



Antitumor Effects of Crocin on Breast Cancer; A Systemic Review

Yaghoub Hassan, Fatemh Izadi

Nutrition Science Group, School of Hygiene and Nutrition, Student's Research Committee, Bushehr University of Medical Sciences, Bushehr, Iran



Background & Objective: Breast cancer is the most common malignancy and is one of the leading causes of cancer-related mortality among female worldwide. Based on the cancer stage, current treatment options include surgery, radiation, hormone therapy, and/or chemotherapy. Many studies had shown the antitumor effects of Crocin. Therefore, the objective of this study is to find the antitumor effects of Crocin on breast cancer.

Materials & Methods: Keywords Saffron, Crocin, and *Crocus sativus* in combination with breast cancer has used in PUBMED searches from 2010 to 2016. Eight studies from clinical trials with adequate quality has been used as the references of this study.

Results: There are evidences that medicinal herbs have anticancer properties through different mechanisms including altering the carcinogen metabolism, induction of DNA repair systems, immune activation, induction of apoptosis, and suppression of cell cycle progression. Crocin have effect on breast cancer by inhibiting the proliferation of MCF-7 Cells and inducing their apoptosis through mitochondrial signaling pathways. Another study had shown that it also suppresses tumor growth and induces cell cycle arrest by downregulation of cyclin D1. In addition, Crocin suppressed p21Cip1 in a p53-dependent manner.

Conclusion: Crocin, a carotenoid and a main metabolite of saffron, might have cancer-preventive and cancer-therapeutic benefit for human breast cancer.

Keywords: Saffron, Crocin, Breast Cancer, Systemic review