

Health impact assessment of slum dwellers in Rayer Bazar: Water, Sanitation and Hygiene

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Abstract

This paper describes the health impact assessment of Rayer Bazar slum. Primary data were collected from randomly selected (50 respondents) slum dwellers in the Rayer Bazar slum area. The secondary data were collected from journal papers, articles, books, official documents, thesis papers, etc. Study reveals that the level of hygiene knowledge and practice has been found to be significantly low among the Rayer Bazar slum dwellers. The study in Rayer Bazar area of Dhaka city has found that the sanitary and water supply condition are improving very slowly. Majority of the slum people use WASA supplied water for drinking while significant amount of open defecation is also found. Normally Rayer Bazar slum dwellers are used to common latrine that is not sanitary latrine. The drainage system is the most neglected sector in the slums. The open disposal of human excreta pollutes the nearby water bodies, canals and drains causing severe water pollution. Besides, solid waste management and drainage system are totally unsatisfactory in the slum area. The health status of this area is not in good shape. There are both physical and mental health problem as well and numerous females also suffer various gynecological disease. Due to lack of general health knowledge these disease are going to be packed. Many motivational work and idea marketing from government and NGO side could help to improve their awareness level.

Keywords: slum, health, disease, water, sanitation, hygiene

Introduction

A large portion of total population of Dhaka city lives in different slums.

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They live in these slums because of their economic condition. Maximum of slum dwellers work as garments workers (24.2%), household workers (13.7%), rickshaw pullers (19.2%), street hawkers, day laborers, masons etc.¹ In a small shack home, they live in an unhealthy environment, where there is inadequate system of health, water and hygiene. A slum-mapping project in 2005 recorded more than 9000 slums in Bangladesh, most of them in Dhaka.² Slum-dwellers struggle constantly to access basic amenities – housing, water, sanitation, and electricity.

A slum is a cluster of compact settlements of 5 or more households which generally grow very unsystematically and haphazardly in an unhealthy condition and atmosphere on government and private vacant land. Slums also exist in the owner based household premises.³ In Slum Census 2014, the number of slums found was 13935 whereas in Slum Census 1997 it was 2991.

Slum population has been increasing in Bangladesh over the last three decades along with the growth and expansion of cities and towns. However, slum facilities are very much unsatisfactory for them due to lack of proper water supply and sanitation system. Therefore, the major portion of excreta is deposited into water bodies and open places, as such polluting water sources, groundwater and the general environment. As a result, majority of population in Bangladesh suffer from different kinds of water and excreta-borne diseases that aggravate in their poverty situations. However, the level of hygiene knowledge and practice has been found to be significantly low among the Rayer Bazar slum dwellers. The study in Rayer Bazar area of Dhaka city has found that the sanitary and water supply condition are improving very slowly. Majority slum people use WASA supplied water for drinking while significant amount of open defecation is also found. Normally Rayer Bazar slum dwellers used to common latrine that is not sanitary latrine. The drainage system is the most neglected sector in the slums. The open disposal of human excreta pollutes the nearby water bodies, canals and drains causing severe water pollution. Besides, solid waste management and drainage system are totally unsatisfactory in the slum area. This research mainly focuses on the study of environmental health condition of the slum dwellers by environmental pollution. So, goal of the study is to investigate the status, condition and recommendation of water supply, sanitation and health facilities for Rayer Bazar slum in Dhaka city.

Materials and Methods

Rayer Bazar (DCC-47 no word) located at Mohammadpur near Beribadh area in Dhaka District (Figure 1). Water facility comes from WASA but its inadequate

quate; sanitation facility is moderate with no drainage facility and also solid waste dumping at open place.

In order to achieve the objectives, a comprehensive literature review, household surveys and field visits, and a questionnaire survey were conducted upon 50 respondents (selected randomly) of Rayer Bazar. Household head means the person who plays the main role in the decision-making process of a family was considered for this survey. Information was also collected through informally face to face interview. Moreover, some data and information were collected from website of DCC. Observations of slum dwellers were conducted at slum area to find out their living conditions and their reactions to the environmental condition. The data obtained from the questionnaire and systematic examinations were analyzed using the software MS-Word, MS-Excel and SPSS 16.0. The data obtained from the research were analyzed to calculate mean, standard deviation, range.



Figure 1: Map of the study area (Red circle)

Result and Discussion

Socio-economic status

Table 1 (a) shows that out of 50 respondents, 52% are male and 48% are female. The age of the people lies in the range of less than 30 to above 50 years. Most of the people 44% (male 22% and female 22%) belong to the age group of 31 to 40 years and 34% (male 18 and female 16) belong to the age group of less than 30 years and also 20% (male 12%, Female 10%) from age group above 50 years. Table 1 (b) Shows that, 44% have 3 to 4 member in their family, 34% of people have 5 to 7 member in their family and 22% people have their have 1 to 2 member.

Table 1: Personal profile of the respondents; (a) Age limit; (b) Family size

(a)			(b)	
Age Range	Male (%)	Female (%)	Family Members	% of Respondents
Under 30y	18%	16%	1-2 Members	22
31-40y	22%	22%	3-4 Members	44
41-50y	12%	10%	5-7 Members	34
Total	52%	48%		

The Table 2 (a) shows that 76.93% of the respondents are driving rickshaw and 23.07 % are working as street hawkers who are all male, 91.67 % of the female respondents are works as housemaid and 08.33% are only house wife. There were no garment workers in the studied group. Monthly income level of the people living in this slum, as shown in table 2 (b) is very low (BDT. 2400 to 8500) as compared to the national per capita income of BDT 12307 (BBS, 2018)⁴ Throughout the survey only 52% of the respondents were identified with income of more than BDT 8000. And 36% of the respondents are getting approximately BDT. 5000-8000 per month. It is surprising that 22% of them earn under just BDT 3000. It is observed that people living this slum are generally poor; their monthly income is not sufficient to fulfil their fundamental needs.

Table 2: Socio-economic status of the respondents: (a) Occupational status (b) Income level (c) Types of house and (d) Types of cooking fuel

(a)			(b)	
Occupation	Male (%)	Female (%)	Income (BDT.)	Respondents (%)
Rickshaw Puller	40 (76.93)	0	Less than 3000	22
Street hawker	12 (23.07)	0	5000- 8000	36
Housemaid	0	44 (91.67)	More than 8000	52
House wife	0	4 (08.33)		
Garments Worker	0	0		

(c)		(d)		
Cooking fuel	Respondents (%)	Types of House	Respondents (%)	Respondents (%)
Garbage Cloth / Paper/ Plastic	60	Kutchha	93	93
Fire wood	27	Semi-Pucca	07	07
Kerosene	03	Pucca	00	00
Others	10			

Table 2 (c) shows that, 93% of the respondents staying have been in this slum constructed their house with bamboo fencing roof and in a single room which is called kutchha (A type of house), seven percent slum dwellers are staying semi pucca (A type of house). In case of cooking fuel status, 60% of the respondents cook food by using Garbage cloth/paper and plastic, 27% use fire wood, 3% use Kerosene as shown in table 2 (d). Garbage cloth/paper and plastic are harmful to human health. It can increase the risk of heart disease; aggravate respiratory ailments such as asthma and emphysema, and cause rashes, nausea, or headaches, damages in the nervous system, kidney or liver, in the reproductive and development system.⁴

Sanitation condition in the slum area

Figure 2 (a) shows that, 100% of the respondents used to common latrine that is not sanitary latrine. Some latrines looked sanitary, but they mostly had no functioning water seal and were usually directly linked with the drainage system or with nearby water bodies such as standing water. In the poor housing, latrine and drainage facilities were neglected.⁵ Therefore, it is observed that the type of common latrine is gathering for slums area's unhygienic condition.

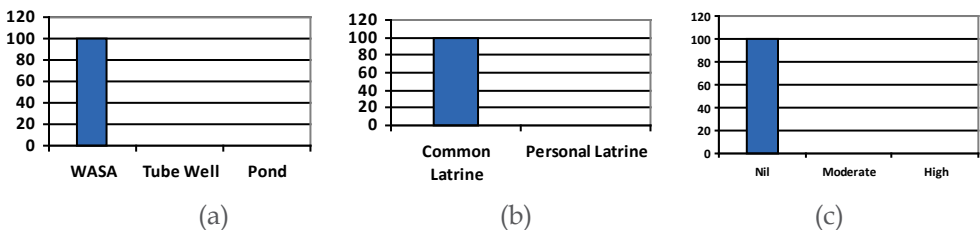


Figure 2: Water supply and sanitation status of the study area: (a) Source of water for daily consumption, (b) latrine facilities, (c) drainage system

In the Figure 2(b) shows that, 100% of the respondents are fully dependent on water supplied by WASA. The Drinking water supplied by WASA is insufficient here for this large population. There is no other water source in the area such as deep tube well, pond etc. In here this drinking water is one of the main source of water born disease.

The drainage and sewage system has shown at figure 2(c). 100% of respondents click Nil. The peoples of Rayer Bazar slum area are not satisfied for the drainage or sewage system. It is observed that there have not any drainage or sewage system and all respondents have the same opinion. Food waste, paper, rubbish, ashes and residues, special wastes such as street sweeping, roadside litter and abandoned vehicles are the main solid wastes in the study area. Sufficient and the inhabitants have to dispose solid wastes in open spaces and roadsides that is very vulnerable for the deterioration of environment. People are not satisfied with the existing solid waste disposing system.

Health status of the slum dwellers

The most common illnesses observed included joint pain or back pain, peptic ulcer disorder (PUD), dysentery, diarrhea, fever, cough, typhoid, scabies and other skin diseases, heart disease and hypertension, tuberculosis, ringworm, jaundice, tumors and cancers, pregnancy related complications, asthma, hydroceles, eye problems, dental complications.⁷ The basic fact of these disease are cause of some factors, as like_ Water logging, Damp Environment, Water pollution, Open drain, Unmanageable waste and garbage, Smoke emission from kitchen. On the other side informally face to face interview shows that, a large percent of female are facing huge reproductive health and gynecological problem. The problems include Vulvitis, Vaginitis, bartholin cyst, Urinary Problem, Syphilis, Gonorrhea, Warts vulva/ Cervix etc. Due to lack of general health knowledge these disease are going to be packed.

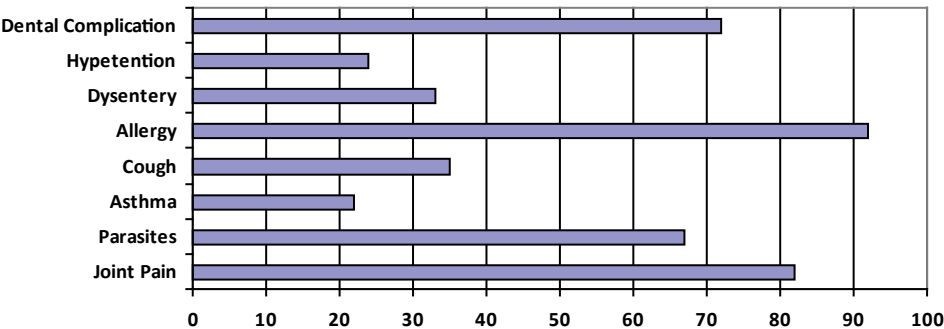


Figure 3: Common diseases frequency

Figure 3 “Common diseases frequency” shows that, highest identify 92% that allergy. 82% participators are suffer various joint pain. Study Shows that, 72% are suffer dental complication and 67% suffer parasites (Worm and Lice) related disease. It is completely cause be unhygienic environment. 22% and 35% suffered by asthma and cough. Unhealthy environment cause Dysentery is one of the most

common at slum which is 33%. Hypertension rate is 24%.

Mental Health Information

Mental health refers to our cognitive, behavioral, and emotional wellbeing - it is all about how we think, feel, and behave. The term 'mental health' is sometimes used to mean an absence of a mental disorder.⁸ Mental health conditions are of rising concern as they increasingly contribute to the global burden of disease.⁹ Mental well-being was significantly associated with various factors such as selected features of the natural environment, flood risk, sanitation, housing quality, sufficiency and durability. At the individual level mental well-being was positively associated with environmental health knowledge, which reflects a person's awareness of environmental threats (i.e., that polluted, stagnant water and garbage near one's house could spread disease and that air pollution increases the risk of poor health)¹⁰ The Common Mental problem at slum area are, Anxiety disorders, Schizophrenia, Conversion disorder, Panic disorder, Obsessive-compulsive disorder (OCD), Bipolar disorder, Depression, Generalized anxiety disorder etc.

People with mental illness are perceived with different terms such as Pagal (mad), adhapagol (half mad), mathay chhit (mental), mathar brain nastha (brain is not working), brain out (no brain in head), manoshik-rog (mental illness), and protibondhi (intellectual disability). Poverty, curse of God, girl child, spirits, physical and mental ailments are blamed for a mental disorder. Religious and cultural beliefs, therefore, determine etiologies of mental illness and treatment. Treatments for mental distress are also rare because it is socially and culturally believed that there is no treatment for a mental disorder.¹⁰ They couldn't say much about mental health, but they have various psychological problems available in their statement by informal interview. If symptoms of mental disorder occur, they usually think that with misguided beliefs and it does not receive any proper treatment.

Medication Facility

Figure 4(a) shows that, 45% has no medication facility and 55% has moderate medication facility. Figure 4(b) shows that, 45% has Jharfuk (One kinds of Exorcist treatment)/ Tabiz (Amulet) and 35% depends on allopathic medication. Also shows that, 15% slum dweller are treat by Homeopathic Treatment and only 5% take Ayurvedic treatment. Medication system is one of the reasons for the illness to persist in the slum area. At the first stage of physical diseases the believe Jharfuk and Tabiz, but when conditions are deteriorated they are usually driven to quack doctor. Only a minimum percentage take proper treatment. On the other hand exorcist treatment is more popular for mental illness. Victims of mental illness are treated with Jharfuk, Tabiz, Panipora (One kinds of Exorcist treatment).

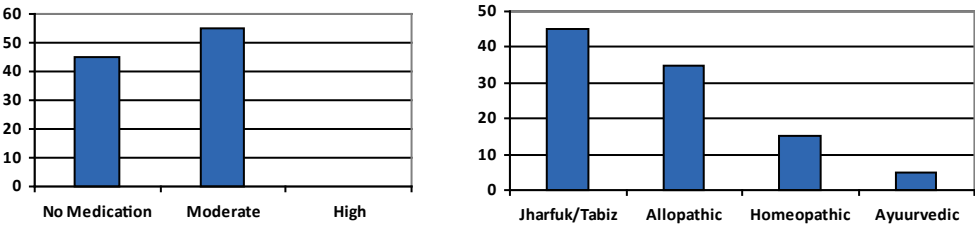


Figure 4: Medication facilities in the study area: (a) Whether respondents go for medication, (b) traditional medication systems among the respondents who go for treatment.

From the study result found in the slum area of Rayer Bazar, there is a problem with Water, Sanitation and Hygiene. These low-income people are fighting with poverty. Here the materials as fuel can be identified as a risk of health disaster. Due to lack of pure drinking water, these are the victim of waterborne disease. Extractions of waste are not available here. Common latrine system is one of the most vulnerable factors for spreading the disease. Because of these factors, there is a lot of mental and physical health problem found here including chronic disease as and joint pain. In dispute full environment of slum are increase blood pressure and mental health problem. Anxiety disorders, Schizophrenia, Conversion disorder, Panic disorder, Obsessive-compulsive disorder (OCD), Bipolar disorder, Depression, Generalized anxiety disorder etc. are to be realized here. But they don't care it and keep them in wrong faith. Above all of these ate make slum life difficult.

Conclusion

Due to dirt-rubbish, slum dwellers in the capital have lived through difficulties, including the drinking water crisis, inadequate sanitation and spread of disease. There are many health center and community clinics to deliver healthcare for slum dwellers but they are not conscious about this service. The slop down scenario causes severe environmental degradation affecting the environment of entire Dhaka city. Slum people are fighting against poverty and trying to improve their economic condition and standard of living. Government has offered the best possible facilities for taking more programs in slum areas on water supply, sanitation and solid waste management sectors. Moreover, specific rules and regulations need to be established to force the slum owners to provide the adequate water supply sanitary facilities in their slums. Government should take primary steps to create awareness for healthy sanitation.

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Endnotes

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