroxyl radical scavenging activity of Siddha Veppampattai Thailam prescribed to cure wound varied from the minimum inhibition of 52.39% (25 μ l) to the maximum inhibition of 83.68% (100 μ l) (Mary Suja and Christudhas Williams, 2015). In the present study hydroxyl radical scavenging of **Athimathuram Chooranam** varied from 42.30 \pm 0.005 % (25 μ l) to 57.02 \pm 0.015 % (100 μ l). **Aqueous extract** of the Chooranam varied from 42.17 \pm 0.010 % (25 μ l) to 61.17 \pm 0.011 % (100 μ l). **Ethanol extract** of the Chooranam varied from 53.61 \pm 0.015 % (25 μ l) to 64.20 \pm 0.000 % (100 μ l). The standard antioxidant L-ascorbic acid varied from 61.32 \pm 0.000 % (25 μ l) to 81.29 \pm 0.000 % (100 μ l) highlights the effect of medicine.

CONCLUSION

The presence of phytoconstituents in the tested medicine proven that the antioxidant potential value compared with the concerned standard showed the effect of medicines responsible for preventing damage of the body.

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