

# Combination of Natural Products with Chemotherapy Against Cancer †

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† Presented at Virtual symposium to observe World Antimicrobial Awareness week “Applications of biotechnology and microbiology with special emphasis on Antimicrobial resistance”, 18-24 November 2020, Chennai, India

Received: 10.11.2020; Revised: 15.11.2020; Accepted: 17.11.2020; Published: 10.01.2021

**Abstract:** Cancer is one of the most life-threatening diseases worldwide. It affects people of all age groups. Various escape mechanisms were utilized by cancer cells and help in their progression. A commonly used cancer therapeutic is chemotherapy. It uses chemical compounds for attacking a particular target. It can be administered orally, intravenously, subcutaneously. There are many classes of chemotherapeutic drugs available. Some of them are alkylating agents, steroids, monoclonal antibodies, antibiotics, hormonal agents. Each follows a specified mechanism for attacking cancer cells. Though there are numerous drugs available and are still being synthesized, a cure for cancer has not yet been found. Chemotherapeutic drugs were found to have many side effects, importantly being cytotoxic to nearby normal cells. On the other hand, polyphenols and other natural compounds can potentially affect cancer cells without any side effects. They have greater bioavailability, the ability to reciprocate and suppress multi-drug resistance, increase chemo-sensitivity. The hypothesis is a combinational use of natural compounds and chemotherapeutic agents. It was reported that certain chemotherapeutic agents and natural compounds work synergistically, lowering toxic side effects, and improves the drug's effectiveness. Administering a lower dosage of the chemotherapeutic agent with a higher dosage of natural compounds was found to have a greater anti-cancer effect.

**Keywords:** cancer; therapeutic; chemotherapy; polyphenols; combination.

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## Funding

This research received no external funding.

## Acknowledgments

This research has no acknowledgment.

## Conflicts of Interest

The authors declare no conflict of interest.