

Cancer is becoming a high-profile disease in developed and developing worlds. Increasing populations, urbanization and deforestation are contributing to species endangerment in developing countries. Drugs derived from vinca alkaloids were some of the first compounds to be utilized and are developing in clinical Phase III trials along with Paclitaxel and other anticancer agents. Collectively they have been shown to possess anticancer activities which include; antioxidant activity; inhibition of cancer cell growth; induction of apoptosis; target specificity; cancer cell cytotoxicity 18–19,25,40. The secondary metabolites in the plant kingdom such as polyphenols, flavonoids and brassinosteroids have been studied for their potential use as anticancer agents. Also, there are currently developments using new technologies such as nanoparticles to be used in administration of anticancer compounds and therapies. To aid conservation of these species' germplasm conservation, cryopreservation, tissue cultures and plant part substitution strategies need to be in place. Europe PMC Funders Author Manuscripts Europe PMC Funders Author Manuscripts Chemically-derived drugs have been developed, and other cancer treatments pre-exist 11. However, current methods such as chemotherapy have their limitations due to their toxic effects on non-targeted tissues furthering human health problems 1. Mass cultivation of medicinal plant species and utilizing raw by-products in industries may also help with conservations.