Exploring the Implication of Contaminated water on the Health of the Residents in Dera Ghazi Khan (City)

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Abstract— *Access to safe drinking water is one of the basic human rights and necessary for healthy life. Clean water is absolutely essential for healthy living. Millions of the people die due to drinking of impure and unclean water. The objective of the study was to explore the implication of contaminated water on the health of the residents in Dera Ghazi Khan (City).Drinking water quality is poorly managed and monitored in Dera Ghazi Khan (City) and underground water of city is not useful for drinking purpose, due to high values of calcium, magnesium, chloride, hardness and sub crises of heavy metal. The empirical part of this data collected from 100 respondents from Dera Ghazi Khan (City), in which 94 respondents were male whereas 6 were female. Theoretical framework was consisting of protection motivation theory by Rogers. In this study, the purposive sampling was used to collect data; tool for data collection was interview schedule. Descriptive and inferential statistical procedures were adapted for the analysis of the data. This study explored knowledge about poor health due to drinking contaminated water. Contaminated water is the cause of poor health of the peoples of Dera Ghazi Khan (City). But there were many peoples who were not aware about contaminated water and its affect on health. While some people were irritated from water pollution. Some of the respondents, whose knowledge regarding contaminated water and its impact on health.*

Index Terms— Contaminated water, Drinking water, water pollution, poor health

1. Introduction:

An estimated 1.1 billion people lack access to safe drinking water, 2.5 billion people has no access to proper sanitation, and more than 5 million people die each year from water-related disease. The water and sanitation is the biggest killer of children under five years old worldwide. Without safe water or sanitation, people are trapped in a cycle of poverty and disease. Across the developing world, millions of women are wasting precious time collecting dirty water; children are dying from preventable diarrheal diseases (WHO 2002).

Azizullah et al (2010) had given overview of reason behind contaminated water. Drinking water quality is poorly managed and monitored. Pakistan ranks at number 80 among 122 nations regarding drinking water quality. Drinking water sources, both surface and groundwater are contaminated with coli forms, toxic metals and pesticides throughout the country. Various drinking water quality parameters set by WHO are frequently violated. Bacteriological and chemical pollution of public drinking water have been the cause of waterborne diseases. Underground water is not useful for drinking, because of high values of the frequent and high level of iron, nickel, cadmium and arsenic is alarming.[1] Khan et al (2012) conclude that the water contaminated with SO4, NO3, and heavy metals such as Pb, Cd, Fe, Ni and Zn. The coli form bacterial contamination was also found in some sources of water, confirming the bacterial contamination of drinking water. Water contamination with coli form bacteria was the main source of waterborne diseases like gastroenteritis, dysentery, diarrhea and hepatitis.[2] Fawell and Hulsmann (2015) give arguments about water contamination, they say all water contains chemicals from natural resources, but many waters also contain chemicals from human activity. These can arise from agriculture activity from discharges industrial establishment and as a consequence of the general use of a wide range of chemicals in industry .We as humans contributes the significant amount of chemicals into the environment because of our modern life style. There is often a perception that many chemicals in drinking water will cause effects on health. There is clear evidence that a small number of naturally occurring chemicals, particularly Arsenic and Fluoride are a cause of human health effects.[3] Ishaq et al (2012) describe the effect of mercury and arsenic from industrial effluents in drinking water. Toxic elements mix into the environment from natural sources as well as anthropogenic activities. The presence of toxic elements in the environment is a high risk to human health. Various diseases caused by mercury uncovering include irritability, fatigue, insomnia, personal changes, headache, constricted visual fields, seizures, ataxia, in coordination, metallic taste in the mouth, nausea, vomiting, diarrhea, abdominal pain, pneumonitis, respiratory distress, lung impairment, renal failure, glycosuria, anemia, severe brain damage, and a variety of other diseases.[4] Nutr (2003) said that Humans can be exposed to arsenic through the intake of food and water. Although food is usually the major source of as exposure for people, most adverse effects are seen after as exposure from drinking water. The two main reasons for this situation are that most food arsenicals are organic and have little or no toxicity, and in many cases, as exposures from drinking water sources are to the more toxic inorganic form and occur at relatively high doses.[5] Siegmann and Shahzad (2006) highlight that Pakistan may not be a water-scarce country, water stress, poor water quality and affect large portions of the population. Considerably less water is available in Balochistan and Sindh. The unequal distribution, coupled with population pressure, rapid urbanization, and increasing industrialization, poses a serious challenge to water management in Pakistan in the 21st century. Industrial water pollution poses direct health hazards and indirectly threatens sources of livelihood; water challenge is that of protecting human health and life from water scarcity, inequitable distribution, pollution, and water-related natural disasters, all of which seriously obstruct human development. In drinking water Pakistan has much quantity but not quality in drinking water.[6]Afroz et al (2015) stated that the main causes of water pollution were due to low oxygen levels because oxygen levels have dropped dramatically because of sudden algae population explosions. Forestry, urbanization and agricultural development have caused the contamination of most river systems. Major sources of water pollution are produced by humans, although some of them are from natural sources. Wastewater of industry, agricultural fertilizer and Chemicals in surface water affect levels of dissolved oxygen in the water. The consumption of polluted water might seriously affect human heart and kidneys and cause poor

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blood circulation, skin lesions, vomiting and damage to the nervous system. [7] Haydar et al (2009) stated that Drinking water must be free from components which may adversely affect the human health. Such components include minerals, organic substances and disease causing microorganisms. A large portion of the population in developing countries suffers from health problems associated with either lack of drinking water or due to the presence of microbiological contamination in water . Poor water quality is responsible for the death of an estimated 5 million children in the developing countries (PCRWR 2002). The problem is further aggravated by rapidly increasing population which results in poor water-quality management. There is a lack of drinking-water quality monitoring and surveillance programmed in the country. Weak institutional arrangements, lack of well equipped laboratories and the absence of a legal framework for drinking-water quality issues have aggravated the situation.[8]

Methodology:

In this research, the quantitative method was employed because the quantitative research adequately does numerical analysis. The researcher collected the data from Dera Ghazi Khan (City).The target population consisted of the people having the age bracket of 18 to 24 and above 24.In present survey, purpose oriented sampling technique was used. The sample for the study was 100 respondents because the said number was considered sufficient to help generalize the results. Moreover, after 100 respondents, the researcher felt very minor variations in the response rate. Survey method was implemented. Interview schedule was developed. Interview schedule was developed in which questions were asked from the peoples of Dera Ghazi Khan about contaminated water affect on health. In this research descriptive and inferential statistical procedure were used to analysis the data.

Discussion

Firstly the researcher discussed about the introduction of research topic on 'Exploring the implication of contaminated water on the hygiene among residence in Dera Ghazi Khan (city).

The pure water is the basic issue in Pakistan and with the passage of time quantity of water is becoming scarce and the quality of water is deteriorating due to urbanization and industrialization and its main factor is expand the population. In Pakistan approx 30-40 percent disease attribute to poor water quality. In Karachi only, approx 10000 people die annually from renal infection due to drinking contaminated water (PCRWR 2003).Literature review of other studies also indicated that contaminated water is not a big issue of Pakistan only, it's also developed and underdeveloped all countries. In this research, the research area is Dera Ghazi Khan (city).Dera Ghazi Khan city divided by five divisions for water works and storage capacity, Shown in table:

S.No	Name of water works and storage capacity	Area Served / Blocks no
1	Gharbi water works(7,00,000) Gallons	37,36,N,35,P,34,39,Q,33,40,41,32,R,31,50,42,49
2	Azmat park water works(7,00,000) Gallons	J,E,A,B,F,K,I,G,C,D,H,M,S,T,U,28,29,30,43,44,45
3	Khayabansarwar water works(5,00,000)gallons	Blocks A,B,C (completed) Shakirtown, Rashidabad,KhudaBakhshchowk
4	Chowkchurathha water works(5,00,000)gallons	Tounsa road, Multan road, Gulshanrehman colony
5	Waqar canteen water works(3,00,000)gallons	Fareedabad,Qadeerabad,Ruknabad,Mujahidabad

In this research, the result was being collected in Dera Ghazi Khan (city), it is concluded that obviously, contaminated water affect hygiene, because most of respondents given negative view about contaminated water. The greater percentage of male respondents of house hold were 94.0 percent, and 6.0 percent is female, its mean they know about contaminated water and its effects on hygiene.

Conclusion

This research was conducted at Dera Ghazi Khan (city) on the topic "Exploring the implication of contaminated water on the hygiene among the residence of Dera Ghazi Khan (city).The purpose of this study to explore the impact of contaminated water on the hygiene of residence among Dera Ghazi Khan People. The researcher tries to find out the people perception and affects of contaminated water on hygiene. In Dera Ghazi Khan underground water is not useful for drinking purpose, due to high values of calcium, magnesium, hardness, chloride, sub-crises of heavy metal and also low value of arsenic chemical. This may cause poor hygiene and risky health.

On the other hand neither government has taken action against contaminated water and nor facilitated people of Dera Ghazi Khan (city) to save the health or hygiene.

Reference:

1. Azizullah, Muhammad Nasir Khatak, Peter Richer Donat Peter Hader. 2011."Water Pollution In Pakistan And Its Impact On Public Health:A Review'. Environment International 37(2):479-497.
2. Fawell, John, And Adriana D Hulsmann.2015. "Health Affects Of Chemical Contamination Of Drinking Water Supply".Water And Health, 2.
3. Hayder, Sajjad, And Malik Muhammad Qasim.2013. "A Study Of Water Quality Of Sargodha City".Punjab: Pakistan
4. M. Ishaq, F. A. Jan, M. A. Khan, I. Ihsanullah, I. Ahmad, And M. Shakirullah, 2012. "Effect Of Mercury And Arsenic From Industrial Effluents On The Drinking Water And Comparison Of The Water Quality Of Polluted And Non-Polluted Areas: A Case Study Of Peshawar And Lower Dir".Institute Of Chemical Sciences, University Of Peshawar, Peshawar Environmental Monitoring And Assessment 185(2):1483-1494.
5. Nutr, J.2003. "Health Effects And Risk Assessments Of Arsenic".
6. Siegmann,Karin Astrid AND Shezad.2006. "Pakistan Water Challenges: A Human Development Perspective".
7. Afroz, Raffia, Hasanul Banna, Muhammad Mehedi Masud, Rulia Akhtar, And Siti Rohani Yahaya. 2015. 'Household Perception Of Water Pollution And Its Economic Impact On Human Health In Malaysia'. Desalination And Water Treatment 1-9.
8. PCRWR. National Water Quality Monitoring Programme. Water Quality Report 2003. Islamabad, Pakistan: Pakistan Council For Research In Water Resources (PCRWR;2003. Available At Http://Www.Pcrwr.Gov.Pk/Wq_Phase3_Report/TOC.Htm).
9. WHO.2002. "Affect Of Pollution On Children Health." (Http://Www.Childtrendsdatabank.Org/).
10. Sardar Khan, Maria Shahnaz,Noor Jehan,Shafiq Ur Rehman,M Tahir Shah,Islamuddin.2013. "Drinking Water Quality And Human Health Risk In Charsadda District." Pakistan: Journal Of Cleaner Production 60:93-10