



Environment Pollution's Effects on Human Health and Psychological Wellbeing – A Survey study

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ABSTRACT: Present study was aimed to explore the effects of environment pollution on human health and wellbeing. Environmental pollution is causing various emotional and psychological issues on the health of humans and animals. Everything on the planet is interconnected and while the nature supplies us with valuable environment, without which we cannot exist. Environmental effects could be truly damaging either, air pollution, water pollution and soil pollution.

For this cross cultural research survey population were selected randomly from three countries, United Arab Emirate (N=25), Pakistan (N=25) and Malaysia (N=25). Study consist (N=75) both gender male and females, with various level of education and employment. Personal consent form to record the interview information and to fill formal questionnaire was obtained from all participants.

Results were formulated on the information originated from interview and questionnaire related their psychological mental state and issues in reference their environmental pollution and changes. Statistical test were applied to get data for results interpretation. Results revealed that in Pakistan there are greater psychological health issues as compared to Malaysia and UAE. Depression, anxiety and physical health related symptoms were more reported in main city of Lahore, Pakistan.

Study provides further recommendations to work on strategies and polices to promote healthy, productive mental wellbeing.

Keywords: Environmental effects; wellbeing; psychological; stress; healthy life; pollution; mental health and physical health.

INTRODUCTION: The menace of pollution is the world's deadliest and massive slow poison that is killing human beings, animals and plants, and even it is not noticed by the saner elements. Pollution the unwanted introduction of various contaminants in to the various types of environment has played havoc with life and environment both. It is widely said that environment is life and pollution is death. It is absolutely right. Wherever there is modicum of pollution the spread of diseases are obvious there. Some of the pollution-caused diseases are so fatal which ultimately lead to the human beings to the deep trench of suffering/ illness.

Environmental contaminants are ubiquitous. Among the most studied environmental contaminants, lead, mercury, polychlorinated biphenyls and pesticides have been found to impact mental health. In particular, exposure to environmental contaminants has been related to executive functions and emotional/behavioral maladjustment in children, and cognitive variability in elders. We hypothesize that the associa-

tion between environmental contaminants and mental health, particularly in children and elders, could be explained by a disruption of the stress system.¹

Over the last three decades there has been increasing global concern over the public health impacts attributed to environmental pollution, in particular, the global burden of disease. The World Health Organization² estimated that about a quarter of the diseases facing mankind today occur due to prolonged exposure to environmental pollution. Most of these environment-related diseases are however not easily detected and may be acquired during childhood and manifested later in adulthood.

To emphasize the link between environmental pollution and public health in an urban setting, United Nations Environment Programme³ commissioned a pilot study of the Dandora municipal waste dumping site in Nairobi, Kenya. Environmental samples (soil and water) were analyzed to determine the content and concentrations of various pollutants (heavy metals,

polychlorinated biphenyls and pesticides) that are known to affect human health

Researchers have known since the 1970s that high levels of air pollution can harm both cardiovascular and respiratory health, increasing the risk of early death from heart and lung diseases. The effect of air pollution on cognition and mental well-being, however, has been less well understood. Now, evidence is mounting that dirty air is bad for your brain as well. Over the past decade, researchers have found that high levels of air pollution may damage children's cognitive abilities, increase adults' risk of cognitive decline and possibly even contribute to depression.⁴

Air pollution collectively describes the presence of a diverse and complex mixture of chemicals, particulate matter, or of biological material in the ambient air which can cause harm or discomfort to humans or other living organisms. The sources of air pollution can either be natural (e.g., volcanic eruptions) or manmade (e.g., industrial activities), and air pollution emerges as a serious health problem especially in rapidly growing countries. Millions of people worldwide are chronically exposed to airborne pollutants in concentrations that are well above legal safety standards. Therefore, morbidity and mortality attributable to air pollution continue to be a growing public health concern worldwide. Air pollution ranks eighth among the leading risk factors for mortality and accounts for 2.5% of all deaths in developed countries.⁵

Health effects due to chronic exposure are very similar to those reported for acute exposure. There are several reports of increased mortality, however, most cases involve mainly elderly individuals where respiratory and cardiovascular problems are already the principle cause of death.⁶

Exposures to environmental pollution remain a major source of health risk throughout the world, though risks are generally higher in developing countries, where poverty, lack of investment in modern technology and weak environmental legislation combine to cause high pollution levels. Associations between environmental pollution and health outcome are, however, complex and often poorly characterized. In recent decades, too, a wide range of modern pollutants have emerged—not least, those associated with road traffic and the use of modern chemicals in the home, in food, for water treatment and for pest control. Most of these pollutants are rarely present in excessively large concentrations, so effects on health are usually far from immediate or obvious.⁷

Environmental pollution is reaching worrying proportions worldwide. Urbanization and industrialization along with economic development have led to in-

crease in energy consumption and waste discharges.⁷ The global environmental pollution, including greenhouse gas emissions and acid deposition, as well as water pollution and waste management is considered as international public health problems, which should be investigated from multiple perspectives including social, economic, legislation, and environmental engineering systems, as well as lifestyle habits helping health promotion and strengthening environmental systems to resist contamination.⁷

Pollution reaches its most serious proportions in the densely settled urban-industrial centres of the more developed countries. In poor countries of the world more than 80% polluted water have been used for irrigation with only seventy to eighty percent food and living security in industrial urban and semi urban areas. Industry, clustered in urban and semi-urban areas surrounded by densely populated, low-income localities, continues to pollute the environment with impunity. Environment pollution is a worldwide problem and its potential to influence the health of human populations is great.⁸ The air we breathe is an essential ingredient for our wellbeing and a healthy life.

Unfortunately polluted air is common throughout the world (EPHA, 2009) especially in developed countries from 1960s. And in Pakistan⁹ even famous crowded cities and countries are facing air pollution. Polluted air contains one, or more, hazardous substance, pollutant, or contaminant that creates a hazard to general health. The WHO states that one sixth of the world's population; approximately 1.1 billion people do not have access to safe water and 2.4 billion lacks have no availability of basic sanitation¹⁰.

According to research study in Pakistan, in present scenario due to industrialization and increased population, the drains of Pakistan carry the industrial and municipal effluents that are ultimately carried that polluted water to the canals and rivers. The untreated industrial and municipal wastes have created multiple environmental hazards for mankind, irrigation, drinking and sustenance of aquatic life. The drainage water contains heavy metals in addition to biological contaminations. This water pollution infected our food in addition to groundwater contamination when used to irrigate crops.¹¹

Improper management of solid waste is one of the main causes of environmental pollution. Land pollution is one of the major forms of environmental catastrophe our world is facing today.¹²

MATERIAL AND METHODS:

Purpose of the study was to evaluate the adverse effects of pollution on human health and psychological

wellbeing in developing countries, Malaysia, UAE and Pakistan. To conduct this cross cultural study, three countries Pakistan (N=25), Malaysia (N=25) and United Arab Emirate (N=25) participants (N=75) were randomly selected, to investigate the adverse effects of environmental pollution on human psychological health. A structured questionnaire was designed to get the information and response related environmental pollution. Questionnaire was designed with two dimensions, physical health effects and psychological health effects. each question was ranked on five point scale from Not all(1), low(2), mild(3), moderately (4) and severe (5). Data was collected in face to face interaction of all these countries. The ages of participants ranges from 20 to 45 years with different educational and employment background. After collecting data, results were compelled through descriptive statistical analysis to found the effects of pollution on human health and psychological well being. Objectives of Study:

- To explore the effects of environmental pollutions on human health and psychological wellbeing.
- To investigate the effects of environmental pollution on human health and psychological wellbeing in three different countries, Malaysia, Pakistan, and United Arab Emirate.

RESULTS AND DISCUSSION:

Results revealed that presently pollution is working like a slow poison on human health and psychological well being. This slow poison is harming physical

health and psychological health of human being in many ways.

Table 1: Effects of environmental pollution on human health in three countries.

Country	Mean	N	Std. Deviation	% of Total Sum
Pakistan	82.6000	25	13.23505	38.1%
Malaysia	65.5600	25	3.88458	30.3%
United Arab Emirates	68.4400	25	2.95917	31.6%
Total	72.2000	75	10.98894	100.0%

Results revealed that in Pakistan the percentage of pollution effects on human health and psychological well being is higher (38%0 than Malaysia (30%) and United Arab Emirates (31%). Pakistani cities are facing tribulations of urban congestion, deteriorating air and water quality and waste management while the rural areas are witnessing rapid deforestation, biodiversity and habitat loss, crop failure, desertification, land degradation, lack of clean drinking water, noise pollution, and sanitation.¹³ Even in Malaysia and UAE the situation is not very different in reports of physical health and psychological well being in effects of environmental pollution.¹⁴ Eenvironmental polluted processes are adversely affecting in many parts of the world and human being is suffering with many kinds of physical diseases and psychological disorders.

Table 2: Physical health effects of environmental pollution.

Country		Headache	Reduced energy level	Effects on lungs	Hypertension	Heart problems	Skin infections	Asthma
Pakistan	N	25	25	25	25	25	25	25
	%Sum	37.4%	35.8%	42.6%	35.1%	27.2%	37.5%	32.5%
Malaysia	N	25	25	25	25	25	25	25
	%Sum	30.7%	34.8%	27.8%	29.5%	40.8%	22.3%	29.8%
United Arab Emirates	N	25	25	25	25	25	25	25
	%Sum	31.9%	29.5%	29.5%	35.4%	32.0%	40.2%	37.7%

According to results that participants from Pakistan revealed greater percentage on the complains having headache 37.4%, reduced energy level 35.8%, effects on lungs 42%, hypertension 35% , heart problems 27%, skin infection 37.5% and asthma 32.5%.

Participants from Malaysia revealed symptoms of headache 30.7%, reduced energy level 34.8%, and effects on lungs 27%, hypertension 29%, heart problems 40%, skin infection 22.3% and asthma 29.8%.

People from UAE reported headache 31.9%, reduced energy level 29.5%, and effects on lungs 29.5%, hypertension 35%, heart problems 32%, skin infection 40% and asthma 37. %.

Mostly people from Pakistan reported higher symptoms of physical diseases, but in Malaysia greater ratio of heart problems, hypertension and in UAE skin infection hypertension and asthma were reported high.

Polluted drinking water or water polluted by chemicals produced waterborne diseases like, Giardiasis, Amoebiasis, Hookworm, Ascariasis, Typhoid, Liver and kidney damage, Alzheimer's disease, non-Hodgkin's Lymphoma, multiple Sclerosis, Hormonal problems that can lead toward disorders of development and reproductive processes, like Cancer, heart

disease, damage to the nervous system, different type of damages on babies in womb, Parkinson's disease.¹⁵ Damage to the DNA and even death, meanwhile, polluted beach water contaminated people like stomach aches, encephalitis, Hepatitis, diarrhoea, vomiting, gastroenteritis, respiratory infections, ear ache, pink eye and rashes.¹⁶

Table 3: Effects of environment pollution on health.

Country		Poor immune system	Reproductive health effect	ENT problems	Stress	sadness	anxiety symptoms	Low Mood
Pakistan	N	25	25	25	25	25	25	25
	% Sum	49.4%	28.6%	43.3%	34.5%	38.9%	44.4%	52.0%
Malaysia	N	25	25	25	25	25	25	25
	%Sum	28.4%	39.8%	24.2%	33.1%	34.8%	27.4%	26.8%
United Arab Emirates	N	25	25	25	25	25	25	25
	%Sum	22.2%	31.6%	32.5%	32.4%	26.3%	28.2%	21.1%

Table 4: Effects of environmental pollution on human health and psychological wellbeing.

Country		Low level of concentration	Lack of sharpness	Weaken Decision Power	Irritation	Frustration	Anger	poor Sleep	feeling of boredom
Pakistan	N	25	25	25	25	25	25	25	25
	%Sum	36.0%	37.5%	34.7%	35.7%	33.7%	37.8%	40.1%	32.7%
Malaysia	N	25	25	25	25	25	25	25	25
	%Sum	31.3%	26.8%	29.3%	31.0%	31.5%	30.7%	32.8%	29.8%
United Arab Emirates	N	25	25	25	25	25	25	25	25
	%Sum	32.7%	35.7%	35.9%	33.3%	34.8%	31.4%	27.2%	37.5%

In Pakistan poor immune system 49.4%, reproductive health affects 28.6%, ENT problems 43.3%, stress 34.5%, sadness 38.9%, anxiety 44.4% and low mood 52%. In Malaysia, poor immune system 28.4%, reproductive health effects 39.8%, ENT problems 24%, stress 33%, sadness 34.8%, anxiety 27.4%, low mood 26.8%. In UAE poor immune system 22.2%, reproductive health effects 31.6%, ENT problems 32.5%, stress 32.4%, sadness 26.3%, anxiety 28.2% and low mood 21% was reported.

Environment dying is global perilous point which catastrophically the human, animals and plants. Air pollution results are Cancer¹⁷, neurobehavioral disorders¹⁸ cardiovascular problems (European Public Health Alliance¹⁰, reduced energy levels¹⁹, premature death, asthma, asthma exacerbations, headaches and dizziness, irritation of eyes, nose, mouth and throat, reduced lung functioning, respiratory symptoms, respiratory disease, disruption of endocrine and reproductive and immune systems.

Results showed there were greater reported psychological symptoms, low level of concentration (36%), lack of sharpness (34.7%), weaken decision making (34.7%) feeling of irritation (35.7%), Frustration (33.7), anger (37.8%), poor sleep (40%), and feeling of boredom (32%) in Pakistan.

In Malaysia people revealed low level of concentration 31%, lack of sharpness 26.8%, weaken decision making 29.3%, feeling of irritation 34%, frustration 31.5%, anger 30.7%, poor sleep 32.8%, feeling of boredom 29.8%.

In UAE participants results suggested that low level of concentration 32.7%, lack of sharpness 35.7%, weaken decision making 35.9%, feeling of irritation 33.3%, frustration 34.8%, anger 31.4%, poor sleep 27.2% and feeling of boredom 37.5%.

People revealed different type of psychological symptoms in different region. Sadness and low mood with anger is higher in Pakistan and in Malaysia mostly people have feeling of irritation, poor sleep and low

level of concentration, in UAE lack of sharpness, irritation, frustration and feeling of boredom.

The adversity of environmental pollution is higher in Pakistan as compared to Malaysia and UAE. Study revealed that its effects are also reported higher in physical and psychological symptoms.

CONCLUSION:

Study explains the worse effects of environmental changes on human physical and mental health. It is clearly established that air pollution, dirty water, light pollution and weather changes effects on human life. The issues are important to highlight for good human health and life.

Recommendations: The environment affects our health in a variety of ways. The interaction between human health and the environment has been extensively studied and environmental risks have been proven to significantly impact human health, either directly by exposing people to harmful agents, or indirectly, by disrupting life-sustaining ecosystems. Research helped us to understand importance of psychological health in reference of environment pollution. Study emphasis that there is need to screen and work on psychological and social wellbeing issues increased and affected by environmental pollution and changes.

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