

Introduction to Session II

Cancer Prevention and Early Detection

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Introduction

More than half of cancers can be prevented by taking advantage of current knowledge (1–4). Highest on the list of avoidable causes is, of course, cigarette smoking; approximately one-third of cancers could be prevented if smoking was eliminated. The combination of good diet, regular physical activity, and weight control could also lead to prevention of a slightly smaller fraction of cancer cases. Control of specific infections (discussed in the first session), including safe sex, protection from excessive sun exposure, and reductions in occupational and environmental toxins, can further contribute to decreases in cancer risk. The preventable fraction varies substantially by specific cancer; *e.g.*, >90% of lung cancers could be avoided by not smoking. In addition, recent findings indicate that >70% of colon cancers could be prevented by a package of healthy behaviors that include: (a) avoiding being overweight; (b) moderate daily physical activity; (c) limiting red meat intake to not more than twice per week; (d) not smoking; (e) taking a multiple vitamin; and (f) avoiding high alcohol intake (5). Practical ways to prevent breast cancer, particularly after menopause, are more limited but include: (a) engaging in regular physical activity and (b) avoiding midlife weight gain, prolonged use of hormone replacement therapy, and daily alcohol consumption. Our understanding of prostate cancer is less well developed, although preliminary evidence indicates that reducing high intake of dairy products, red meat, and animal fat may decrease risk. Interestingly, most lifestyle changes that reduce cancer risk will also decrease risk of cardiovascular disease, making the payoff for adopting these changes even greater.

Early detection can also play an important role in reducing cancer mortality. Primary strategies include the Pap test for cervical cancer, mammography, and colorectal cancer screening by occult blood testing, sigmoidoscopy, and colonoscopy. Screening for cervical and colon cancer can include other prevention efforts as well, because this often leads to the removal of precancerous tissue before the progression to cancer. Although prostate-specific antigen (PSA) is now widely used for prostate cancer screening, its value is debated; the

results of ongoing studies should provide better direction in the next several years.

In general, minority and disadvantaged groups are less likely to benefit from knowledge about cancer prevention and early detection for a variety of reasons. Lower educational attainment and poverty translate into reduced opportunities in many ways beyond just lack of knowledge, *e.g.*, low-income communities are less likely to have access to healthy foods and facilities for recreational physical activity than affluent communities. Even more fundamentally, many preventive and early detection strategies require a cultural belief that individual decisions and actions can have an important influence on one's own long-term fate, a perspective that is not fostered by racism or economic repression. Yet, the situation is not entirely bleak; in some respects, the cultural practices of some minority groups are positive with regard to cancer prevention. Understanding the reasons for this difference is important to reinforce this behavior as strongly as possible. In addition, the traditional diets of many Latino and Asian groups have aspects that aid toward cancer prevention, which ought to be preserved.

Expert knowledge regarding cancer causation and diagnosis is merely the beginning of the prevention process; this knowledge needs to be translated into practice. Effective cancer prevention requires actions by governments at all levels, including community groups, health care providers, educators, communicators, and employers. Because personal choices are important, and individuals can make important contributions in many roles, every individual needs to be involved in the process (6), *e.g.*, former Secretary of Health and Human Services, Dr. Louis Sullivan, used his position effectively to express personal outrage at the attempts of the tobacco industry to target poor minority neighborhoods.

Today, we are privileged to hear three leaders involved in cancer prevention describe how knowledge about cancer causation is being translated into reductions in this terrible disease among minority and disadvantaged populations.

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