

# **Cancer and its Treatment: An Overview**

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**Abstract:** *Cancer is a complex group of diseases characterized by uncontrolled cell growth and the ability to invade or metastasize to distant organs. It arises from genetic mutations influenced by lifestyle factors, environmental exposures, and inherited predispositions. Globally, cancer remains a major health burden, with increasing incidence and mortality, particularly in developing countries like India. Cancer types vary widely by cell origin and organ involvement, encompassing carcinomas, sarcomas, leukemias, lymphomas, melanomas, and myelomas. Traditional treatments such as surgery, chemotherapy, and radiotherapy continue to play essential roles; however, limitations like toxicity and resistance have accelerated the development of advanced modalities. Innovations including immunotherapy, targeted therapy, gene therapy, personalized medicine, and nanotechnology have significantly improved therapeutic precision and outcomes. Despite these advancements, challenges such as tumor heterogeneity, late diagnosis, metastasis, and limited access to modern therapies persist. Pharmacists and pharmacy students contribute substantially to cancer care through medication management, counseling, and support in precision medicine and clinical research. This review highlights the biology, epidemiology, treatments, challenges, and evolving roles in cancer management.*

**Keywords:** Cancer, Immunotherapy, Targeted Therapy, Drug Resistance, Precision Medicine

