



Poverty as a Risk Factor in Human Cancers

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Introduction

A very comprehensive review has been published in the recent issue of *Iranian J Public Health*, entitled "Environmental Factors Inducing Human Cancers" by Dr Parsa from The National Institutes of Health, Bethesda (1). The author has discussed the instigating factors of environmental cancer and the way they can seriously disrupt in cellular interactions. He believed that in addition to all of the evidence cited, exposure to the envi-

ronment is linked to multiple causal factors of various human cancers (1). Furthermore, in addition to the environmental factors that Dr Parsa has identified in his article, poverty is also among the greatest health risks and a major carcinogen. Dr. Samuel Broder, who was director of the National Cancer Institute, had suggested that "poverty is a carcinogen," a cancer-causing agent (2).

Fig. 1: The poor are subjected to environmental risks due to less access to health care and appropriate insurance. "Beneficiaries show their health insurance cards in Kwara State, Nigeria". Abstracted from The world health report with official copyright permission from WHP Permissions Management, Licensing and Reprint Rights, WHO, Geneva, Switzerland.

http://www.who.int/whr/2010/media_centre/photo6.jpg



Poverty and Health

Poverty is associated with a huge array of human ills, not the least of which is seriously undermining the impoverished populations' health. Due to their limited financial resources, the poor are recurrently subjected to environmental risks due to unavailability of suitable housing, are less well nourished, have less knowledge and are less able to access health care and appropriate insurance (Fig. 1). As a result, they consistently have a higher incidence of numerous illnesses. The diseases,

in turn, can diminish already beleaguered household savings, reduce their ability to work, and cause them to lead to a diminished quality of life, thereby perpetuating or even increasing poverty (3). It has been established that the poor tend to suffer worse health and die at a younger age than their more counterparts. They have a higher incidence of a child and maternal mortality rate, a higher incidence of diseases, and more inadequate access to health care and social protection (4). For instance, recently it has been revealed that people

who are at a low socioeconomic status and suffer from a chronic disease such as diabetes face more challenges in their social environment together with less psychological protection (5).

Cancer and Poverty

In the last 50 years, lung cancer mortality has continued to increase in the lower socioeconomic groups but has started to decrease in more socioeconomically favored groups. The explanation, from an epidemiological point of view, is that smoking (as well as drinking alcohol and other harmful behaviors) is more frequent within the lower socioeconomic groups (6).

As documented in the annual "Cancer Facts and Figures 2011" released by the American Cancer Society, poverty remains one of the most potent carcinogens. The society has issued a number of special reports on cancer disparities, including "The Culture of Poverty, Cancer and the Poor: A Report to the Nation, and Cancer in the Socioeconomically Disadvantaged". These reports concluded that poverty is the initial contributing factor to cancer disparities among social groups, and that racial differences in biological or inherited characteristics are less significant. The fact is that people living in poverty lack access to health care and subsequently endure greater pain and illness (2).

The poor and the impoverished lack access to quality health care and are more likely than others to die of cancer. They endure greater pain and suffering from cancer than the affluent members of society. Poor people face substantial obstacles to providing and using health insurance which makes it almost impossible for them to obtain and pay for health care. Unfortunately, cancer education and outreach efforts have been largely unsuccessful and seem to be irrelevant to many of them (7). Poor people also have several other health related problems due to their poverty. For example, their low socioeconomic status typically means a low intake of garden-fresh fruit and vegetables which is associated with a higher risk of gastro intestinal cancers (8). In addition, poor people are more vulnerable to environmental factors inducing human cancers as Dr Parsa described such as tobac-

co use, sunlight and ionizing radiation, alcohol consumption, organic and inorganic chemicals, and infectious micro-organisms.

Conclusion

Clear evidence from industrialized and less developed societies demonstrates that both cancer incidence and cancer survival are related to socioeconomic circumstances. Lower social classes tend to have a higher cancer incidence and poorer cancer survival overall rates than higher social classes, although this pattern differs for specific cancers. Occupation, reproductive behavior and biological agents (Human papilloma-viruses, H. pylori, Hepatitis B, and Hepatitis C) have also been shown to be significant mitigating issues for the occurrence of cancer within disparate socioeconomic strata (9). Several types of cancers can be prevented if detected at an early stage. Approximately two out of every three cancer deaths are caused by smoking, poor diet, obesity, sedentary life style, or failing to use cancer screening tests. Many of these factors are revealed to be related to poverty, which is also a barrier to accessing effective cancer therapies (10). Recognizing the effects of poverty on health is one thing and the social impact of the chronic diseases such as cancer is another issue which influences each other in a bidirectional manner.

Nowadays, there is a universal growing recognition in international development of policy making and programing of poverty reduction. Everybody hopes to observe a more equal distribution of resources and an orientation of research toward prevention of diseases which could mean a reduction in poverty and health inequalities among countries which would assist to achieve a lower rate of cancer for all.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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