
CANCER PREVENTION RECOMMENDATIONS: IMPACT OF ADHERENCE

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OBJECTIVES: *To review the relationship between adherence to cancer prevention guidelines published by the American Cancer Society and the World Cancer Research Fund/American Institute for Cancer Research and reductions in cancer incidence, cancer mortality, cardiovascular mortality, and overall mortality.*

DATA SOURCES: *Current cancer prevention guidelines published by the American Cancer Society and the American Institute for Cancer Research, journal articles published between 2004 and 2016, and internet resources.*

CONCLUSION: *Evidence from a number of large observational studies indicates that following current cancer prevention recommendations in a comprehensive manner results in significant reductions in both cancer risk and cancer mortality, as well as in cardiovascular mortality and overall mortality.*

IMPLICATIONS FOR NURSING PRACTICE: *Nurses can take the lead in familiarizing patients and families with established cancer prevention recommendations and resources that may assist patients in implementing them comprehensively in their daily lives, as well as in discussing the substantial health benefits of adhering to the recommendations.*

KEY WORDS: *cancer prevention, recommendations, cancer mortality, cancer incidence.*

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Supported in part by MD Anderson Cancer Center support grant no. CA016672 and the T. Boone Pickens Chair for the Early Detection of Cancer.

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0749-2081*

<http://dx.doi.org/10.1016/j.soncn.2016.05.010>

Skepticism that cancer can be prevented persists. While the causes of many rare cancers remain elusive, there is overwhelming evidence that one third to one half of adult cancer deaths in Western populations can be prevented through adoption and maintenance of healthy lifestyles, including avoidance of tobacco and alcohol, getting plenty of physical activity, eating a plant-based diet, and adhering to recommended cancer screenings and cancer preventive vaccines.¹ Cancer prevention recommendations are made by the American Cancer Society (ACS)² and the World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR).³ These recommendations are based on the weight of the evidence from the best research on individual lifestyle risk factors and cancer; and they are continually updated as research and evidence evolves. Over the last several years, evidence has accumulated from multiple large prospective studies demonstrating that those who adhere to these recommendations broadly, above and beyond tobacco avoidance/cessation, have both a decreased risk of developing cancer⁴⁻⁶ as well as a decreased risk of dying from it.⁵⁻⁸ Some have also shown reductions in cardiovascular disease (CVD) and all-cause mortality,^{7,8} suggesting that following the recommendations offers substantial health benefits well beyond cancer prevention. This growing body of evidence demonstrates the effectiveness of these recommendations and supports their use in the clinic when counseling patients, as well as in the population more broadly.

This article reviews the relationship between adherence to cancer prevention guidelines published by the ACS and the WCRF/AICR and reductions in cancer incidence, cancer mortality, cardiovascular mortality, and overall mortality. It is intended to be an instructional aid for nurses to raise their awareness and increase their understanding of the data supporting the use of published cancer prevention recommendations in the lives of their patients. After reading this article, nurses should be better able to communicate to their patients the substantial health benefits that come from comprehensively following all of the recommendations and to use this knowledge as a source of empowerment for themselves and those they serve, as they assist patients and their families in making the often difficult choices that come with adopting and maintaining a healthy lifestyle.

CANCER PREVENTION RECOMMENDATIONS

The ACS and WCRF/AICR have published recommendations for cancer prevention. Both sets of recommendations have been evaluated in studies seeking to quantify the impact of these guidelines on incidence and mortality endpoints, although recommendations differed by year and the way in which they were operationalized among the studies. [Table 1](#) illustrates the current ACS and WCRF/AICR recommendations side by side. Both are based on thorough reviews of the latest scientific evidence. Neither set of recommendations formally addresses tobacco use, which would be expected to have the greatest preventive yield for smokers and their household co-habitants. Therefore, all studies controlled for tobacco use by adjusting models for smoking status (current, former, never) and/or smoking intensity (number of cigarettes smoked per day or pack/years smoked), or by restricting analyses to non-smokers. Consequently, the findings from these studies represent the health benefits that can be achieved by following cancer prevention recommendations above and beyond the already well-established health benefits of tobacco avoidance/cessation.

STUDIES FOCUSING ON ACS OR AICR RECOMMENDATIONS

A total of nine studies in seven cohorts, including nearly 1.25 million individuals across the US and Europe, have specifically examined the relationship between either ACS or WCRF/AICR cancer prevention recommendations and outcomes of cancer incidence and cancer, cardiovascular, and overall mortality. [Table 2](#) provides details and results of each study.

The first of these studies was conducted by Cerhan et al⁹ in 2004 and examined adherence to the 1997 WCRF/AICR recommendations in the Iowa Women's Health Study (N = 29,564), considering associations with cancer incidence, both cancer and CVD mortality, and total mortality over 13 years of follow-up. Eight of WCRF/AICR's 14 recommendations at the time, in addition to smoking history, were included in this study. Results demonstrated that women who followed less than six recommendations were at a significantly increased risk of developing cancer compared with women who followed – six to nine recommendations. Total and

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