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PHYTOSOMES TECHNOLOGY – A LUCRATIVE NOVEL BIOMEDICINE AND DIETARY SUPPLEMENT FOR CANCER TREATMENT

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ABSTRACT:

India has around 17% of the world's population affected by breast cancer. Medications of breast cancer include hormone blocking therapy, chemotherapy and monoclonal antibodies, which is either expensive or results in serious side effects. Hence, in this study we have synthesized a phytosomal cancer fighting flavanoid, Quercetin from *Brassica oleracea* h.var.italica.plenck. Quercetin has the ability to steal the iron from cancer cells which can stop their growth and induce cell death. Quercetin induces the apoptosis of cells and inhibits the proliferation of breast cancer cells. Phytosomes are cell like membranes that is found to increase the bioavailability of the drugs. They bind the principal compound with the lipid membrane acting as a capsule. Phytosomes have increased bioavailability as compared to the conventional methods of drug administration. In this study, ethanolic extract of broccoli was prepared and natural phospholipid compounds were added to it. The solvent was evaporated and the compound was extracted using a distillation unit. TEM, Zeta potential and UV-Vis spectra confirmed the formation of phytosomes. MTT assay is to be carried out to study the anti-proliferating property efficiency of phytosome prepared.

Key words: Breast Cancer, Phytosomes, Brassica oleracea, Quercetin, phospholipids