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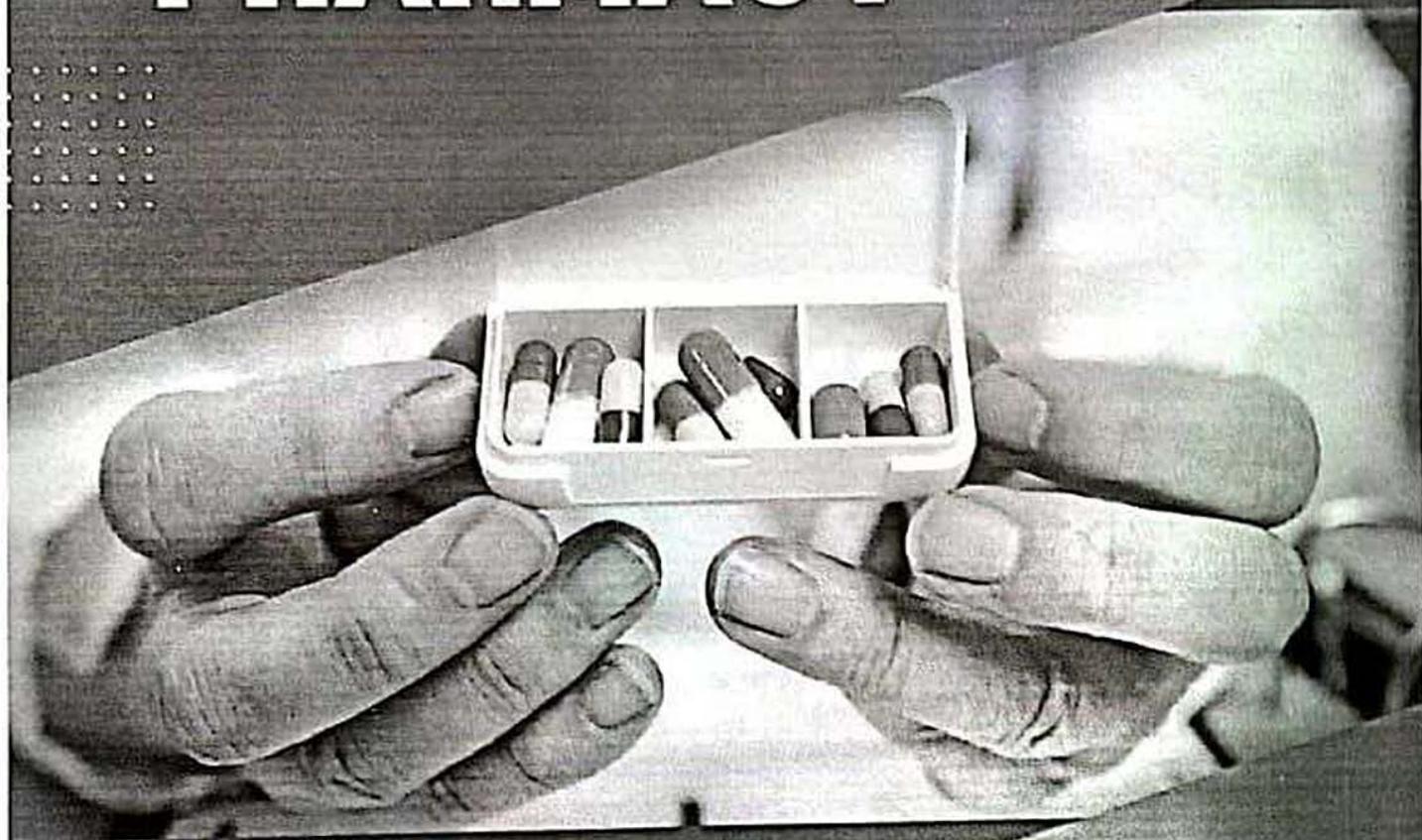
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Modern Nanotherapeutic Approaches in The Delivery of Phyto Pharmaceuticals in Anti Cancer Research

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Abstract: Cancer has become one of the leading causes of human morbidity and mortality worldwide. A promising approach to tumour prevention is to eliminate cancer cells, preferably with less harm to neighbouring normal cells. Due to the disadvantages associated with current chemotherapy and radiation therapy, there is an increasing interest in developing novel delivery strategies for these natural products. Many phytochemicals show promise in cancer prevention and treatment due to their biocompatibility, low cytotoxicity, low resistance, and dynamic physiochemical properties that discriminate normal cells in the treatment of various cancer types. However, their low aqueous solubility, poor stability, unfavourable bioavailability, and low target specificity make their administration at therapeutic doses unrealistic. Recently developed nanotechnology has transformed drug delivery concepts and paved the way for the development of phytochemical-loaded nanoparticles for cancer prevention and treatment. Polymeric nanoparticles, lipid nanoparticles, carbon-based nanoparticles, and cell-derived nanoparticles can increase the stability and solubility of phytochemicals and also help in overcoming the disadvantages associated with conventional chemotherapy and phytochemicals. In the current chapter, we have men-

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