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SOUTH ASIA HYGIENE PRACTITIONERS' WORKSHOP

Participatory Community Hygiene Education in Dhaka Slums: DSK Experience

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This paper describes how the programme to improve hygiene knowledge and practice was designed and implemented. It provides information on impact derived from an assessment. Community participation in the decision making processes was crucial for designing the hygiene promotion programme. The study showed that continuous community hygiene education along with physical access to water supply and sanitation positively influences change in hygiene behaviours. For example, 54% of the families were observed to wash their hands with soap before eating versus 8% in the baseline study. 90% had knowledge of this practice versus 30% at the baseline.

Introduction

In Bangladesh, the high incidence of diarrhoeal and other diseases related to faecal contamination, causes an estimated 110,000 child (under 5) deaths each year (11% of total child deaths). Over 65 million episodes of diarrhoeal diseases occur annually among children under five years of age. An average child in Bangladesh suffers 3-4 episodes of diarrhoeal diseases every year. Much of this is thought to be preventable with improvements in sanitation, water quality and hygiene practices (Bangladesh Bureau of Statistics, 2007).

A large number of people in Bangladesh lack access to potable drinking water. Among them, urban slum dwellers face the greatest challenges. Their water quality is affected by unsafe water supply, unhygienic sanitation facilities, poor solid waste management, unhygienic practices particularly with regard to hand washing, insecure land tenure, poor socio-economic backing, and crowded living conditions (Sobsey M.D, 2003).

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.

A World Bank report cited Bangladesh's urban population as having grown almost nine-fold from 2.6 million in 1961 to approximately 22 million in 1991 with an annual urbanization rate of 7.5 percent (World Bank, 2000). 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. Over crowding creates huge increases in communicable diseases like diarrhoea (Centre for Urban Studies, 2006).

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.

Huttly, Morris and Pisani have reviewed reductions in diarrhoea morbidity in children in developing countries (Huttly SRA, 1997). They found that hand washing resulted in a median 35% reduction in diarrhoea incidence. Feachem mentioned that his study findings suggest that improved water quality,

increased water availability and quantity associated with better hygiene practices, and improved sanitation facilities may reduce the ingestion of pathogens that cause diarrhoea (Feachem, RG, 2003).

Improved personal hygiene, especially hand washing at critical times, is one of the key determinants of success in reducing the prevalence of diarrhoea diseases. Recent research also indicates a link between respiratory infections and hand washing practices.

Hygiene promotion is a planned approach, which aims to reduce the incidence of poor hygiene practices and conditions that pose the greatest risk to the health of children, women and men. Several methodologies to promote hygiene have been developed over time.

DSK's WASH interventions in Urban Slums

DSK, a Bangladeshi NGO, has been implementing integrated community-based water, sanitation and hygiene promotion in urban slums since 1992. Key interventions under DSK's WASH initiatives are provision of safe water, environmental sanitation, promotion of hygiene and behavioural change practices, building community-based organizations, innovation, research and advocacy initiatives. The community-based urban water point is now popularly recognized as "DSK's Water Point Model" and has been replicated by other NGOs and by government agencies. The success of the model led Dhaka WASA (Dhaka Water And Sewerage Authority) to adopt a new policy to provide direct ownership of water connections to slum dwellers.

As a key component of WASH, DSK imparts participatory community-driven hygiene promotion methods to improve hygiene knowledge and behaviour change in the family and community. It disseminates hygiene education through three different active groups- adults, adolescent girls and children.

Definition of Hygiene Promotion

Hygiene promotion is an approach that reduces the incidence and prevalence of water and excreta related diseases through the adoption of safe hygiene practices. It begins with and is built upon what local people know, do and want. It is a holistic approach that includes raising awareness on good hygiene behaviour, including proper management of menstruation by adolescent girls and women, and safe water and sanitation.

Hygiene education or hygiene promotion encourages people to replace their unsafe hygiene practices with simple, safe alternatives. Most people are happy to use clean water for drinking, cooking and bathing purposes once it is readily available. But other hygiene practices are also crucial in preventing water and sanitation related diseases such as diarrhoea, cholera, dysentery and typhoid. These practices include the safe disposal of children's faeces, safe drinking water storage, hand washing at critical times, and proper disposal of solid and liquid waste. In many parts of the developing world these activities are not traditionally associated with disease prevention and therefore require active promotion within water and sanitation projects.

DSK's Hygiene Promotion Procedures

DSK developed its strategy through four steps:

- encourage community participation in the decision-making processes,
- identify current levels of awareness and start there,
- acknowledge community strengths,
- develop community's capacity to take actions.

Levels of Hygiene Promotion

- personal hygiene [including menstrual hygiene],
- family hygiene [including food hygiene and solid waste management],
- community hygiene [including school and public places].

Designing the Hygiene Promotion Strategies

DSK invested time and effort in working with communities to identify what motivates people to act in a particular way, how different hygiene behaviours are articulated within everyday life, and the positive values that communities already relate to hygiene. Before initiating hygiene interventions, DSK explored what people already knew, did and wanted in relation to hygiene. A range of participatory activities was introduced to stimulate discussions about knowledge, attitudes, beliefs and practices. All of these were designed to build self-esteem and active involvement of community members in decision-making. DSK looked at what people want to do to effect behaviour change and worked to find positive 'can do' solutions to problems identified by the communities. For example, the use of *Kalshi* (a narrow mouth water pot) for water storage by most dwellers prevents secondary contamination at the household level.

Hygiene promotion activities began with the community's own situation analyses of its hygiene behaviour. Effective hygiene promotion software activities are complemented by necessary water supply and sanitation facility initiatives in an integrated manner, and the process described below aimed to achieve this with the community that DSK adopted in hygiene promotion:

Step-I: Community situation analysis

The community situation analysis was the entry point for initiating hygiene promotion activities. The situation analysis was conducted by community members and facilitated by DSK. Through the situation analysis, community people came to realize their present condition and current position for initiating any development/hygiene activities. When people got involved in analyzing their own situation, they explored and realized the gaps, barriers and opportunities related to overcoming their situation. After collecting and analyzing the information, they identified changes necessary for enhancing safe hygiene practices at the personal, household and community levels considering their local conditions, constraints, resources and perceptions.

Step-II: Identify high-risk practices and practitioners

For initiating hygiene promotion, existing practices relevant to water, sanitation and hygiene were identified by the target community as prime activities. Community participants made a list of high-risk practices that increased diarrhoeal diseases.

Step-III: Identify best practices in the community

The community, along with DSK, identified best community level practices for encouraging safe hygiene, as local knowledge and practices, rather than outside messages, offer the best way forward for hygiene promotion.

Step-IV: Message identification for hygiene promotion

Message identification was the most important step for critical awareness building to replace existing high-risk practices carried out by a specific audience. Community members themselves analysis of existing risk factors and practices and DSK disseminates nine important messages.

The message and tools were developed based on the existing best practices at the community level and current knowledge considering the following factors:

- Audience specific
- Local language and easy to understand
- Visualized for easy communication

Step-V: Developing audience specific supportive materials

Behaviour Change Communication (BCC) materials that took different communication methods into consideration were developed tested and promoted as supportive materials for different stakeholders and audiences. Different sets of visual materials were developed for different topics such as safe water, safe sanitation, hand washing, solid waste management and menstrual hygiene management.

Step-VI: Identify and select effective communication Channels

Communication channels are important factors for disseminating the messages effectively and efficiently. Existing communication channels at the community level were identified to ensure effective communication and dissemination of relevant information. Based on the community discussion and available resources, DSK identified the following channels to disseminate information:

- courtyard session for adults (10 members in one hygiene group),
- Child to Child (community and school),
- group discussion targeting adolescent girls,
- tea stall sessions,
- training to food vendors to make and sale safe food,
- training to hygiene risk occupation groups (rag picker, sweeper, garbage collector),
- community campaign (popular theatre, folksong).

Step-VII Initiate participatory assessment of safe hygiene behaviours change

Only when participants are involved in the entire process and are responsible for their own decisions, do they feel ownership, and obligation to accomplish their responsibilities. Participatory follow-up and monitoring mechanisms have been put in place to measure changes in safe hygiene behaviour. Community participants have developed follow-up and monitoring tools and techniques for assessing progress towards improved hygiene practices. After receiving the messages, hygiene groups sit every month to discuss the messages again and assess individual improvement, which is recorded in pictorial sheets.



Photo 1. Self hygiene practices monitoring

The Process: Implementing the Hygiene Promotion Programme

1. Formation of Hygiene Group: The households of a particular slum are registered in the project and the slum is divided into small units of ten households. An “Adult Hygiene Group” is formed with representatives (preferably adult female and male) from each of the ten households. Separate Adolescent Groups are also formed with ten adolescents' girls in each group. A Child Leader Group is also formed with ten children as leaders of Child-to-Child approaches.
2. Key Messages: Nine messages related to hygiene promotion have been developed based on identified risk and community discussions. The messages have been divided into three clusters. The clusters and the messages appear in the table below.

Table 1. Hygiene Promotion Messages

Cluster	Key area	Specific messages
Cluster 1	Safe water	<ol style="list-style-type: none"> 1. Use safe water for all household purposes including drinking and cooking. 2. Safe water collection, storage and handling – protect water from contamination at source and at home. 3. Preventive messages related to water borne diseases
Cluster 2	Environmental Sanitation	<ol style="list-style-type: none"> 4. Use sanitary latrine for safe disposal of human excreta (adult and children). 5. Use sandals during use of toilet. 6. Disposal of household solid waste and drainage.
Cluster 3	Personal Hygiene	<ol style="list-style-type: none"> 7. Wash hands at six critical times. 8. Maintain improved food hygiene during preparation and sale. 9. Mangle menstrual hygiene (adolescent girls and women).

3. Message dissemination: To disseminate the hygiene messages and create awareness among the hygiene promotion group members, three consecutive courtyard sessions are conducted in three weeks. Within a month, all of the messages are delivered. Clusters of messages are discussed in each of the hygiene promotion sessions. The sessions are conducted at the household premises of the groups and take place for at least two hours. The sessions are conducted by trained Community Health Promoters (CHP education level equal or below class ten) who also have been living in the same slum. Series of trainings have to be provided to the CHPs to enhance their skill and capacity to conduct sessions.

**Photo 2. Courtyard session for hygiene promotion**

A special session for menstrual hygiene management is held with adolescent girls. Four major messages are disseminated to the group — use clean rags, wash rags with soap and safe water, dry rags under sun and store rags in hygienic places. Adolescent girls who receive the messages are to provide the same messages to their girl friends.

Hygiene messages are also disseminated through the Child-to-Child approach. The children leaders are provided with eight messages (messages on menstrual hygiene are not included) through three sessions. Each leader forms a friends group with ten children and disseminates the messages to the friends. Children are also taught to motivate parents on hygiene issues.

Participatory Rapid Appraisal (PRA) tools and techniques are used to disseminate messages. Pictorial cards are used to make the session attractive and interactive. If anyone is absent from any session, the Community Health Promoter visits that family and provides necessary messages.

4. Development of monitoring tools: One month after the delivery of messages, a fourth session is conducted with the same group. The group members discuss the issues again and take part in CHP facilitated development of monitoring tools and indicators.

5. Follow-up and monitoring: Each hygiene promotion group meets on a monthly basis with their monitoring tools. At the beginning of the session, group members further discuss the nine messages to refresh their knowledge and to keep it up to date. Later in the session, each member gives a self-statement about the progress of hygiene practices, which is recorded in the monitoring tools practice documentation. CHP facilitates the session. Based on the monitoring findings CHP also visits households to observe practice levels to reinforce practical implementation. The follow-up and monitoring sessions continue for three to four years to influence habit change, as experience indicates that sustainable behaviour change requires a period of three to four years.
6. Phasing out: After attaining the desired level of reported practice (70-80%), responsibility for monitoring the hygiene practices is handed over to respective Community Based Organizations (slum based WASH Committee). The CBOs themselves determine the methodology necessary for success per options inclusive of indicator tools and intervals for monitoring hygiene practices. Prior to phasing out, the group, CHP and CHW (Community Health Worker) conduct a joint assessment through discussion and observations.

Survey to Assess Improvement of Habits

Subsequent to three years of interventions, DSK conducted a survey on hygiene promotion improvement in its WatSan interventions slums in Dhaka and Chittagong in 2008.

Methods

DSK conducted a cross sectional survey among 100 households in 12 randomly selected slums applying two methods (i) structured interview and (ii) direct structured observation of hygiene practices at key junctures (use and how to preserve safe water, use of hygienic latrines; use of sandals during toilet use; and handwash with soap before eating, after defecation, and after solid waste disposal)

Two types of participants were selected (i) participants directly trained by CHP and (ii) family members of trained participants. Seven major important indicators and basic demographic information was collected for the study. Data was collected using a pre-structured simple questionnaire followed by direct observation at the household level. The progress was compared with baseline information conducted in 2005.

Sampling technique

The study participants were selected through a multi-stage random sampling technique.

1st stage: Slums where three major interventions (safe water supply, hygienic toilet and hygiene promotion) have been running for at least three years were included in the sampling frame. Twelve slums from the sampling frame were selected by lottery for inclusion in the study.

2nd stage – 50 Hygiene Promotion (HP) groups who have completed monitoring session at least 25 times during the assessment period were randomly selected by lottery.

3rd stage – 50 HHs were randomly selected by lottery from identified HP groups.

4th stage - 50 respondents from identified HHs who received hygiene messages through courtyard sessions (direct recipient) and 50 respondents (age > 10 years) from the same HH who received hygiene messages (indirect recipient) from family members were selected.

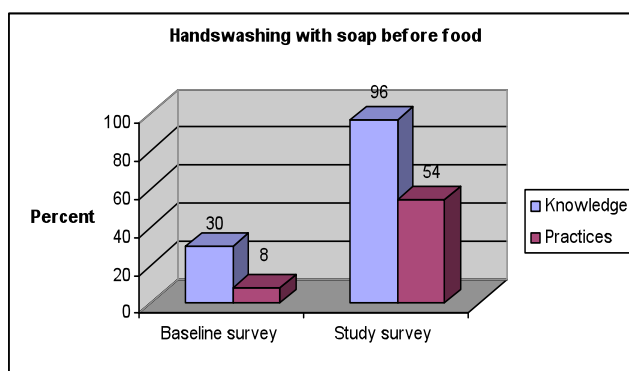
Results

Out of 100 respondents, 91 were female and 9 were male. Approximately 62 % were housewives, 21% were students, and the rest of the respondents came from different occupations, such as day labour, garment worker, rickshaw puller, small vendor etc. About half of the respondents had no education and

the rest had 1 to 10 years of schooling. The mean age of the respondents was 28 years (with a range of 13 to 48 years)

Survey findings showed that 96% families know about hand washing with soap before eating. As shown in Figure 1, this is an increase from 30% at the time of the baseline survey. Only 8% washed hands with soap at the beginning, and 54% did so after hygiene promotion intervention.

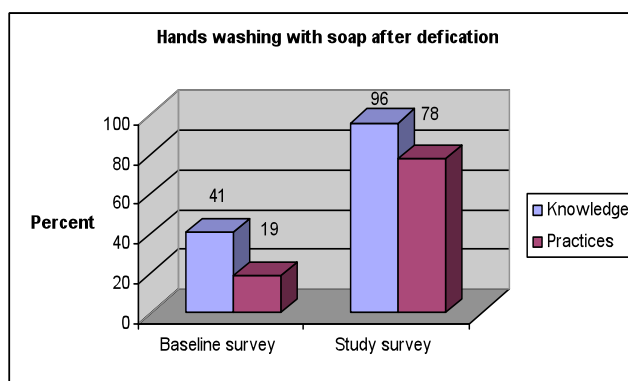
Figure 1. Hand washing with soap before eating.



Knowledge about hand washing with soap before feeding young children was 73% during the study, in contrast to 30-50% at the baseline. Only 5-10% families practiced hand washing with soap before feeding at baseline, and after hygiene promotion interventions, 63 % of the families were observed to wash hands with soap before providing food to children.

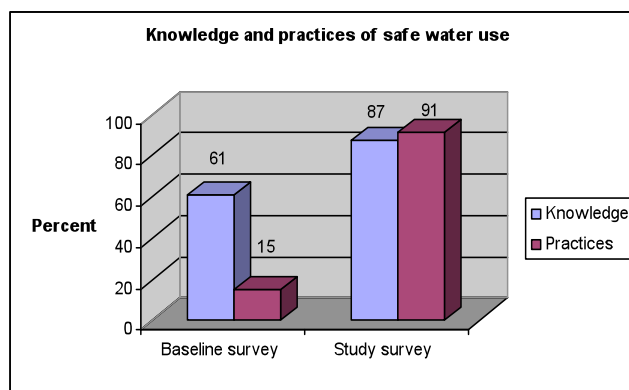
As reflected in the figure below, before interventions only 41% of the families knew about hand washing with soap after defecation, but after hygiene promotion almost 100% of the families in the sample had this awareness. In 78% of the households, people were observed to wash hands before eating, in contrast to 19% at baseline.

Figure 2. Hand washing with soap after defecation



93% of the respondents know about wearing sandals (slippers) during defecation and at 97%, family members in almost all of the households were observed wearing sandals during use of toilet. Three years earlier, at the baseline, this figure was only 30%.

Figure 3 depicts increased knowledge of safe water practices. Demonstrating an increase from 67% at baseline, 87% of the respondents had knowledge about the use of safe water for all household purposes. Currently, 91% of respondents report that they are using safe water for all household uses. Only 15% reported doing so at baseline.

Figure 3. Knowledge and practices of safe water use

In contrast to 32% at baseline, 90% of families know about safe water preservation and the practice level improved from 5% at baseline to 74% after intervention.

Knowledge of hygienic toilet has increased from 24% at baseline to 88%. During the study, 72% of households were using sanitary toilets. Only 18% were using sanitary toilets at the time of the baseline.

During observation at the household level, deviation was 5% to 12% at the practice level. Some of the proxy indicators were used in observations to assess the practice level (such as soap at toilet/ or near by toilet, soap at home, sandal at toilet/ home).

It was observed that the level of practice was less than average among households where members had no formal schooling and had poor access to water, sanitation and media. Our experiences show that both knowledge and practice levels increased due to intensive hygiene promotion activities.

Some challenges to the programme have been:

- obstacles to sustainable behaviour change posed by risk of slum eviction;
- household migration from one slum to another;
- difficulty securing participation of men and working women in the hygiene promotion sessions because they were busy with their jobs;
- trained members inconsistency in conveying appropriate message dissemination to other family members;
- inadequate water and sanitation facilities for slum dwellers;
- the need for overall improvement of unhygienic environment in the slums;
- lack of adequate courtyard space for the communication sessions.

Conclusion

Continuous community hygiene education along with physical access to water supply and sanitation positively influences change in hygiene behaviour and decreases the prevalence of water borne diseases.

Community participation in the decision making process is the most important determinant for sustainable hygiene promotion.

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