CRANBERRY AS A PROMISING NATURAL SOURCE OF POTENTIAL DRUG-LIKE COMPOUNDS WITH ANTICANCER ACTIVITY: PROMOTING SUSTAINABLE HEALTH BY SEARCHING FOR ALTERNATIVE CANCER PREVENTING OR THERAPEUTIC AGENTS

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Introduction: Cancer is the second cause of death worldwide, with its prevalence increasing over the years. Cancer affects not only the physical, but also the mental health of patients and their quality of life, constituting a major and costly public health problem. Thus, cancer prevention and improvement of current complementary therapeutic strategies are strongly recommended. Several evidence has strongly suggested that making dietary modifications is a reasonable alternative strategy that can lower the risk of several cancer types. In the last few years, there is several studies revealing that cranberry may exert anticancer properties. In this aspect, the present study aims to critically summarize the existing experimental studies evaluating the potential beneficial effects of cranberry on cancer prevention and treatment.

Methods: PubMed database was comprehensively searched, using relative keywords in order to identify in vivo and in vitro studies that investigated the role of cranberry and its components against cancer.

Results: Current in vitro studies have indicated that cranberry and/or its components such as flavonoids and triterpenoids may act as chemopreventive agents, diminishing the risk for specific cancers by inhibiting cells oxidation and inflammatory-related processes. Cranberry and/or its components may also have chemotherapeutic effects by inhibiting cell proliferation and angiogenesis, inducing cell apoptosis and attenuating the ability of tumor cells to invade and metastasize. A small number of in vivo clinical studies further have also documented the potential anticancer activity of cranberry and/or its components.

Conclusions: A plenty of in vitro studies and some pilot in vivo studies have supported evidence that cranberry and/or its components may exert beneficial effects against cancer disease. In this aspect, additional in vivo studies on diverse animal models should be performed in order for more precise conclusions to be drawn. Collectively, cranberry could be considered as a conglomeration of potential effective anticancer drug-like compounds.