



Environmental Health Risk Perception among the Residents of Bahawalpur City Pakistan

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Abstract

Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social, and psychosocial factors in the environment. The main objective of this research is the analysis of the public perception about environment health risk factors and environmental health education in urban area. Based on this approach field survey through questionnaire was conducted among the public from six residential areas of Bahawalpur City. First, this paper identifies environmental health risk factors exist in urban area of Bahawalpur. Next to it, public perception about various environmental health risk factors were calculated on five point Likert scale ranging from none, low, moderate, high and don't know. In addition to it, it was also analysed that how people perceive the most influential media and sector to promote environmental education. Finally this study leads the authors to design a wide range of appropriate management suggestions for environment health awareness.

Keywords: Environmental health, Risk factors, Environmental education.

Introduction

The environmental awareness needs to be cultivated in any society to be an ideal society¹. Environment is defined as the sum of total, of all the conditions that affected the development and life of organisms² whereas, health is a condition of complete physical, mental and social well-being and not merely the absence of disease or infirmity³. Environmental health is the branch of public health that is concerned with all aspects of natural and built environment that may affect human health. Environmental health addresses all the physical, chemical and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments⁴. Novick state that it refers to those aspects of human health and disease that are determine by factors in the environment. It also refers to the theory and practice of assessing and controlling factors in the environment that can potentially affect health⁵. On the other hand, a risk is just a possibility that something will or will not happen. In context of health and health protection, however, it has come to mean the likelihood that a hazardous product will occur in association with a given set of conditions. Bennett summarized the features of a risk; to be involuntary (such as exposure to pollution) rather than voluntary (dangerous sports or smoking); to be inequitably distributed (some benefit while others suffer the consequences); to result from man-made, rather than natural, sources; to cause hidden and irreversible damage, such as through the onset of illness many years after exposure and to threaten a form of death (or illness/injury) arousing particular

dread⁷. Risks that have some or all these characteristics are more likely to cause public concern than are risks that do not. While concern over risk is never completely predictable, these factors do give some indication of whether a risk is likely to cause public concern. Risks are generally seen as being more worrying (and less acceptable) if perceived⁶. Therefore, the fact that individuals hold different perceptions of risk poses challenges for risk communicators. Individuals will see a risk's type, size and importance very differently. Perceptions of risk can be influenced by a wide range of factors, including media coverage, whether or not the hazard in question evokes feelings of dread, whether the issue is well understood, involves a lot of uncertainty, is subject to personal control, or is familiar⁸. It is also correlated with personality type characteristics, referred to as worldviews⁹.

Public perceptions of risk often differ from actuarial determinations of risk, and such differences are not easily eliminated by the pursuit of risk communication programs targeted at the public. In spite of differences in risk evaluation between the public and expert assessments of mortality and morbidity, decision makers need to consider how the public views and values risk issues¹⁰.

In the last 100 years society has developed broader concepts of what constitutes 'health' and 'the environment', and how the environment can affect health. Healthcare is a basic necessity of human being; it also acts as a source of life threatening diseases and toxins¹¹. The media provides constant dramatic visual access to information about environmental threats to health. The threats are often unseen and undetectable to our other senses

such as low level food contamination by pesticides or electromagnetic radiation. Within this context there is a need to understand how the community, with all its different parts, perceives risk. The term 'risk perception' is often used to refer to the perceptions of that part of the community outside of the regulatory and scientific research and risk assessment spheres¹². Understanding the risks to health is important to preventing disease and injuries. A particular disease or injury is frequently caused by more than one risk factor, which means that manifold interventions are available to target each of these risks. To prevent disease and injury, it is essential to recognize and deal with their basis – the health risks that underlie them. Each risk has its own causes too, and many have their roots in a complex chain of events over time, consisting of socioeconomic factors, environmental and community conditions, and individual behaviour. The causal chain offers many entry points for intervention¹³.

Various physical, biological and chemical risk factors present in the environment exposure to which effects the health of people in many ways. Some of risks are crucial in terms of their effects which include unsafe drinking water, sanitation and hygiene, indoor and outdoor air pollution, and ultraviolet exposure etc. An explanation of these risk factors and their resultant health effects in the form of disease and injuries in very essential for decision making and planning^{14,15}. Most of the childhood mortality and morbidity are related with environment based diseases e-g diarrheal and respiratory infections¹⁶. Therefore, if people take safety measures they can be protected from such diseases and they can enjoy healthy life¹⁷.

Like many other cities of Pakistan, Bahawalpur City has grown very rapidly the last few years¹⁸. Increase in population and rural urban migration have created serious environmental problems including lack of safe drinking water, inadequate solid and liquid waste management, and pollution in Pakistan. Many southern cities are regarded as by overcrowding, contaminated water supplies, and lack of sewage disposal drainage or waste disposal, creating unhealthy urban environment¹⁹. For successful preparation of conservation plan, community participation is much more needed²⁰. Therefore, current research is an attempt to analyse public perception about environmental health factors so that community awareness programs should be suggested in accordance with the results. Adjustment and management of environment through designing and implementing effective policies and environmental education can help to deal with these issues proficiently in future²¹.

In Bahawalpur City due to low literacy rate public environmental health risk perception is not so high. Only educational institutions are the major source which contributes to provide environmental health risk perception to the public. So, it is necessary to conduct such type of researches which analyze the health risk perception generally among society; that how much knowledge they have about the health risks and which environmental factors are more dangerous to their health.

Materials and Methods

The information presented in the research project is entirely on primary data which was collected by questionnaire and field survey. The study was conducted by selecting random people living in five randomly selected residential areas (Medical Colony, Model Town A, Shahdra, Behari Colony and Satellite town) of Bahawalpur City. Data was collected in March 2012 as a part of the annual research project by the group of students, studied at the department of Geography, The Islamia University Bahawalpur Pakistan. Main research questions include; what is the level of public perception about health risks in Bahawalpur City? what are the sources of information, those help public to increase their health risk perception? What are the possible suggestions given by public to reduce the intensity of Health Risks in Bahawalpur City? Based on these research question, questionnaire was designed to collect the appropriate data, constituting four sections; first section deals with the demographic information about respondent, next section based on the likert scale (High, moderate, low, none and do not know), of public perception about twenty environmental health risk factors (poor sanitation, solid waste sites, open drain, smoking, poor drinking water quality, air pollution, ozone depletion etc.), while third sections deals with the questions pertaining to public perception about the suitable media (Radio, television, internet, phone, newspaper etc.) to disseminate the environmental health education among public, and the last section about the appropriate sector (Provisional government, local government, educational institutions, local community or all these collectively) to promote environmental health education. Almost 300 questionnaires have been filled from the sample areas during field survey. Some information was taken by field observation, for example the attitude of people, street and neighborhood environment of sample unit (house), for purpose of collecting such information field diary was maintained by researcher. Data was tabulated and results were analysed by using SPSS. There were two main limitations of this study which were faced during the field survey; people were too busy to response and mostly people were quite unaware of the concept of environmental health that they refused to give response.

Results and Discussion

Socio-Economic Profile of Respondents: Socio-economic profile of the respondents represented in terms of age, sex, income and education. As shown by the figure-1, most of the respondents were male as compared to females along with the largest respondent group of 25 to 35 year of age. Income level as described by them, found largely below 30,000 PRK, see Figure-2. Whereas literacy rate was high among the respondents and most of them are graduated or post graduated while rest of them are at least matric Figure-3. The reason of this high literacy among respondents is that illiterate people do not know even the meaning of environmental health or its risk factors and they refused to respond.

Environmental Health Risks Perceptions: The perceived environmental health risks to Bahawalpur City for the 20 health threats considered in this survey are shown in Figure-4. With the threat ranked according to the percentage of respondents rating it as a ‘high’ risk, at the top of the list of threats, outdoor air pollution (38 %), and poor drinking water quality (33 %), noise from traffic (33 %), low nutrition (31 %), cigarette smoking (31%) and unhygienic food (30 %). The lowest ranked “high risk” was indoor air pollution (17%) and solid waste dumping sites (15%). As seen in Figure-4, when rating of ‘high’ and “moderate” are combined, the order of the threats does not

change much.

Overall, the majority of respondents gave an average response to questions about ‘moderate’ health risk followed by ‘high risk’ whereas just 9 percent rate them as low risk. Proportion of 12 percent response about health threats was perceived as “do not know” showing the level of public unawareness about them, shown in table-1. Solid waste dumping sites and disease by mosquitoes was the environment health risk factors about which majority of people do not know.

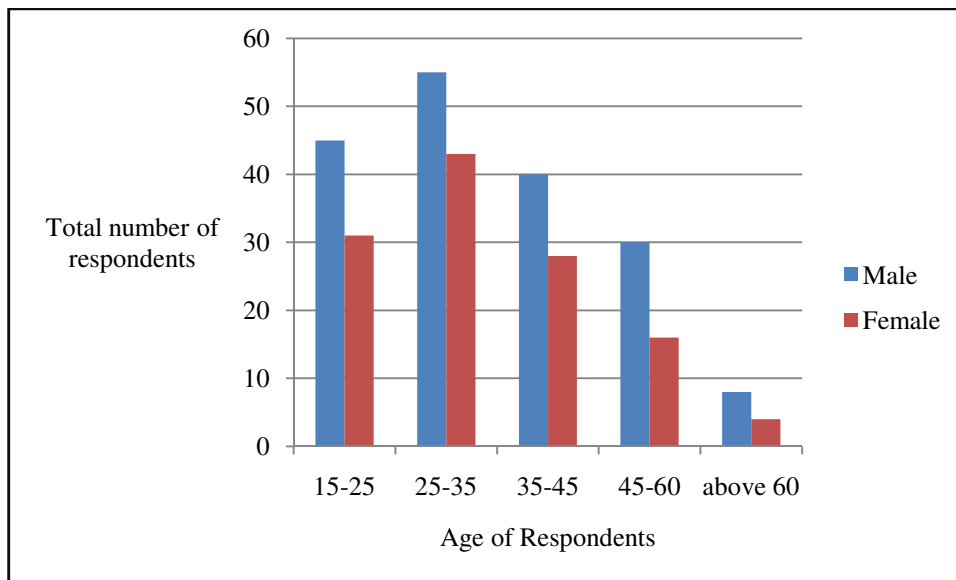


Figure-1
 Age and Sex Composition of Respondents

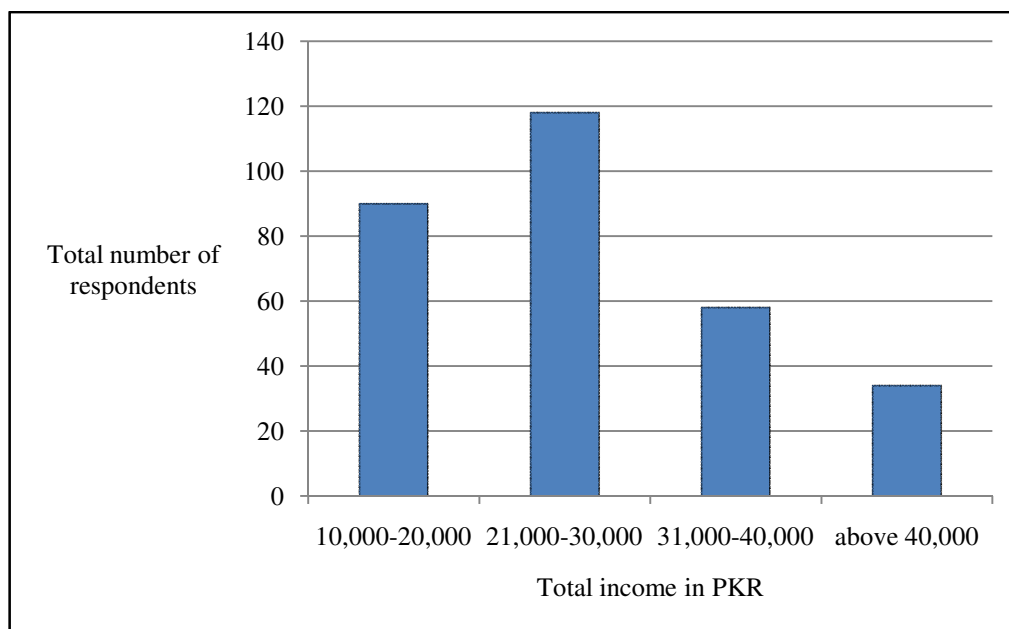


Figure-2
 Income Level of Respondents

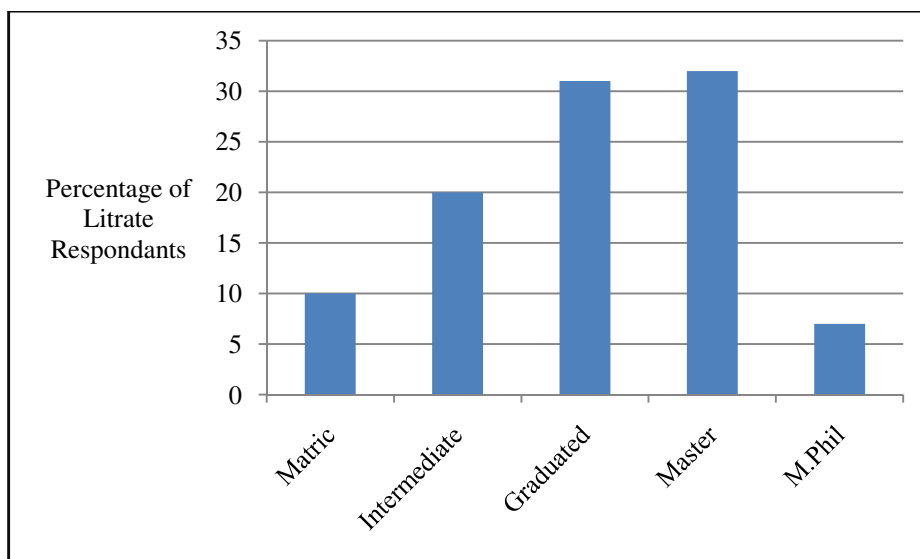


Figure-3
Education Level of Respondents

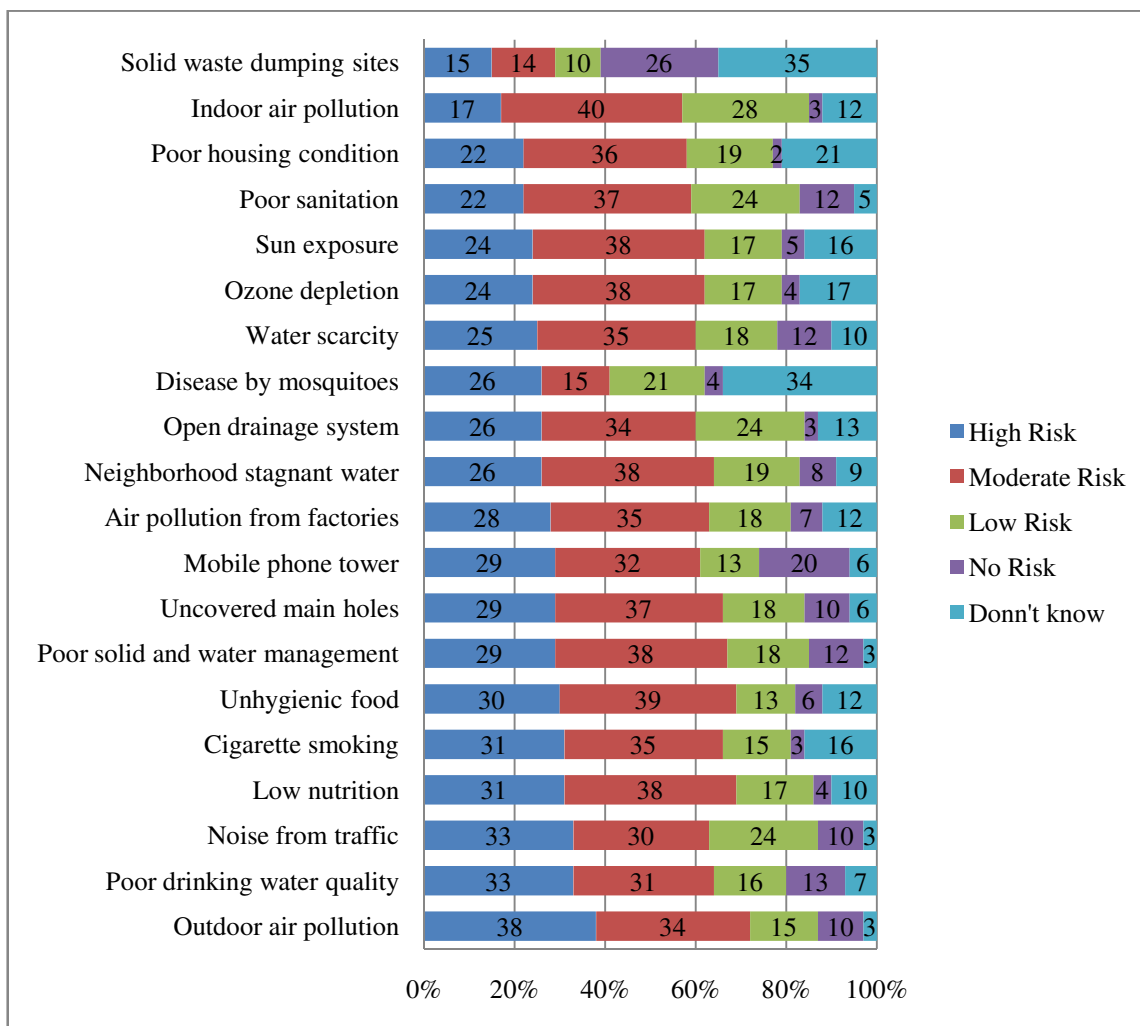


Figure-4
Perceived health risk about Environmental Health in Bahawalpur City

Table-1
Mean Risk Perception Ratings

Risk Perception	Proportion (%)
High Risk	27
Moderate Risk	34
Low Risk	18
No Risk	9
Don't know	12

Environmental Health Education: For any strategy of public health protection, effective communication of risk is of vital importance. Proper information on the environmentally undesirable actions and their resultant risk can enable public to minimize the risk they can face otherwise. All public sector bodies are eventually responsible to the public and have a duty and liability to keep the public informed. A better understanding of the factors shaping public perception of health issues and risks will help to determine how perception of risk should be addressed in managing health risk issues²².

According to results as shown in Figure-5, telephone and news paper were rated as the strong medias for promoting environmental health education, followed by internet sources and mobile phones. Radio was rated least media for disseminating environmental health education.

According to public perception about the responsible sector to communicate public about environmental health risks, local

government was rated as 25 percent, local community as 17 percent, followed by provincial government as 16 percent and educational institutes as 14 percent, but mostly people perceived that all the sectors are equally responsible to increase and communicate environmental health awareness in the city, Figure-6.

Conclusion

Health is a major issue among all the human being's societies. Public health is always a high priority for government; because public health is directly related to policies and initiatives. Bahawalpur City is also has many environmental problems with regards to health issues. That's why public environmental health risk perception must be checked for correct policy and initiatives implementation. The response rate was high by the male adult population whereas low response has been given by female adults showing their lack of interest or unawareness about environmental health risk factors. Though results of risk perception seems to be satisfactory as most of the threats were rated high to moderate, but significant responses were received in categories of 'none' and 'do not know' against the health threats showing level of unawareness. Following points have been suggested on the basis of result of the study;

The correct identification of major environmental health risks at different places in Bahawalpur City should be explore by the conducting such type of researches which based on case study approach. The regular assessment of public health risk perception and judgment of their perception level should be measure by clear evidences. Government should take action to promote environmental health risk education through media. Training workshops and meeting should be organized to enhance the public knowledge about health risk factors.

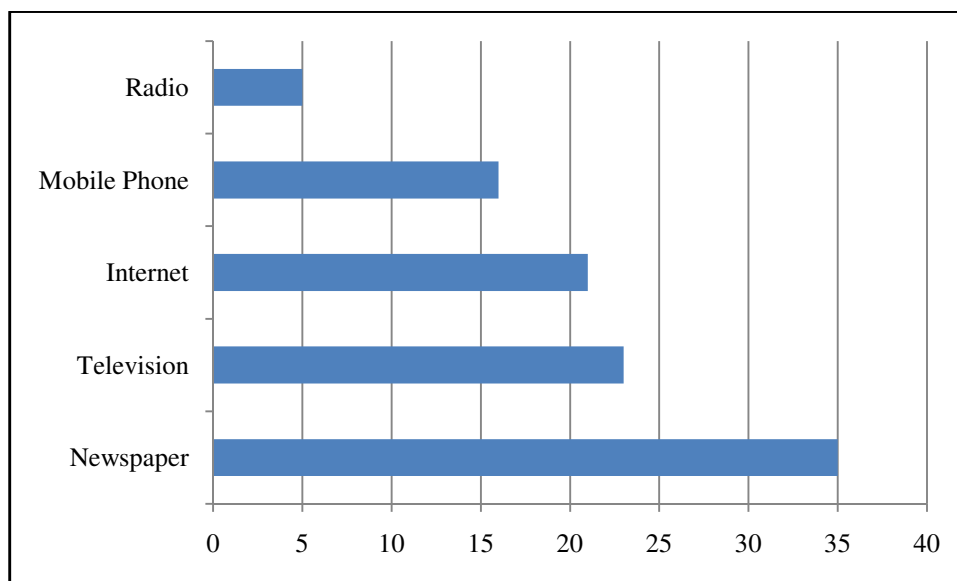


Figure-5
Suitable Media Perceived for Disseminating Environmental Health Education

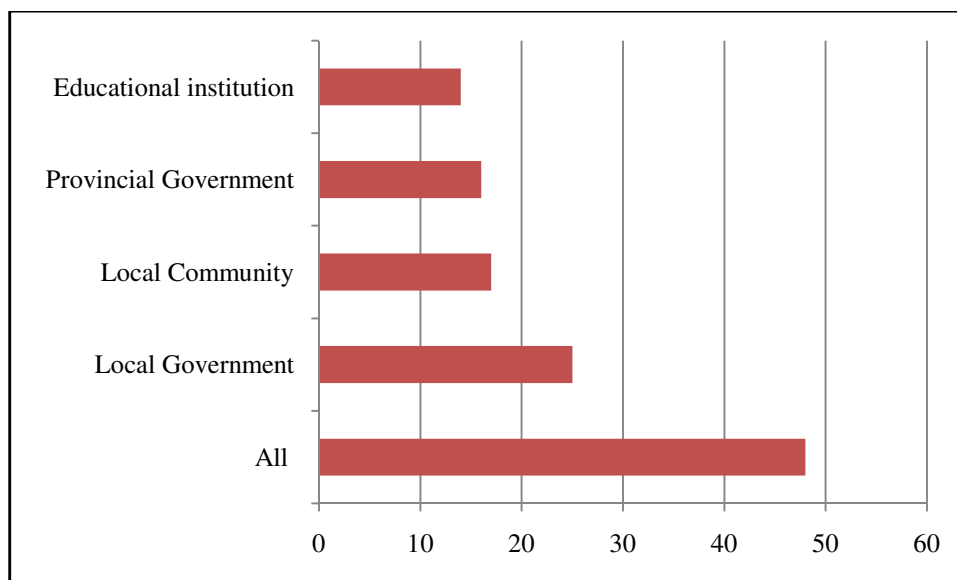


Figure-6
Responsible Sector Perceived for Disseminating Environmental Health Education

A community participative approach should be adopted by local government to gain help in reduction of environmental health risk to ensure the local environment clean and risk free. Educational institutions should initiate research projects to sort out the issues relating to environment and health. Public messages should be communicated through TV, radio, newspapers, telephone, and internet for raising awareness of public about health and environment. Government should conduct more seminars and campaigns in regards with environmental public health risk perception.

Multi-sectoral approach should be used by government for the solution of health risks and creating awareness among public. Government should conduct more programs and campaigns for community action for risk awareness. The source of information about environmental health risk perception should be improved and new technology along with health information should be accessible for the public. Government should give high priority to the very high risks those are dangerous for public health. Government should make new and effective policies and introduces new initiatives for controlling the environmental health risks.

Moreover, understanding how residents of Bahawalpur City perceive the responsible media and governing stakeholders can help in appreciating their concerns, and in designing effective risk communication programs. Hence, there should be collaborative actions taken by government and community for better healthy environment and people.

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