

Public Health Congress 2018: Influences of environmental factors on human health - Amir Elahi Johri - Ministry of Health-Oman

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Introduction:

World Health Organization estimates that 23% of all deaths worldwide and 22% of all DALYs are attributable to the environmental factors. From conception to adulthood and later ages, we all are exposed to environmental influences that effect our health. Environmental risks like water and air quality, food and chemicals safety, waste disposal and built environment can lead to various detrimental health effects.

Study:

It is now widely recognized that public health challenges and environmental sustainability are interlinked, therefore these should be addressed jointly. In recent years, the environmental scientists have focused on the implications on human health by the built environment, e.g. food outlets, road designs, transportation systems, housing, parks etc. It has been documented that living in low socioeconomic neighborhood has been linked to higher rates of injuries and accidents. At present, the public health community is concerned with rapid environmental change leading to detrimental health effects on human population, therefore they are tasked with integration of public health and environmental sustainability as common course for partnerships, alliances in policy developments. Eventually, reducing environmental exposures would greatly reduce the global burden of disease.

Conclusion:

Environmental degradation poses a significant threat to human health worldwide. Harmful consequences of this degradation to human health are already being felt and could grow significantly worse over the next 50 years. Because environment and health are so intimately linked, so too should be environmental and health policies. However, health impacts are non-marketed and thus hard to quantify in monetary terms. The subsequent risk of being ignored in policy-making is a major concern worldwide. To address this challenge a number of valuation studies have been conducted in both developing and developed countries applying different methods to capture health benefits from improved environmental quality. Valuation results are crucial for the formulation of economic instruments to internalize the externalities created by the public nature of environmental resources. The application of fiscal instruments, the introduction of charge systems and/or the creation of

emission markets can only promote sustainable outcomes if set at a social optimal level. Elicitations of the preferences and valuations of different social groups through valuations is therefore essential. This paper reviews the main literature in the field. Although not exhaustive, applied research cited in this review provides substantial evidence of strong correlation between exposure to environmental hazards and health risks and reveals that there are significant values associated with longevity and health quality in both developed and developing world justifying the need for policy interventions.

Enhancing air quality and securing adequate supplies of safe drinking water is associated with significant benefits for human health and well-being. Significant benefits are also found to be associated with bathing water quality socially justifying the costs for abatement policies. Climate change effects mitigation is also of great importance in terms of public health benefits. However, certain limitations of the existing literature have been identified.

Pearce argued that a major weakness of the air pollution damage literature has been the focus on outdoor pollution. Still, remarkably few studies have measured indoor air pollution which could be the focus of future research. It is also noteworthy that only contingent valuation studies have been conducted when stated preference techniques are applied to elicit public preferences for improved air quality. However the Contingent Valuation method is found to be associated with several biases (strategic bias, yes-saying bias and embedding effect among others) and thus the Choice Experiment method could provide more reliable results. Future valuation efforts could therefore apply this relatively new stated preference method to assess the social benefit associated with policies attempting to improve air quality. Finally there are considerably few valuation studies on environmental health risks of air pollution in Europe.

Regarding health hazards relating to water, although an international consensus has emerged in policy regarding water quality based on growing concern on environmental and health issues there are few valuation studies eliciting public preferences for improved water quality and subsequently reduced illness risk. The need for economic analysis is, however, highly acknowledged as explicitly manifested in the recently adopted EU Water Framework Directive (2000/60/EC) which calls for the application of economic principles, economic methods and economic instruments for achieving

good water status for all EU waters in the most effective manner. Given European and international calls for sustainable water resources management, authors believe that valuing health benefits from surface and groundwater water quality improvements could be a challenging direction for future research especially in the developing world where water quality issues are particularly prominent and the lack of valuations studies is noteworthy.

Moreover, to provide accurate monetary estimates of the benefits of reduced health symptoms associated with environmental hazards, collaboration between economists and epidemiologists should be further enhanced to establish more informed dose-response functions and accordingly formulate the valuation scenarios. Finally, since health benefits from environmental improvements accrue in the long run their assessment should recognize their long-run nature. It follows that discounting and the subsequent selection of a social discount rate to discount future benefits from a policy intervention is crucial to determine whether a policy passes a cost-benefit analysis test taking sustainability and inter-generational equity into consideration

Biography

Amir Elahi.Johri is a public health physician and has extensive experience in environmental/public health. He has worked for many international and national organizations around the world. His expertise include; environmental health in emergencies, environmental and occupational health policies and strategies, environmental health risk assessment, migrants & refugees health, etc. Johri has worked for World Health Organization (WHO) at the national and international level. He was also engaged with International Organization for Migration (IOM) with Syrian refugees in Jordan. Currently he is the advisor at the Department of Environmental and Occupational Health, Ministry of Health – Oman. Johri has presented several papers at different international forums. He is actively involved developing national environmental health & occupational policies, strategies and actions plans, as well as training and teaching of environmental and occupational health disciplines.

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