UNHYGIENIC LIVING CONDITIONS AND HEALTH PROBLEMS: A STUDY IN SELECTED SLUMS OF DHAKA CITY

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Abstract: In Dhaka significantly the numbers of slums are increasing everyday due to heavy influx of migrants from rural areas. In these slum areas all sorts of services are inadequate and general environmental scenario is hazardous. Data has been collected from field survey, some secondary sources and focused group discussion. The study focuses on the status and practice regarding water, sanitation and hygiene. This paper has also explored that assessment of water resource availability and quality at source point of consumption; problems faced in getting safe drinking water; and knowledge of the features of hygienic latrine; awareness about health. The study is based on the health problems highlighting factors affecting the health of the population in slums for example due to general environmental condition, water supply system and the sanitation system. The study also focuses on other various reasons associated to poor living condition and their impact on health of the slum population. It is suggested that if conditions are to be improved then the problem of the poor living conditions and the health service needs to be addressed through the application of proper measures and planning by the different sectors of government and private sectors.

Keywords: Dhaka; Environment; Garbage; Health status; Health Problems; Pollution; Sanitation; Slum; Water.

INTRODUCTION

In Bangladesh urban growth is fuelled by rural-urban migration, disaster, and poverty. Unlike in developed countries where urbanization was accompanied by economic boom, the reverse has been the case for developing countries. Dhaka is the fastest growing mega city in the world with an estimated 300,000 to 400,000 new migrants mostly arriving to city annually [1]. In term to population size of the urban agglomeration, eleven years before Dhaka use to rank 24th in the world and was projected that by 2010 the population will be 17.6 million with up to 60% in the slum [2]. However at present in the year 2008 its population has risen up to 12 million and is projected to grow to 20 million in 2020 making it the world's third largest city [1]. A recent survey indicates that around 35% of Dhaka's population lives in slums. They can be defined as low-income community [3].

Indeed urbanisation in Bangladesh is an outcome of unstable rural economy, increasing landlessness, unemployment in the rural areas and increasing job prospects, security; education facilities improved health services and other social developments in the urban areas, as perceived by the rural people. It has been predicted that assuring conditions in which the urban poor can be healthy, and especially those living in the informal settlements, is going to present a major challenge for decades to come [4]. Slums as used in this paper refer to residential areas that have been constructed illegally and where housing is not in compliance with current planning and building regulations [5]. Urbanization has historically been presumed to lead to mortality reduction due to economic prosperity and increased access to modern medical care. However this has not been the case for most developing countries [6] where evidence suggests that quality of life in some urban areas is even worse than in rural areas mainly due to high levels of poverty in pockets of the urban population [7,8].

People living in unhygienic environments as indicated by poor drainage systems, inadequate or non-existent sanitation, and piles of uncollected garbage cause higher levels of health problems. Due to their illegal status, slums do not receive any government services such as water, drains, sewerage and garbage collection; [4]. Poor sanitary conditions contribute to approximately 4 million deaths, mostly among infants and young children, every year. Access to water correlates strongly with the survival

of children under-five-years [9]. Malnutrition, also a major cause of child morbidity and mortality, can be related to environmental degradation [10, 11]. It is estimated that 40% of world deaths can be attributed to various environmental factors [11, 12]. Most of these deaths occur mainly among the poor that live in developing countries [13].

In Dhaka the most common places where slums have flourished are land owned by private individuals and by the government or semi-government. Among the 3007 slums and squatter settlements identified by Centre for Urban Studies, an over whelming majority of the poor settlements are located on land owned by private individuals 42.2% and under multiple private ownership 34.8%. Only 21.4% are located on the government and semi-government land. While a few settlements 1.2% are found on land belong to non-governmental organisation [14]. However in recent study it has been found that in Dhaka alone there are about 5000 slums and the total slum population is about 3.4 million [15]. This paper gives the population a voice, to articulate their understanding of their own environment and how it affects them. I have used quantitative approach to assess people's perceptions on the link between environment and health problem in urban slums of Dhaka. Here there were two main questions posed to the slum population: "What are the most common health problems you face?" and "What do you think causes these diseases?"

METHODOLOGY

This paper is based on two sets of data collected in 1998; the same questionnaire was used to collect data in 2010 from the same five slums in Dhaka City. Study areas were divided into five parts of the Dhaka city. As the study focuses on unhygienic living conditions and health problems in slums of Dhaka city, so to obtain the representative unbiased study population I divided Dhaka city into five parts. Where the dividing principle involves selecting areas from the four sides: north, south, east and west part of the city and another area from the central part of the city. The five sites were selected randomly for this study. The study areas were Rayer Bazer slum (1), Mohamadpur slum (2), Mugdapara (3), Aam bagan slum (4), and Utter Khan (5). The sample size was 250. I have interviewed 50 women from each area both in 1998 and 2010. The study is based on both primary and secondary sources. Questions were focused on their unhealthy environment, knowledge about hygiene, and various illnesses due to unhealthy living conditions in slums. Secondary data were collected from various publications of BBS, Ministry of Health and Family Welfare, World Bank, ADB, World Vision and NGO's working with the slum.

RESULTS ANALYSIS

Socio- Demographic Data of the Respondents

The respondents were mainly married slum women who are more informed about their family's health situation. Among the respondent majority of them were between the ages of 22 to 32 years. Most of the respondents in slums were unemployed and only few were working as domestic servants, employed as garment industry workers, and unskilled daily labour. After twelve years in 2010 the scenario was little bit different here majority respondent was working as domestic maid and rest were engaged in daily labour, garments industry and only few were housewife. Even from a study by World Bank in 2007 it was found that majority of poor female 16% poor female workers are engaged in domestic work and 32% of them engaged in garments industry and rest are.

Practice of Hygiene by the Respondents

Health is a quality of life that renders the individual fit to live most and serve best. Attainment and maintenance of health may not be easy, because of improper living, the result of either ignorance or carelessness, and also due to the hazardous environment. The situations of slums are not very satisfactory. In a study it was found that majority respondent said that they live in very unhygienic environment and they all agreed that the slum had lead to disease or ill health in their families. The slum dwellers also felt that life in rural area was much better but poverty pushed them to this environment [16].

The health conditions in many developed worlds are below the desired level. There are many things about health that depends upon individual's desire and endeavour with the exceptions of heredity and constitution, which is known as personal hygiene. Therefore practice of personal hygiene or personal health care deals with measures that are the personal responsibilities of the individual for the promotion of good health. It is only when these become regular practices that the art of healthy living can be achieved. One important reason on healthy living is the promotion of good health habit. Habit grows by practice and eventually becomes a part of individual's daily life. It is an asset of life that regulates our eating, drinking, rest and sleep and evocation of bowels etc.

It's very difficult to maintain standardise living in slum areas where the people have low income, lack of infrastructural facilities and exposed to the environmental hazardous all the time. Thus they are always trying to achieve healthy lives by copping with all kinds of natural calamities. To determine the practice of hygiene three factors were taken under

consideration: washing hands after defecation, modes of cleaning clothes and utensils and the frequency of washing clothes and bathing.

The scenarios in 1998 in case of washing hands after defecation were that more than 44% wash hands with water and soap, 54% wash hands with water only and rest 2% wash with soil or ash. In 2010 it was found that 53.2% wash hand with soap and water, 44.8% with water only and just 1.2% used soil and ash. Therefore it can be said that in case of washing hands attitudes have not change among the people of slums.

In 1998 76.7% respondent said they used soap once a week to wash cloth and only 23.3% said they use only water for washing cloth. In 2010 it was found that 98% use soap every 15 days to wash cloth and only 2% wash cloth with water only. In case of washing utensils majority respondent said they prefer soil and ash. Only few use soap for washing utensils. The picture is still the same as before where majority wash utensils with soil and ash. In general the sanitation practice and hygiene behaviour of the general population and particularly the poor community is poor. This can be attributed to lack of awareness and lack of effective infrastructure facilities. Therefore it is more essential to start hygiene programme to reduce the health impact among the slum dwellers

Lack of access to proper water supply in the slum makes it difficult for people to a bathe every day. In summer they manage to bathe every day especially the slum dwellers of the public lands but it becomes difficult for them to wash clothes every day. Only some of the respondents who are working as domestic maids can manage to wash their clothes every day but simply with water. Even after 12 years in regard of bathing response was similar as of 1998. In some occasions, people may still practice unhygienic habits even though this understanding does exist. One of the reasons for not seeing any change could be that most of the slum dwellers lacks of education, knowledge and basic awareness, people often have a poor understanding of the relationship between health and hygiene. Another reason could be that urban slum dwellers face the greatest challenges. The challenges they face everyday are: their water quality is affected by unsafe water supply, unhygienic sanitation facilities, and poor solid waste management, unhygienic practices particularly with regard to hand washing, insecure land tenure, poor socio-economic backing, and crowded living conditions.

Linkages between the Environment and Health Problems

Although there is urban bias in sector investment, effective water and sanitation coverage in urban areas is lower than rural areas. The atmosphere of the urban slums is miserable; the sanitation and drinking water supply system and housing patterns are very poor compared to the other environmental factors. The respondents identified five important major problems both time. The problems are water supply, sanitation system, garbage collection and drainage system that causing various health problem. According to DAS, GHOSH, SINGHA [17], 2010, 24 % of urban households are estimated to have no sanitary latrines. In pockets such as slums, sanitary latrine coverage is even lower than the average of 14% for towns and cities. Furthermore, over 80% of the low income populations have no legal access to safe water. Hanging latrines and indiscriminate garbage dumping by Households, industries, clinics etc. are very common in the urban areas. In the next four subsections I am looking at the environmental problems water, sanitation, garbage and drainage system in view of the respondent felt were the main linkages with health problems.

Water Supply

Dhaka WASA produces about 1800 Mld litre water for more than 13 million people. Per capita water production stands at 138 litres [3]. According to DWASA estimate, an individual requires a minimum of 160 litre of water per day to meet his/her daily requirements. Therefore, there has been serious gap in water production capability of DWASA. The water supply system is reported to be about 30% below the demand level. At present water abstraction rates about 82% from the main water source (deep tube wells) for Dhaka, the underground aquifer is depleting with a rate of 1 to 3 meter per annum whereas about 18% of the total demand is met from the surface water [3]. A recent *Dustho Shatho Kendro* DSK report mentioned that about 30% families in the slum areas get adequate water, which is generally 300 - 350 litres per day per family. Another 50% families normally get about 200-250 litres per day [3]. According to the same report, roughly 30% family suffer from acute water shortage for their daily requirements. Around 61% of the urban household are outside of public water supply distribution system, and only 20% have private connections; others depend on stand posts, tube-wells [18]. In general, the situation of access to drinking water has improved to a large extent in both rural and urban areas in recent years. Slum dwellers collect water from municipal taps located either along the public streets or in public places while the private slums often get their water from the landlord's house.

In my study it was found that in 1998 slums those are on private land got there water from municipal water supply from the neighbour houses. The slums that are on public lands usually got water from municipal taps

located near buy or bought water. In 2010 things did not change the scenario was same and majority respondent said that they use public taps, 23.2% said that they got from tube well and 14% said they borrowed water. However there is an urgent need for regular and sufficient water supply. Slum residents experience bating and washing problems due to insufficient water supply and lack of bathing facilities. In both the study areas slum dwellers collect water from the municipal taps for domestic purposes as well as for drinking.

The respondents understand the relationship between water and diseases such as diarrhoea typhoid, cholera and skin conditions. In two areas it was reported that toilets were located next to water pipes. The respondents said highlighted three main concerns with water: access, cost and quality. They complained about the limited access to water points, which are often located far from the houses of the respondents. Slums those are on private owned land there owners do not give access to water. This is a problem for those respondents who have larger family. This becomes costly for the slum residents' due to their low income levels. The respondents cited various coping strategies such as the use of skipping bathing and washing, using rainwater and drawing water from broken pipes. The respondents considered the water they use as dangerous to their health due to contamination. It was also reported that the plastic pipes used by the water vendors often burst and the water becomes contaminated with filth. The use of rainwater is also unhealthy because the way they hold it is not proper.

Sanitation System

The human waste disposal system is a mixture of several modes, including the traditional mode of bucket latrines. The existing sanitation systems in the urban areas of Bangladesh fall short of modern standards. The sanitation situation in Dhaka city at large is no better than the water supply situation and in the slum areas the sanitation service is almost non-existent. While the water supply coverage in the slums is about 69%, the sanitary latrines coverage is only 48% [3]. The remaining people use unhygienic latrines or practice open defecation - unhygienic pit latrines (without water-seal or connected to pen

drains) coverage is 36% and rest 16% people use hanging latrines or practice open defecation. About 59% slums are poorly drained [3].

The sanitation condition in urban areas is not satisfactory. Inadequate number and maintenance of latrines are likely to be major contributors to the poor sanitary conditions of the slum population. Sanitation systems were identified as problematic three main levels: availability, access, and maintenance. Most of the respondent said that they do not have access to toilets mainly because the number of toilets is inadequate to cater for them all. The situation is so bad such that the respondent have resorted to several coping strategies. They defecate on the roadsides drains, open trenches, open fields, riverside, incomplete/demolished houses and bushes. Children are often allowed to defecate anywhere; while for women things get difficult especially during day time.In 1998 from the study area it was found that only 56.7% have open pit latrine and 43.3% have hanging latrines. On the other hand in 2010 it was found that 54.4% household have access to open pit latrines and 56.6% of the household uses the hanging sanitation system. An ICDDR, B [19] study found that out of two thousand slums 5.1% of the slum dwellers do not have access to any latrine facilities. Shared latrines were the most common types of latrines. In about 89% of the slums, more than three-quarters used shared latrines and only 1.1% of the slums have private latrines [18]. The National Policy campaign was to achieve 100% sanitation coverage by 2010 focuses on the use of single pit latrines in the rural as well as urban areas [3]. Toilets were sealed septic tanks for 65% of the BDHS [20] population compared to none here. Therefore it is clear that in regard of sanitation systems things did not changed much. Even in twelve years sanitation coverage has not been successfully achieved. Therefore unhygienic hanging latrines and open defecation that are common needs to be discouraged.

According to the respondent they feel that children are vulnerable to diarrhoea because they excrete outside and children when go out to play they will touch faeces and play with them. Some thinks that responded that children while playing in dirt put their hands in their mouths leading to diarrhoea. The toilets are near the doors and they are full of dirt. The dirt comes out and flows into the house especially the maggots and this is a problem. Therefore diarrhoea is closely linked to lack of proper sanitation system especially identified by respondents. The respondent feels that the children are more vulnerable as they could not lock their children in the houses even though they understood the dangers of them playing outside.

Garbage and Poor Drainage

The garbage is an eyesore in the slums and is a source of diseases. The accumulation of garbage is basically a consequence of lack of dumping sites in the slum and the inability of the city corporation to collect the garbage form an appropriate dumping site. An associated problem to garbage disposal is poor drainage. The uncollected garbage often accumulates

and blocks any drainage that might exist in the slums. The poor drainage also makes slums muddy and impassable during the rainy seasons. This leads to several consequences including increase in breeding sites for mosquitoes, filth, foul smell and diseases such as diarrhoea and various kinds of skin diseases. The common occurrence of malaria in the slum was associated with stagnant water that provides ground for mosquito breeding. The respondents said that there was no place for rubbish dumping as a result they throw on the roads and children pick food from there. Many respondents said that they stay in unhealthy environment for which they are having diarrhoea. In accordance with the Clean Dhaka Master Plan DCC are to ensure regular disposal of solid waste and sludge to keep the environment free from pollution. For this, modern technologies are being introduced in Dhaka City and adjoining areas. However there is no regular and systematic mechanism for removing the sludge from the pit latrines and septic tanks. As a result city residents are disposing their raw sewage and sludge into the DCC's surface drains and in the storm water drains of DWASA causing havoc to the environment. This is an open threat to the public health [3].

Especially for the case of slum one as it was located just beside the tannery industry in Rayer Bazar low-lying areas. Whereas for the other slums things were different as they are not situated just beside a industry. Though there are no industries near the slum but it has densely populated and slum dwellers are also exposed to various kinds of diseases associated to the living condition and the environment of the areas.

General Environmental Pollution

Although respondent did not said about other pollution as a problem and did not liked it with health. However this was a problem for those slums that are just beside the industry. This may have been influenced by the fact that one of the study sites is located beside the tannery industrial area. All kinds of industrial solid wastes were dumped within the slum as it is just and slum dwellers were exposed to various kinds of vulnerable communicable diseases from these industrial wastes. The environmental condition of the other slums was little bit better of as those are not beside any industry. Respondent of the slum linked this environmental hazard to their ill health. Bad air from the industry sometimes smells so bad which may causes some of these diseases, such as coughs and chest problems. The congested houses characterized by poor ventilation were also associated with ill-health among respondents ad their families.

Thus these results show that children in the informal settlements are frequently ill from diseases that are a result of the environment in which they live. Although the mothers understand the linkages between illness and the poor environment, their poverty status may hinder them from taking appropriate and effective remedial actions.

DISCUSSION AND CONCLUSION

The environment and ill-health is very closely related as environment plays a crucial role in our lives. The problem is that those who are living in the bad environmental condition do they understand the impact of it on health. During the survey the some of the respondent could identify what was wrong with their environment and its consequences on their health and wellbeing. This study went further to explore in detail the hygiene practices of the slum people and the most common health problems and their possible causes. Diseases such as diarrhoea and vomiting, malaria, pneumonia, skin problems (scabies, ringworms) and common colds/coughs are related to the unhygienic living environments, lack of water and inadequate sanitation system cited by the respondents.

The respondents were uneducated, lived in unhygienic and difficult conditions worked in the informal service sector and consumed a diet low in protein. Health concerns included a variety of acute and chronic conditions both in the respondents and their families. The findings of these periodic studies are comparable to results of the other studies that have carried out among the urban poor in which water supply, sanitation system and other environmental factors were evaluated. Compared to the present study with my previous study, living conditions, prevalence of illness, access to clean water and latrines, things did not change infect in places scenario deteriorated as the pressure of population is more. What has emerged from this study is that majority respondents could relate the causes of illnesses in urban slums to specific conditions: stagnant water leads to mosquito breeding which is responsible for malaria; diarrhoea among children is a result of playing and eating dirty food; while the type of housing, cold and the ‘bad air’ cause pneumonia and the frequent coughs and colds. This is an important finding given empirical evidence that has often represent people’s as ignorant, not knowing what causes illnesses or believing in forces other than biomedical as being responsible for illnesses. Thus, living in a dirty environment is invariably responsible for the diarrhoea.

The crowding of people in marginal urban areas, the movement of populations into new environments, the increased use of chemicals that pollute soils, water and air and growing malnutrition all contribute to the increase in diseases [11]. Historically, pockets of poverty appear to have matched pockets of disease in

many urban environments [6] and the same trend is being re-enacted in major urban centres in the developing world.

Despite their levels of understanding of the environment problems causing illness, the general poverty in the study areas hampers people to live in better places. The current study reflected upon this reality whereby people living in the slums suffer from the effect of one illness after the other during the year has long term implications on their income and expenditure. People spend money and time on treatment and care, money that they often do not have. For respondents who are domestic maids or working in the industry may involve the suspension of labour, which is costly given the temporary nature of such engagements. Diverting family resources to provide care to a sick child may have implications on the provision of other basic necessities such as food. This becomes a vicious cycle of poverty-illness-poverty.

Vigorous hygiene education should be exposed to slum dwellers and social mobilization programmes should be commenced to make people aware of the bad effects of unhygienic situations. In the study though participants have shown some level of understanding the linkages between the environment and health but the concepts of hygiene and health are not understood clearly. Therefore this provides a springboard for interventions aimed at addressing health and hygiene. The government is committed to attaining the Millennium Development Goals and of improving the lives of slum dwellers by 2020. The upgrading of slums, which is part and parcel of these commitments, is an important beginning because this would impact on our economy as these people are greatly contributing to our work force. The problems reported by the respondents of the slums are not simple and cannot therefore be resolved by the communities, the government or NGOs independently. Any interventions aimed at addressing them would require combined efforts of all contributing to the process in order to ensure success and sustainability. Essential service packages required to deliver services because slum living is an unavoidable reality for the respondents. Therefore efforts must be made to build the slums of Dhaka into sustainable communities.

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