Original Article

Knowledge and Practice of Personal Hygiene and Sanitation: A Study in Selected Slums of Dhaka City

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Abstract

Background: *: Slum dwellers are likely to be among the most deprived people in urban areas. Poor hygiene practices and inadequate sanitary conditions play major roles in the increased burden of communicable diseases within developing countries like ours.* ***Objective:*** *To assess the knowledge and practice about personal hygiene and environmental sanitation in selected slums of Dhaka city.* ***Materials and method:*** *This cross sectional study was conducted in purposively selected urban slum areas of Moghbazar slum, Bashabo slum and T&T slum of Dhaka city during February 2014 to April 2014. Convenient sampling technique was applied. Semi-structured pre-tested questionnaire was used and face to face interview was conducted. Total 475 subjects, irrespective of age and sex, were included in this study.* ***Results:*** *Out of 475 respondents, more than fifty percent slum dwellers resided in tin shaded room while 21.7% in 'kacha' houses. Sixty six percent of the respondents used to drink water from tube-well and 24% used supplied water provided by the city corporation. The study revealed that near 59% of the respondents used sanitary latrine. About 67% slum dwellers regularly practiced hand washing before taking meal and 59.2% respondents used soap after defecation. About fifty percent respondents brushed their teeth regularly with tooth paste. Regarding personal cleanliness, 81% subjects took bath regularly while 78% washed clothes irregularly. A statistically significant relation was found between washing of hands before meal (p=0.001), washing of hands after defecation (p=0.02), tooth brushing (p=0.001), bathing (p=0.009), washing of cloths (p=0.001), use of footwear (p=0.63) with knowledge of personal hygiene of the slum dwellers.* ***Conclusion:*** *Continuous community hygiene education along with adequate access to water supply and sanitation improves hygiene behaviour and policy makers and health care providers should have definite strategy and implementation.*

Keywords: *Hygiene; sanitation; slum; urban.*

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Introduction

Bangladesh has experienced one of the highest urban population growth rates (>6% per year) in the last three decades compared to the national population growth rate of about 1.5% per year.

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Slum dwellers have also increased in number tremendously and are likely to be among the most deprived people in urban areas.[1]

In South Asia 39 percent of the population is living in absolute poverty, with an income of less than one US dollar a day. According to the Household Income and Expenditure Survey (HIES) 2010, the poverty rate of Bangladesh has dropped to 31.5 per cent in 2010, reflecting an 8.5 percentage point decline in the last five years.[2] Safe water is one of the most important felt needs in public health in developing countries in the twenty first century.[3] The year 2005 marked the beginning of the "International Decade for Action: Water for Life" and renewed effort to achieve the Millennium Development Goal (MDG) to reduce by half the proportion of the world's population without sustainable access to safe drinking water and sanitation by 2015.[4] It is estimated by World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) that 1.1 billion people lack access to improved water supplies and 2.6 billion people lack adequate sanitation.[5]

A large number of people in Bangladesh lack access to portable drinking water. Among them, urban slum dwellers face the greatest challenges. 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. 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.[6] The people from these high-risk areas often suffer from diarrhoea and other water borne diseases. Due to lack of education, knowledge and basic awareness, people often have a poor understanding of the relationship between health, water, sanitation and hygiene. In some instances, people may still practice unhygienic habits even though this understanding does exist.[7]

Over 37% of the city populations live in slums that occupy only 4% of city land. Slums are the most densely populated areas with over 200 times the normal density of Bangladesh at 531,000 persons per square mile. Overcrowding creates huge increase in communicable diseases like diarrhoea.[8] About 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.[7] As elsewhere in the Third World, slums and squatters in Bangladesh attracted not much attention from the public health policy makers. Studies on the effects of environmental factors on slum dwellers health in the context of Bangladesh are scarce.[9] According to the World Health Organization (WHO) the main determinants of health include the social and economic environment, the physical environment, and the person's individual characteristics and behaviours. Personal hygiene is the practice of maintaining cleanliness of the body, it is done through bathing, hair grooming, and hand washing, brushing teeth, trimming nails and cleaning ears among others. Through these personal behaviours, social acceptances are gained. However maintaining good or acceptable personal hygiene is seldom perceived and acknowledged as protection against diseases.[10] It is now high time to put focus on aspects of hygiene practices and sanitation as defined in national health care and sanitation strategy. That's why, essential goal of the study is to find out personal hygiene practices and sanitation facilities in urban slum dwellers in Dhaka city.

Materials and method

This cross sectional study was designed to assess the knowledge and practice of personal hygiene and sanitation conducted in purposively selected

three urban slums of Dhaka city during February 2014 to April 2014. The target population consisted of individuals living in Moghbazar slum, Bashabo slum and T&T slum of Dhaka city. A total of 475 slum dwellers were purposively enrolled for the study. A semi structured pre-tested questionnaire was used to collect data from face to face interview. Information regarding the type of house/room, source of drinking water, knowledge about activities of personal hygiene, monthly income and level of education were collected. Verbal informed consent was taken from the respondents by explaining the purpose of the study. Collected data were analysed by SPSS (Statistical Package of Social Science), version-17, Windows software programme.

Knowledge score

Here knowledge related hygienic questions in the questionnaire were four in number. The respondents' knowledge was scored using a scoring system.[11] All questions had three parts - yes, no, don't know. Each correct response under knowledge attracted one point, whereas any wrong or don't know answer attracted no mark. This gave a total score of 12 points for knowledge. Respondents that scored 0-4 points were adjudged as having poor knowledge; whereas those that scored 5-8 and 9-12 were adjudged as having fair and good knowledge respectively.

Results

Residential facilities in slum area

Regarding housing conditions, more than fifty percent resided in tin shaded room/house and 103 (21.7%) in 'kacha' house. Sixty six percentages of the respondents used to drink water from tube-well and 24% used supplied water by the city corporation. The study showed that 279 (59%) of the respondents used sanitary latrine, 191 (40 %), insanitary latrine and remaining used open air latrines (Table I).

Table I: Residential facilities in slum area (N= 475)

Variables	Frequency	Percentage
Type of house		
Kacha	103	21
Semi-pucca	84	17
Pucca	29	06
Tin	259	55
Sources of water		
Supply water	110	24
Tube well	315	66
Deep tube well	45	09
Others	05	01
Types of latrine		
Sanitary latrine	279	59
Insanitary latrine	191	40
Open air latrine	05	01

Profiles of activities of personal hygiene practices of the study subjects

Out of 475 respondents, 320 (67%) slum dwellers regularly practiced hand washing with soap before taking meal whereas 281 (59.2%) respondents used soap, 144 (30.3%) used only water after defecation as hand washing purpose. Near fifty percent respondents brushed their teeth regularly with tooth paste and the rest 135 (28%), 84 (18%), 38 (8%), used tooth powder, ash, and neem stick respectively. Regarding personal cleanliness, 387 (81%) subjects took bath regularly and on the other hand 370 (78%) respondents washed cloths irregularly (Table II).

Table II: Distribution of respondents' personal hygiene practices (N= 475)

Personal hygiene habit	Frequency	Percentage
Hand washing before taking meal		
Using of soap	320	67
Using water only	110	23
Irregular using of soap water	45	10
Hand washing after defecation		
Using of soap	281	59.2
Using water only	144	30.3
Irregular using of soap water	50	10.5
Tooth brushing habit		
Tooth paste	218	46
Tooth powder	135	28
Ash	84	18
Neem stick	38	08
Bathing		
Regular	387	81
Irregular	88	19
Washing of cloths		
Irregular	370	78
Regular	105	22

Relationship between education and personal hygiene practice of the respondents

Chi-square test was done taking activities of personal hygiene practice (washing of hands before meal, washing of hands after defecation, tooth brushing, bathing, washing of cloths, use of footwear) as dependent variables and knowledge of hygiene as independent variable. Analysis revealed significant negative association between washing of hands before taking meal (p=0.001), washing of hands after defecation (p=0.02), tooth brushing (p=0.001), bathing (p=0.009), washing of cloths (p=0.001), but no relation with use of footwear (p=0.63) with knowledge of personal hygiene of the slum dwellers (Table III).

Table III: Relationship between education and personal hygiene practice of the respondents (N=475)

Variables		Frequency (%)	Frequency (%)	χ^2	p-value
Washing of hands before meal	Yes	144 (46.0)	169 (54.0)	12.82	0.001
	No	47 (29.0)	115 (71.0)		
Washing of hands after defecation	Yes	110 (45.3)	133 (54.7)	5.29	0.02
	No	81 (34.9)	151 (65.1)		
Tooth brushing	Yes	52 (60.5)	34 (39.5)	17.92	0.001
	No	139 (35.7)	250 (64.3)		
Bathing	Regular	182 (42.0)	251 (58.0)	6.76	0.009
	Irregular	9 (21.4)	33 (78.6)		
Washing of cloths	Regular	36 (29.5)	86 (70.5)	11.23	0.001
	Irregular	146 (46.9)	165 (53.1)		
Use of footwear	Yes	74 (41.6)	104 (58.4)	0.22	0.63
	No	117 (39.4)	180 (60.6)		

Discussion

This cross-sectional study was conducted to assess the knowledge and practice of personal hygiene and sanitation in three selected slums of Dhaka city. A total of 475 subjects were included. We found that more than fifty percent respondents resided in tin shaded room/house and 21.7% in 'kacha' house. Similar observations were observed by an NGO - Democracywatch.[12] The use of tube-well water was 66% and 24% respondents used supplied water provided by the city corporation for cooking and other purposes. Whereas 61.21% of slum dwellers in Rajshahi collected drinking water from the community tube well, and about 34% had individual tube wells; and a small minority of people (3.3%) had a water connection.[9]

From the study, it was revealed that majority (59%) of the respondents used sanitary latrine. But Raihan et al.[13] mentioned that near one-fourth (22%) of the respondents used sanitary latrine and about 58% used kacha and 20% used open latrines. The differences regarding the use of sanitary latrine may be due difference in study area.

Regarding personal hygiene practices, we found that 67% slum dwellers practiced hand washing before taking meal and about 59% respondents washed hand with soap after defecation which was similar with the study done in north Jordan.[14] We also found that near fifty percent respondents brushed their teeth regularly with tooth paste and the rest used tooth powder, ash, neem stick, etc. Similar findings were observed in southern India[15] and north Jordan.[14] Regarding personal cleanliness, 81% subjects took bath regularly and 78% washed cloths irregularly. In an Ethiopian study approximately 34% of the respondents reported poor bathing practices and 21% reported poor hair washing practices.[16] These findings are in concurrence with a study conducted in the Philippines which found that 35% of respondents reported poor bathing.[17] Based on these results, it appears that the hygiene practices which require the greatest amount of water result in lower rates of practice. Both bathing and washing require relatively larger volumes of water. Since obtaining water is a challenge in rural and urban slum settings, it is a common practice for families to ration and re-use their supply. Thus, personal hygiene becomes a low priority when water is scarce. Rather than use water for personal cleanliness, families prioritize their use of available water for drinking, cooking, washing clothes, and household cleaning.[18] In this study we found that education and knowledge about hygiene is intimately and significantly associated with practice of personal hygiene.

Conclusion

In developing countries, slum is quite common. Practically slums have become almost an integral part of big cities. Poverty, unemployment, landlessness, inequality in economic development, low wages, etc. in the rural areas are thought to be responsible to magnetize people towards city and facilitate to erect slum neighbourhood. This unabated urbanization process causes diverse troubles to the slum dwellers. Continuous community hygiene education along with physical access to water supply and sanitation positively influences change in hygiene behaviour. We therefore recommend that an implementation strategy and plan for the Hygiene Awareness Package should be developed by public health care providers as well as the policy makers so that we can achieve substantial decrease in communicable diseases due to poor hygiene practice.

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