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Assessing the Level of Awareness about Malnutrition and Poor Drinking Water Affecting Child Health in District Chiniot, Punjab, Pakistan

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Abstract: This study investigates the level of awareness about malnutrition and poor drinking water on the child health in Chiniot. Lack of improved drinking water and sanitation services causes major diseases like diarrhea affecting health status and mortality among children. Using a quantitative data, the study's major objective was to determine whether access to improved sources of water and nutrition in Chiniot are affective for health of children who are less than five years of age. Potential mechanism behind the relationships between child health and different types of water supply and sanitation services are also explored. Data were collected from different villages of Chiniot. Multi-stage sampling technique was used to collect a sample of 200 respondents. Interview schedule was used as a tool for data collection. The main objectives of this study were to study the awareness of rural people about the effects of malnutrition and poor water supply on child health. The major findings of this study are that mostly people in rural settings have not awareness about malnutrition, poor drinking water and children health. Mostly people are less educated and pay no attention on children health.

Key words: Awareness, malnutrition, poor drinking water, Pakistan

INTRODUCTION

Health is a basic need of all human beings to live a proper social life. Health is the absence of disease, illness, pain or physical harm. A healthy person is one who can expect to live a normal piece of time and can function effectively free of significant pain or suffering from physical harm (Karen, 1978). Water is essential for survival. Today most of the people in Pakistan do not have access to safe drinking water. Most of the water resources are polluted with untreated/partially treated wastes from industry, domestic sewage and fertilizer/pesticide run off from agriculture fields (Briend, 1990). The sewage treatment facilities are inadequate in most cities and almost absent in rural Pakistan (Mahmood *et al.*, 2002).

The present study focuses on child health because health is a prerequisite for increase in productivity, while successful education relies on adequate health. Thus social indicators can be seen as vital components of growth and development. Child health is assessed as the outcome of different socio-economic factors (Bennett, 1955). Poverty plays a central role in almost all the health related problems as it directly contributes to poor nutrition, which in turn results in poor school performance, reduced productivity and even permanent disabilities and thus leaves little hope for economic

advancement of the poor segment of the population. Poverty, malnutrition and poor child development are interlinked (Khor, 2004).

There are extensive evidences which demonstrate that lack of proper nutrition for young children has consequences not only for health and survival but also for physical and intellectual growth and performance at school. Malnutrition is linked with many health and economic deprivations. Malnutrition also impedes children's growth and development. Such children can't contribute for family, society and national productivity. It is not possible to isolate the nutrition factor from the child development factor (Hutton *et al.*, 2007). However, there is evidence that nutrition has significant impacts on child cognition and development. For several decades the research had focused on effects of malnutrition on human performance, health and survival. Previous studies show that malnutrition affects physical growth, morbidity, mortality, cognitive development, reproduction and physical work capacity (Pelletier and Frongillo, 2002).

Children are also more vulnerable than adults and the household's poor economic status impacts child health adversely through malnutrition, poor hygienic conditions, lack of awareness and lack of health services. Poor child health can lead to morbidity (Hutton *et al.*, 2007).

Malnutrition is an underlying factor in many diseases in both children and adults and it contributes greatly to the disability-adjusted life span worldwide (Murray and Lopez, 1996). It has been seen that malnutrition is particularly widespread in developing countries, where it affects one out of every three preschool-age children. Hunger and malnutrition remain among the most devastating problems currently facing the majority of the world's poor (WHO, 2000). Conventionally, the nutritional status of under-five children is one of the acceptable indicators of households' well-being (Thomas *et al.*, 1990).

Fever, malaria, viral diseases, respiratory infections and intestinal infection are more common among children less than five years of age (Mahmood and Ali, 2002). Diseases, including childhood diarrhea, are often caused by a multitude of factors. Numerous studies have revealed a strong connection between childhood diarrhea and the quality and use of water and sanitation services. According to the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), an estimated 88% of diarrheal deaths worldwide are attributable to unsafe water, inadequate sanitation and poor hygiene, indicating that water and sanitation interventions can play an important role in combating the incidence of this disease among children. These interventions may include improving access to safe water, improving water quality at the source, treating household water and storing it safely, improving access to adequate sanitation facilities and encouraging good hygiene practices, particularly hand washing (WHO/UNICEF, 2004).

Access to a regular supply of safe water is a basic human right, as is access to unadulterated food. But as with other human rights, too many people miss out. Of the world's population that is more than 6 billion people, at least 1.1 billion do not have available sources of clean drinking-water, such as protected springs and wells. Lack of access to safe water has a major effect on people's health. Poor health constrains development and poverty alleviation. Poor water has an impact on education, but when safe water and appropriate sanitation are provide in school, increased attendance and a reduction in dropout rates result (WHO, 2000). According to joint UNICEF and WHO (2004) estimates for 2010, 15% of people in the world openly defecate without any toilet or latrine. The global impact of poor sanitation on infant and child death and health is profound. Black *et al.* (2003) estimated that 10 million children under 5 die every year and that a fifth to a quarter of these deaths is due to diarrhea. Disease early in life also has lasting effects on the health and human capital of children who survive (Almond and Currie, 2011).

The poor are half as likely to have water access and one-fourth as likely to have sanitation access. Results of

studies carried out in Brazil show the impact of sanitation and of the incidence of diarrheas in children less than 5 years living in urban areas (Heller *et al.*, 2003). The research analyses about the serious problem of effect of poor sanitation. Pakistan is facing the extreme condition of poor sanitation. The poor sanitation has a significant impact on children health of rural areas. Most of people have not access to clean water and sanitation in rural areas that affected the health of children (WHO, 2006). It caused a lot of health diseases and finally leads to the death. Eighty percent diseases are caused by poor sanitation. It is the government responsibility for the provision of clean drinking water and poor sanitation. But what is happening, we are all drinking contaminated water which is full of organism like Typhoid, Hepatitis A, Cholera and our children die due to Typhoid and Cholera etc. So if we address the provision of clean water and poor sanitation, we can decrease our mortality rates (Mahmood and Ali, 2002). The main objective of this study was to investigate the level of awareness about poor drinking water and poor sanitation on children health.

97,900 people die every year due to poor water and sanitation in Pakistan. WHO and UNICEF estimated that every year, 54,000 children under age five in Pakistan die from diarrhea caused by poor water and sanitation services. Under-5 mortality is 28% higher in rural areas of Pakistan. Water and sanitation related diseases are responsible for some 60% of the total number of child mortality cases in Pakistan (WHO, 2006). The World Bank Strategic Environmental Assessment for Pakistan estimates the total health care cost of diarrhea and typhoid, both water and sanitation related diseases, to be Rs 112 billion (US\$1.33 billion), or 1.8% of the gross product. Risk factor for poor health is lack of clean water and poor sanitation and it has major health impacts (Murray and Lopez, 1996). In developing countries, the poor people have a great burden of diseases due to inadequate water supply, sanitation and hygiene (World Bank, 2005).

Governments are unable to provide basic needs to the citizens, because of the rapid increase in the urban population (Bennett, 1995). In Pakistan, mostly people do not have sanitation facilities and access to safe drinking water (Briend, 1990). One of the greatest problems in Pakistan is the availability and access to safe and clean water. This is not only limits agricultural production and industrial growth, but it is also leading cause of disease and child mortality in the country (Kramer and Kakuma, 2001). About 70% population of Pakistan lives in rural areas, so majority of the children are born and brought up there. The overall condition of our villages gives their life as start with multiple disadvantages. They suffer from illness caused by malnutrition and unsanitary conditions (Rahman *et al.*,

2004). Iodine deficiency is quite prevalent in the Northern areas of Pakistan. Poor maternal nutrition status result in the high incidence (about 25%) of low birth weight babies, iron-deficiency anemia and other complications of pregnancy in the women of child bearing age persist. Protein-energy-malnutrition is prevalent in the vulnerable population (Government of Pakistan, 2012). World health organization (2006), concluded that malnutrition has become an urgent global health issue, with under nutrition killing or disabling millions of children each year. Malnutrition also prevents millions more from reaching their full intellectual and productive potential. In children, severe malnutrition accounts for approximately 1 million deaths annually, with approximately 20 million children under the age of five suffering from severe malnutrition. In 2010, 7.6 million children across the world died before reaching their fifth birthday, while in 2011 an estimated 165 million children under the age of five were stunted (low height for age) and 101 million were underweight. Malnutrition causes children to be more susceptible to illness and results in long-term effects on children's development and health. Gomez *et al.* (1955) found that educational level of mothers significantly affects the nutritional status of children. Malnutrition is a pathological condition that results from deficiency of one or more nutrients and has a wide range of clinical manifestations. Children are amongst the worst-affected groups. In 2001, it was noted that malnutrition caused 54% deaths in children living in developing countries (UNICEF, 2011). The percentage of malnourished children is highest in Asia with 70% of undernourished children living in this part of the world. In South Asia, one out of two preschoolers is underweight and has stunted growth (Khor, 2003). A wise investment in children's health, nutrition and education is the foundation stone for all national development. Neglecting children's needs will be dangerous and extend poverty and deprivation (UNICEF, 2011).

MATERIALS AND METHODS

In this study researcher used field survey despite few demographic questions most of the demographic variables questions were open ended as it was needed in the study. The interview guide was divided into five sections; demographic information, economy, education, nature of sanitation facilities and malnutrition that directly and indirectly effect on child health and their impact on affected people of the villages of Chiniot District. The universe of this study comprises population of villages of Chiniot District. This research has tried to represent the population of District Chiniot villages. Multiple stages sampling were done for this research 200 respondents were taken from selected villages of Chiniot District. In which sample contain 137 female and

63 male, randomly selected from affected villages of Chiniot District. In order to bring data into comparable form percentage of various categories of data were worked out in present study. Gamma and chi-square tests were applied to test hypotheses. The collected data was analyzed using descriptive statistics. Descriptive statistics was in the form of frequencies, percentage, mean, standard deviation and bar graphs. The (SPSS) was used to aid the analysis of this data.

RESULTS AND DISCUSSION

In Table 1 gender of respondent has been shown. 68.5% respondents were females while 31.5% were males. As for as age of research participants are concerned, 39% were 20 to 30 years old, 29 percent were 30 to 40 years old and 32% were above 40 years. Table 1 clearly describes that 31.5% respondents belong to nuclear family, 46.5% belong to 46.5% while 22 percent belong to extended family type. Income is very important variable in sociological studies. Table demonstrates that 27.5% respondents were earning less than 10,000 rupees, a majority of 40.5% was earning 10,000 to 20,000 rupees, 22% were earning 20,000 to 30,000 rupees and only 10% were earning above 30,000 rupees. In present study it is found that 29 percent mothers were illiterate, 41 percent mothers were having primary level of education, 25 percent were having matric level education and only 5% mothers were graduates. About father's education the findings of study state that 21% fathers were illiterate, 36% were with

Table 1: Dependent variable

Items	Percentage
Gender	
Male	31.5
Female	68.5
Age (Years)	
20-30	39.0
30-40	29.0
Above 40	32.0
Family Type	
Nuclear	31.5
Joint	46.5
Extended	22.0
Income	
Less than 10,000	27.5
10,000-20,000	40.5
20,000-30,000	22.0
Above 30,000	10.0
Mother's education	
Illiterate	29.0
Primary	41.0
Metric	25.0
Graduate	05.0
Father's education	
Illiterate	21.0
Primary	36.0
Metric	34.0
Graduate	09.0
Total: 200	100.0

Table 2: Level of awareness

Variables	Chi-square value	Gamma value	Linear by linear regression
Gender	113.454	0.613	74.660
Age	152.867	0.515	54.415
Mother's Education	63.530	0.418	40.931
Father's Education	112.525	0.525	80.546
Income	160.617	0.660	102.130
Knowledge about nutrition	98.770	0.602	64.330
Knowledge about clean water	160.060	0.789	90.085
Knowledge about child health	200.140	0.735	158.140

primary level education, 34% were having metric level of education and only 9 percent fathers were found to be graduates. These results are in conformity with the findings of Almond and Currie (2011), Mahmood and Ali, 2002), WHO (2000) that role of females is significant as compared to men in the child health, nutrition and clean water drinking. Same is the situation for the education of females. Better education of females used to result in better nutrition of child, better health and care of the children. This has been confirmed by WHO/UNICEF (2004), Rahman *et al.* (2004) and Hutton *et al.* (2007) also.

Seventy one percent people were found to have proper drainage system. It is important to note that 29% respondents still lack drainage system. Only 58% respondents think that poor drainage system greatly affect children health while 42% don't consider it a serious issue. Only half i.e., 52% respondents think that parental education has positive effect on awareness about child health while 48% still don't bother it. Only 61% respondents told that family members regularly wash hands before eating meal. 66% respondents said that family members regularly wash hands after using toilet. Only 17% respondents were sure that water we drink is main cause of child health problems. These findings are in line with the findings of Black and Sazawal (2003), Khor (2003), Kramur and Kakuma (2001) that better education in women accompanied with better income used to lead to better health of children, better sanitary system and drainage system among the family. Murray and Lopez (1996) and Thomas *et al.* (1990) also confirmed that washing hands and clean water are salient characteristics of an educated family with joint or nuclear family system.

Given Table 2 demonstrates that gender has significant impact on awareness level of respondents. There is no doubt that gender matters while assessing any social aspect of human life. Age has significant effect on level of awareness. Mother's education found to have highly significant association with awareness level of research participants. Father's education has been significantly associated with level of awareness. Similarly income was found to be significantly associated with level of awareness of respondents. Knowledge about nutrition also has significant impact on awareness. Only single variable has less significant relation with awareness i.e.,

knowledge about clean water. Knowledge about child health also has significant association with level of awareness. These findings are in accordance with the findings of World Bank (2005) and WHO (2000, 2006) that father's education also help in the child care, nutrition and health but the major role of is of mother in managing income of her husband with better health of children as well as whole family.

Conclusion: The water and sanitation condition of rural areas was found very poor. The facilities of drinking water were also scarce. The drinking water was found to be contaminated. Lack of awareness is the biggest cause of poor health of children in study areas. Mostly parents are uneducated so they are unaware and unconscious about their children health. Disposal station was not provided or on long distance and due to sewer line, children were facing different problems and suffered from different diseases like Malaria, Diarrhea, Typhoid and cholera. Illiteracy is also a factor. Illiterate people are less conscious about their child health and have no concern about sanitation policies so they faced lot problems about their children health.

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