Cancer among Special Populations: Women, Ethnic Minorities, and the Poor

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The study of cancer among women, ethnic minorities, and the poor can yield useful information about etiology and lead to effective recommendations for prevention. Opportunities exist for affecting cancer rates among women by studying and altering hormonal exposures and, possibly, alcohol consumption. The study of diet among ethnic groups may be more informative than among populations with homogeneous diets. The gender and racial differences among lung cancer patients related to tobacco need further research. Innovative multidisciplinary research is needed to reduce the ethnic, gender, and institutional barriers to ensure success in the fight against cancer. — Environ Health Perspect 103(Suppl 8):319–320 (1995)

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Introduction

This paper reviews cancer etiology and recommendations for prevention with respect to special populations—women, ethnic minorities, and the poor. It is sometimes surprising how much, and at times how little, is known about avoidable causes of cancer, and how extensive is the agenda for the future.

Hormones are of key interest to all groups but particularly women. Most women today are concerned about breast cancer. The effect of estrogen—with or without progesterone—on different organs demonstrates the complexity of the balance of risks and benefits. Dr. Malcolm Pike’s assessment that, currently, no one knows the correct schedule for adding progesterone is disconcerting (unpublished data). Dr. Barbara Hulka’s advice to women concerning hormones is practical and straightforward—if it is not too late, use oral contraceptives during the middle and late reproductive years and, if possible, bear children and bear them early (7). Pregnancy is good for women’s health. These are all useful hints on how to avoid breast cancer. These recommendations raise some other problems for women, minorities, and the poor, but these problems are not within the field of preventive oncology.

Improper diet is an important avoidable cause of cancer and is likely to have as large an influence as tobacco. Using a new set of “guessimates,” Dr. Walter Willett claimed that perhaps as much as 32 to 42% of cancer could be attributable to diet (2), which was close to earlier estimates. Since women usually determine the dietary patterns for the family, this matter is of particular importance to women. In general, increased consumption of fruits and vegetables and, possibly, reduced intake of red meat seem beneficial.

Dietary patterns are culturally determined and vary significantly among ethnic groups. Much of the difference in cancer rates among various ethnic groups may, in fact, be due to differences in diet. It should be possible, even for the poor, to have a healthful diet that fits within the cultural framework of any ethnic group. Such a diet may be less expensive than one that carries a greater risk of cancer.

Dr. Lenore Kohlmeier elaborated on the nutrition research agenda, arguing for increased allocation of funds for this form of research, given that 32% of cancer could be avoided by dietary changes (3). It was difficult, however, to reconcile this argument with Dr. Willett’s position that most of the reduction could be achieved by what we already know. If the curve of avoidability is asymptotic, then the additional refinement of our knowledge is likely to come at a cost disproportionate to the additional benefit. It could, however, be argued that an investment in behavior research could permit a more substantial application of our current knowledge. This is not to discourage further promising research on chemoprevention but merely to keep it in perspective.

Dr. Ernst Wynder, who pioneered tobacco research and its effect on cancer, reflected on its history (4). He also noted some of the unanswered questions related to gender and ethnic differences, such as the difference in risk between white women and white men, African-American men and white men, and U.S. white men and Japanese men. The higher mortality rate of lung cancer in African-American men is not completely explained by the higher prevalence of cigarette smoking. Some investigators have hypothesized that possible cofactors such as metabolic differences may play a part.

Not enough attention has been given to the issue of nicotine addiction. Dr. Tracy Orleans noted that effective nicotine addiction treatment often is not accessible to Americans with low incomes (5). Like Dr. Wynder, she emphasized the need to focus preventive programs on children and urged a $2 per pack cigarette tax.

Another important issue in future epidemiologic research is related to alcohol, cardiovascular mortality, and breast cancer among women. Dr. Kenneth Rothman described the J-curve and suggested that moderate consumption of alcohol may be beneficial for overall and cardiovascular mortality (6). However, this level of consumption might increase breast cancer risk. Alcohol modifies estradiol levels (7), so avoidance might be suggested as a way to prevent breast cancer. Currently, there is no consensus on these issues. When experts differ, the consumer should be given the available information and the opportunity...
to make his or her own decision. This is especially true in circumstances in which the public is not dependent on professional intervention but can act for itself, such as with respect to alcohol.

Gender and ethnicity are never avoidable causes of cancer, but are important variables which deserve more consideration than they often receive, if only because they can lead to the real avoidable causes (8). By increasing the diversity of the population under study, we can move from specific to more general theories of causation, and this is all for the better. This is especially true when the rates among ethnic groups differ (9,10). And, incidentally, the rates of cancer are not always higher in minority groups, as is often implied. Ethnic minorities are sometimes opposed to studies of possible biological differences because of fear of racist attitudes, even among scientists, but we cannot exclude these studies if we really want to determine avoidable causes of cancer.

We need to continue to focus on ways to avoid both breast and prostate cancer, which may in fact be the same disease. These issues are of high priority, and it is reasonable to expect that women, minorities, and the poor will increase their pressure on the National Cancer Institute and on the Congress, until they find a cure. And do not be mistaken by the demand for a cure. What people really want is not treatment only but prevention.

The allocation of resources for prevention has not matched the rhetoric. We, in fact, need more money, but we also need a different way of doing things. The prevention of cancer demands more expertise and more collaboration than have been evident so far. Prevention research cannot be the exclusive domain of epidemiologists. The molecular biologists, the geneticists, the anthropologists, and every other specialist who can contribute ought to be welcomed. The public interest demands a critical look at how we are organized, and we should examine whether the traditional barriers are hindering or facilitating progress. The same spirit of collaboration is necessary in extramural research. It is not easy, but we must find a way to break down the ethnic, gender, and institutional barriers, if we want to be successful in the fight against cancer.

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