SCOPE OF THE STUDY

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Breast cancer is the most common cancer among women in India, where the incidence of breast cancer is increasing with an estimated 80,000 new cases diagnosed every year. Along with the increased incidence, the mortality rate has also increased. Though there are various drugs and therapies available for breast cancer, the survival rate of breast cancer has decreased.

Although there are numerous studies done on breast cancer, the behaviour of cancer cells still remains to be complicated. The existing natural herbs effectively kill the cancer cells and protect normal cells. However, the mechanism behind the action of these herbs is not well understood. There is an emerging need for natural drugs because currently cancer cells are gaining resistance and decreased sensitivity to the available chemotherapeutic agents. Any natural compound, which could kill the cancer cells and has no or least effect on normal cells is considered for cancer therapeutic strategies. One such flavonoid is quercetin which is known to have antioxidant and anti-inflammatory properties.

There are many genes involved in causing cancer. Recently, Twist gene has been identified to have metastatic properties in breast cancer. However, the role of twist gene in breast cancer progression is not understood. The present study has been undertaken in order to understand the role of twist gene in breast cancer progression with respect to the estrogen receptor which plays a main role in breast cancer. The present study also attempts to understand whether the naturally occurring flavonoid quercetin could act on the genes involved in progression of breast cancer.