
NATURAL PRODUCTS FOR CANCER PREVENTION: CLINICAL UPDATE 2016

KATHLEEN SANDERS, ZELDA MORAN, ZAIXING SHI, RACHEL PAUL, AND
HEATHER GREENLEE

OBJECTIVES: *To present a clinical update of natural products for cancer prevention and provide oncology nurses with an evidence-based review of natural products for patient counseling and education.*

DATA SOURCES: *Clinical trials published in PubMed.*

CONCLUSION: *In the past 4 years since the publication of the original review there have been minimal changes in the conclusions of the published literature on the use of natural products for cancer prevention. To date, clinical trials have not demonstrated conclusive benefit of using natural products for cancer prevention, and current guidelines do not recommend their use. This review provides an update on published and ongoing trials and can serve as an updated resource for nurses. Evidence-based natural products databases can help nurses stay current with the scientific literature and be effective educators and health coaches for their patients, who can be influenced by marketing of unregulated products.*

IMPLICATIONS FOR NURSING PRACTICE: *Patients often discuss the use of natural products with nurses. Nurses have an opportunity to educate and coach patients in effective preventive lifestyle practices.*

KEY WORDS: *cancer, prevention, natural products, vitamins, botanicals, medicinal mushrooms, probiotics, herbs.*

Kathleen Sanders, FNP-BC, MPH: Department of Medicine, Division of Hematology/Oncology, Columbia University, New York, NY. Zelda Moran, BA: Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY. Zaixing Shi, MS: Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY. Rachel Paul, MS, RD, CDN: Department of Behavioral Nutrition, Teachers College Columbia University, New York, NY. Heather Greenlee, ND, PhD: Department of Epidemiology, Mailman School of Public Health, Columbia

University, New York, NY; and Herbert Irving Comprehensive Cancer Center, Columbia University, New York, NY.

Address correspondence to Kathleen Sanders, FNP-BC, MPH, Columbia University, 161 Fort Washington Ave, HIP 9th floor - 3601, New York, NY 10032. e-mail: ks3@cumc.columbia.edu

© 2016 Elsevier Inc. All rights reserved.
0749-2081

<http://dx.doi.org/10.1016/j.soncn.2016.06.001>

Individuals born in the United States today have a 42% lifetime risk of being diagnosed with cancer.¹ In 2016 1,685,210 new cases of cancer will be diagnosed in the US and 595,690 people will die from cancer.² These statistics have strongly motivated both the health care community and individuals to identify effective methods for cancer prevention.

There are three areas of cancer prevention: primary, secondary and tertiary. The aim of *Primary cancer prevention* is to prevent the development of cancer by reducing an individual's risk of developing the disease. This can be achieved by maintaining a healthy lifestyle, avoiding exposure to environmental carcinogens, and/or the use of chemopreventive drugs or prophylactic organ removal.³ *Secondary cancer prevention* depends on prompt diagnosis of cancer through screening measures to identify precancerous and/or early stage tumors, which often respond better to treatment than later stage tumors. *Tertiary cancer prevention*, or cancer control, reduces the risk of recurrence, metastases, and second primary cancers. This article focuses on the use of natural products by consumers for primary cancer prevention. We present a review and update of the current clinical trial evidence on the efficacy of natural products for cancer prevention (including vitamins, minerals, botanicals, and herbs), probiotics, and other supplements of interest, particularly those that have shown some promise.⁴

The use of natural products by consumers is common in the US. In 2012 an estimated 18% of American adults reported use of natural products beyond multivitamins, which is essentially unchanged from the estimate of use 5 years earlier in 2007.^{5,6} Natural products in oral form continue to be the most popular complementary method chosen according to the Center for Disease Control and Prevention's National Health Interview Survey report. Natural products are used for a variety of reasons, including a belief that conventional medicine would not be effective or that it would be more effective when combined with other methods,⁵ as well as improving energy level and general health, protection against future disease,⁷ a feeling of control over treatment, negative relationships with conventional health care providers compared with complementary and alternative medicine providers, and high cost of conventional treatment.⁸ As this review will demonstrate, the efficacy of these natural products for cancer prevention has not been established.

Certain segments of the US population are more likely to use natural products. For example, adults who are older, have higher levels of education, and who have higher incomes are more likely to use natural products.⁵ In a population of women at high risk of developing breast cancer based on having at least one sister with a breast cancer diagnosis, there was high use of vitamin/mineral supplements (79%) and botanicals (23%).⁹ In this population, overall use was higher than in the US female population, and non-Hispanic white and Asian women were the highest users of dietary supplements.

There is a common perception that natural products are safe because they are "natural," and often erroneously leads consumers to assume there are no risks associated with using natural products. For example, laetrile is an extract from apricot kernel, which is natural, but can also be neurotoxic.¹⁰ Many natural products also have contraindications with medications.¹¹

Because of a growing body of evidence suggesting that some natural products may have chemopreventive potential and because of potentially low toxicity, there is a growing interest in the use of natural products as chemopreventive agents.¹² It is important to note that the definition of natural products varies by organization. For example, The National Center for Complementary and Integrative Health defines natural products as including a wide variety of products including vitamins, minerals, probiotics, and herbal medicines.¹³ The National Cancer Institute's Office for Cancer Complementary and Alternative Medicine refers to dietary supplements used for chemoprevention as "nutritional therapeutics," and includes nutrients, non-nutrients, and bioactive food components.^{7,14}

There is observational evidence suggesting that vitamins, minerals, and foods have potential to reduce the risk of certain cancers. However, the clinical trial evidence is mixed and does not support these observations. For many products, very few or no clinical trials have been conducted to test the efficacy of natural products as chemopreventive agents, thus the efficacy of these products has not been confirmed and should not be recommended. These are areas where new research is emerging and nurses should be informed as clinical trials are completed. The American Institute of Cancer Research, the American Cancer Society, and the Society for Integrative Oncology provide regularly updated recommendations for cancer prevention.

Download English Version:

<https://daneshyari.com/en/article/2676121>

Download Persian Version:

<https://daneshyari.com/article/2676121>

[Daneshyari.com](https://daneshyari.com)