Breast cancer is the most common type of cancer and has the highest mortality rate in women. Most of the methods used in cancer therapy have significant side effects. In recent years, the use of medicinal plants and products derived from them to prevent, treat and also manage the side effects of cancer has been considered. Pomegranates include a variety of phytochemical and phenolic substances.

This study was aimed to investigate the impact of pomegranate flower ethanolic extract on breast cancer cells (human breast cancer cell line). Initially, ethanolic extracts of P. granatum flowers were extracted from its dried powders. Using the 3-(4, 5 dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide test, the cytotoxic effects of the ethanolic extract of pomegranate flowers were evaluated in human breast cancer cell line compared with normal mouse fibroblast cells.

According to our findings, Punica granatum ethanolic extracts are less toxic to normal cells compared to human breast cancer cell line. Consequently, the minimum and maximum lethal concentrations of the P. granatum flower in normal cells were identified to be 150 and 450 μg/ml, whereas the minimum and maximum lethal concentrations were determined to be 700 and 1000 μg/ml in human breast cancer cell line.

The present study showed that pomegranate flower has anti-breast cancer potential. This potential benefit can be further examined in future research.