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Health: Its Environmental Determinants – Think Globally, Act Locally

C. Subburaman, Ph.D.

Abstract

The present paper explores Health and its environmental determinants. The determinants of health, nutrition and health mechanism have been discussed in the first section. In the second section, health and environmental problems about developed and developing countries, and the approaches for environmental and health have been discussed. Conclusion and policy suggestion have been given in the third section.

Key Words: Health, Environment, Nutrition, Environmental Hazard.

Introduction

The present paper explores health and its environmental determinants. Before go further, first we need to know on what factors does health depend? Since health depends upon both subjective perception and objective assessment, researchers are generally unable to identify all the determinants of health. Some of the factors come under subjective domain, and it is not easy to understand and quantify these factors. In general, health determinants are classified under two broad categories as micro and macro determinants (Fig-1)

(P.R. Panchamukhi 2002).

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***Determinants of health
(Fig-1)***

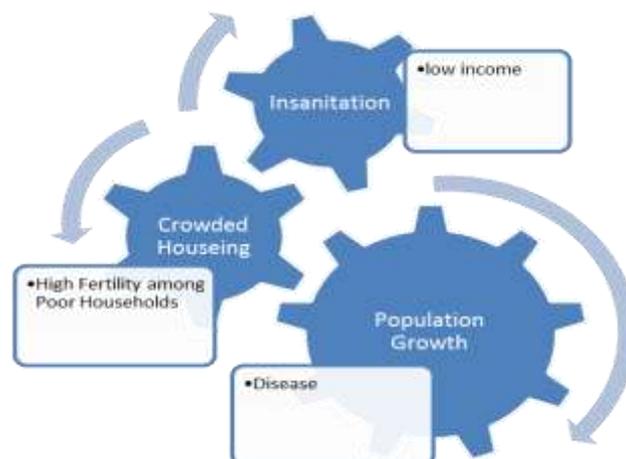


Source: P.R. Panchamukhi (2002)

Nutrition and health are sides of the same coin, because for physical well-being there should be a minimum level of food intake. At the same time people who have consumed more packaged food and rich food like meat, sugar, butter/oil, cakes, chocolate, ice creams, etc. may become obese. Obesity will create heart diseases, dental problems, diabetes and cancer; probably it happens in developed countries, but this cannot be overruled in developing and underdeveloped countries also. On the other hand, in the developing countries people take unbalanced diet, which leads to malnutrition and under nutrition. It reduces body immune system and leads to infectious disease. (FIG-2).

Nutrition and Health Mechanisms.

(FIG-2).



Source : P.R. Panchamukhi (2002)

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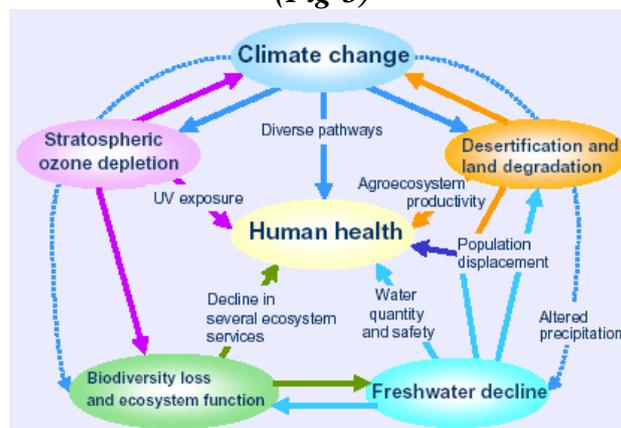
Health: Its Environmental Determinants – Think Globally, Act Locally

Carrin Guy (1984), a health economist, points out that excessive level of population of a country may be under pressure for providing medical care such as hospitals, medical personnel, drugs, services, sanitation, water supply, food and education, because resource is scarce. Scarce resource should be use efficiently and then such use will be considered equity. For this government intervention may be needed.

Health and Environment

The factors listed above may be considered determinants of health, but environments play a crucial role for the operation of the determinants of health. We can define external agents such as physical, chemical, social, and cultural, also as determinants of health, since virtually everything comes under environmental determinants of health. But genetic determinants will not be considered under environmental determinants. At the same time the environmental epidemiologists report that environmental determinants influence health involuntarily. For example second-hand tobacco smoking will be an environmental hazard, whereas active tobacco smoking will be considered as a behavioural determinant. Environmental epidemiologists in developed countries look at factors such as gene-environment, environment-environment interaction, air pollution, nitrogen dioxide, ground level ozone, environmental tobacco smoke, radiation, lead, video display terminals, cellular telephones, and persistent organic pollutants as endocrine disruptors. Exposures to these types of environmental vectors are known as downstream or proximate, determinants of health, and they impact both health and well-being (Fig-3)

Environmental Factors Affecting Health
(Fig-3)



Source : Courtesy of WHO

On the other hand, in the developing countries water, air, and soil are primary environmental determinants. These three determinants create a number of problems such as

1. Four million children die annually from diarrhoea diseases acquired from contaminated food and water.
2. Over one million people die from malaria each year.
3. Hundreds of millions of people suffer from Debilitating Intestinal Parasitic Infestations and respiratory disease caused by biological and chemical agents in the air both indoors and outdoors.
4. According to WHO, over one billion people are unable to meet their basic needs such as food, water, cloths and shelters, behind the reason is poverty.

Approaches for Health and Environment

To understand what kind of methodology should be needed to address environmental health concerns, researchers should know about whether a particular disease comes under infectious and chronic causes, short-term, acute exposures, resulting in epidemic outbreaks of illness, and long-term, low-dose exposures resulting in chronic diseases. Such distinction is necessary.

In modern times, work place plays an important role in determining our health conditions. Assume work place as a laboratory. We can measure the relationship between environment exposures and health, because in their occupation environment workers tend to be exposed to measurable amount of pollution. In this way, we can measure or link between adverse health outcomes to these environmental factors.

Conclusion

In conclusion, finding a solution to the environmental and health problems is not an easy task, because the environmental trans-boundary transports contaminants now-a-days, for example, acid precipitation, ozone, green-house gasses and hazardous wastage. So, we have to adopt the WHO maxim: Think Globally, Act Locally. Reducing wastage and consumption at the local level may lead to positive effects on the entire earth's ecosystems.

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