

## **HYGIENE PROMOTION**

**Hubley J.**

*Leeds Metropolitan University, Leeds, United Kingdom*

**Keywords:** hygiene promotion, hygiene behaviours; health education; community participation, mass media; schools.

### **Contents**

1. Introduction
    - 1.1 Terminology
    - 1.2. The importance of hygiene promotion
  2. Overviews of hygiene promotion
    - 2.1 Component activities of hygiene promotion
    - 2.2. Planning process for hygiene promotion
  3. Situation analysis
    - 3.1 General information required in situation analysis
    - 3.2. Identification of target hygiene practices
    - 3.3. Community participation in assessing needs
  4. Planning and implementation of hygiene promotion
    - 4.1 Service improvement component
    - 4.2. Advocacy component
    - 4.3 Health education component
  5. Monitoring and evaluation of hygiene promotion
  6. Conclusions
- Glossary  
Bibliography and Suggestions for further study  
Biographical Sketch

### **Summary**

Hygiene promotion involves activities directed towards the improvement in health through the promotion of uptake, maintenance and use of water and sanitation systems and accompanying support behaviours such as appropriate storage and use of water in the home, washing of hands and face, safe disposal of faeces and hygienic preparation of food. Effective hygiene promotion usually involves a mix of three activities: health education directed at individuals, families and communities to adopt hygiene behaviours, service improvements such as the development of outreach and support services and latrine components, and advocacy directed at encouraging appropriate policies. The first step in carrying out hygiene promotion is an assessment of the target community to determine the relative importance of different disease transmission routes, current hygiene practices, beliefs and other factors which determine those practices and of the possible resources and channels that can be mobilized for hygiene promotion. Based on this initial assessment a hygiene promotion strategy is planned and implemented. A hygiene promotion strategy involves decisions on the content of education messages, who in the community they should be directed at, the settings and the specific details of the methods to be used. Important settings for hygiene promotion

include the community, schools, health facilities and the workplace. Methods can involve face-to-face communication, participatory learning methods, mass media and folk media. In the immediate short term hygiene promotion activities can be evaluated in terms of changes in intermediate outcome variables such as changes in knowledge and beliefs. However, in the longer term evaluation should demonstrate improvements in behaviour and health. In recent years a number of small-scale evaluations have been carried out that demonstrate the value of hygiene promotion. The challenge ahead is to scale up and ensure that hygiene promotion is fully integrated into all water supply and sanitation programmes.

## **1. Introduction**

### **1.1 Terminology**

Various terminologies have been used by programmes which seek to promote hygiene. Health promotion is a general term which covers all health issues and includes all methods including improvements in services, promotion of healthy public policy and education/communication directed at communities. Health education specifically refers to the education/communication components of health promotion. Also used for health education has been the term 'Information, Education and Communication'—usually abbreviated to IEC—and another term 'Communication Support'. Hygiene education and hygiene promotion can be considered to be hygiene-specific components of the broader terms health education and health promotion. While some writers restrict the term hygiene to mean only those practices such as hand-washing, it is more appropriate to broaden the basis of the term to hygiene also cover the following:

- Practices concerning installation, maintenance, storage and use of improved water supplies and the discontinuation of use of unimproved sources.
- Safe disposal of faeces in latrines.
- Hand-washing with soap or equivalent, face-washing, hygienic preparation of foods.

### **1.2. The importance of hygiene promotion**

The adoption of the 1980s as the United Nations Decade for Water and Sanitation led to considerable international effort to improve water supply in the developing countries. The 1990s was a time of consolidation and reflection on these earlier efforts from which certain important lessons emerged. The first was the realisation that improving the access by poor communities to water supply involved addressing human as well as technical issues. Community participation emerged as a vital necessary—but often neglected—ingredient for water supply programmes. The second important lesson came from the evaluation of the health impact of these programmes. That lesson was that provision of improved water supply programmes was not on its own sufficient for achieving health. An important step forward in the understanding of the role of water in public health was the development by Bradley of his environmental classification which identified four kinds of water-related disease.

- *Waterborne* disease included all those disease which can be transmitted through drinking water including cholera, typhoid, Giardia, hepatitis A, shigellosis, and

enteroviral disease.

- *Water-washed diseases*, where the main source of infection comes from contact with faeces and lack of hygiene, such as trachoma, diarrhoea, scabies, shigellosis, ascariasis, enterobiasis.
- *Water based infections*, where water plays a role in host/parasite life cycle e.g. schistosomiasis, guinea worm.
- *Water related insect vector*, where water forms the breeding ground for an insect vector e.g. malaria, dengue, onchocerciasis, filariasis, African trypanosomiasis (sleeping sickness).

It was realized that it was not enough simply to provide good quality water to communities. In many cases the problem was not contamination of water sources but insufficient quantity for adequate hygiene. Most disease transmission was taking place through the water-washed routes and provision of water needs to be accompanied by the promotion of use of latrines and simple hygiene measures including washing of hands and clean storage of water in the home.

The focus of research has been on the prevention of childhood diarrhoea which could be a result of infection by viruses especially rotovirus, bacteria such as shigella, typhoid and cholera and helminth parasites such as guinea worm and ascaris. Elegant community trials have demonstrated that simple interventions such as hand-washing with soap or an abrasive such as ashes could have an impact on diarrhoeal disease. A systematic review by Curtis and Cairncross found that hand-washing with soap could reduce the risk from diarrhoea by 42 to 44% and that one million deaths per year might be averted by hand-washing alone. Considerable confusion existed about the role of specific behaviours. For example the boiling of water has long been a central focus for hygiene education. However boiling of water is only relevant when the point source of water is contaminated whereas in many situations contamination of water takes place during handling and storage. In an attempt to resolve these confusions the World Health Organization hosted an expert meeting in 1993. This meeting came up with the list of key hygiene behaviours shown in Box 1.

Targeting these key hygiene behaviours could lead to the greatest reduction in diarrhoeal morbidity:

- ***Safer disposal of faeces***, particularly faeces of young children and babies and of people with diarrhea.
- ***Hand-washing*** after defecation, after handling babies' faeces , before feeding and eating and before preparing food.
- ***Maintaining drinking water free from faecal contamination*** in the home and at the source.

#### Box 1. WHO consultation 1993

The importance of hygiene has been reinforced in control programmes directed at other infectious diseases including cholera, schistosomiasis, guinea worm and trachoma. Research on the mechanisms of transmission of trachoma has provided valuable insights into the importance of face washing, latrines and control of flies.

## 2. Overviews of hygiene promotion

### 2.1 Component activities of hygiene promotion

Hygiene education directed at individuals, families and communities needs to be carried out alongside strengthening of capacity of environmental health services and advocacy for the adoption of supportive policies. The three kinds of activity that might be involved in hygiene promotion are summarised in Figure 1 and more information on each of these three areas is provided later in this chapter. I named this model according to the acronym of its three component parts—the HESIAD model.

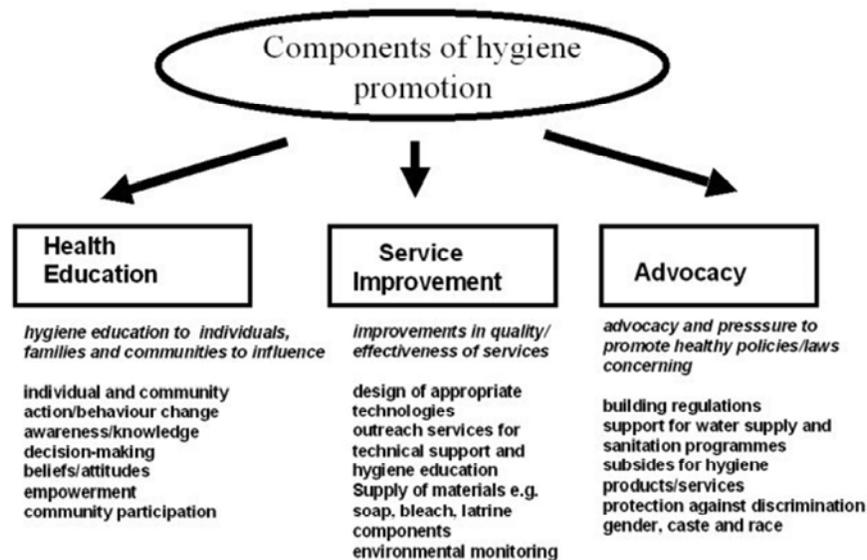


Figure 1. Three kinds of activity involved in hygiene promotion

### 2.2. Planning process for hygiene promotion

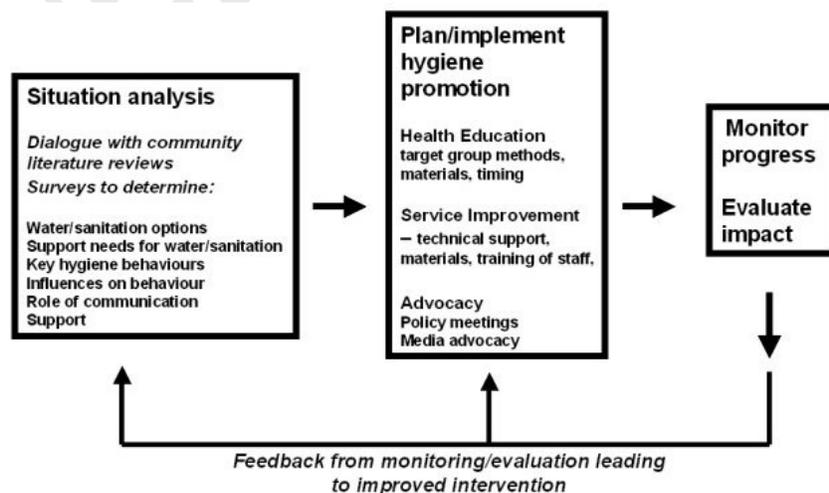


Figure 2. Programme planning for hygiene promotion

The planning of hygiene promotion interventions is summarised in Figure 2 and involves a systematic process of situation assessment, selection of interventions, implementation, monitoring and evaluation.

### **3. Situation analysis**

#### **3.1 General information required in situation analysis**

A situation assessment (sometimes called needs assessment) is required at the start of a programme to provide the information needed to plan the intervention and a baseline against which future impact can be measured. The kinds of data that are collected in a situation assessment include

- Present health status—who is affected, when (in year) and how much.
- Hygiene behaviours—what do people currently do e.g. water use, water handling, disposal of faeces, latrines, hand-washing, use of soap or other materials.
- Beliefs about seriousness, cause and prevention of health problems and the role of hygiene behaviours and the influences on those beliefs e.g. traditional beliefs on health, previous hygiene education programmes in the community.
- Felt needs of the community about their problems and solutions for issues in general and hygiene concerns in particular.
- Formal and informal leaders in the community—their influence in the community and their perceptions on hygiene as an issue.
- Divisions and disagreements, at the individual, family, social, caste, or class level, that might affect take up of hygiene promotion and subsequent performance of hygiene practices.
- Field staff from government and non-governmental organizations operating in the community—their current activities, understandings of hygiene issues, level of skill in hygiene promotion and how they are regarded by the community.
- Patterns of exposure by the community to potential hygiene education sources e.g. radio, use of health clinics, markets, fairs, churches, women's groups.

#### **3.2. Identification of target hygiene practices**

Faced with a long list of possible hygiene interventions, one of the first tasks is to identify which hygiene behaviours should form the focus of an intervention for that specific locality. This will depend on the local pattern of diseases and their transmission in the community for example if diseases such as guinea worm, schistosomiasis or trachoma are prevalent, then hygiene practices needed to be targeted which prevent the transmission of those diseases.

The hygiene promotion would also depend on the water and sanitation technologies available to meet the hydrological, economic and cultural needs of the community. The accompanying actions that would need to be taken by communities would depend on the distinct and separate demands for installation, usage and maintenance of:

- water supply systems: whether the water technology being promoted is protection of springs, gravity feed systems, boreholes with handpumps, shallow wells either

- shared by communities, or at the level of the individual household;
- sanitation systems: whether the sanitation technology is a simple pit latrine, improved ventilated pit latrine, pour flush latrine, water flush toilets or sewerage systems.



Figure 3. A ventilated pit latrine in Lesotho. Hygiene promotion is needed to encourage families to improve their sanitation, use and maintain them

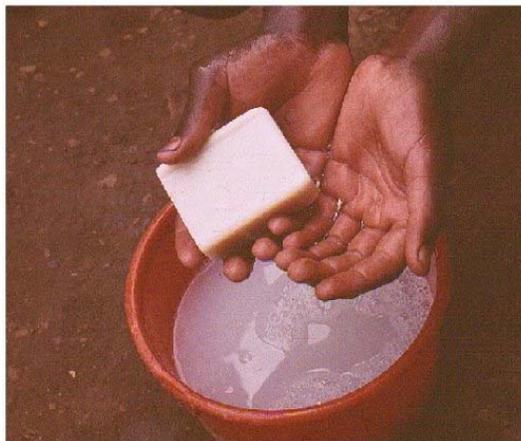


Figure 4. Hand-washing with soap has been demonstrated to be one of the most effective ways of preventing water-washed diseases

It is necessary to carry out a process of hazard analysis to identify specific key points in the locality where: 1) Pathogens can enter the community; 2) Pathogens can be spread within the community, and 3) Pathogens can multiply and increase the risk of transmission of infection. The intervention should target those hygiene practices that will eliminate these key points in the locality (see Figure 4 and Box 2).

- A programme in Thailand examined the hygiene practices and concluded that the two critical points were the low level of hand-washing and the practice of leaving eating/cooking utensils soaking overnight which encouraged pathogen multiplication
- In the Gambia it has been demonstrated that leaving out all day weaning foods for

small children provided opportunities for pathogens to multiply in the warm prevailing conditions

- In situations where the water source is free of contamination the emphasis should be on appropriate transfer and storage of drinking water.

#### **Water source**

- All children, women and men in the community should use safe water sources for drinking, clothes washing and bathing.
- Water should be efficiently used and not wasted. Waste water should be properly drained.
- Improved water sources should be used with care and well kept.
- There should be no risk of contamination of water sources from nearby latrines, waste water drainage, cattle or agricultural chemicals

#### **Water treatment**

- Simple purification procedures should be carried out, if necessary, on the water source e.g. chlorination
- If necessary, water should be filtered to remove any solid material, Guinea worm etc.

#### **Water collection**

- Drinking water should be collected in clean vessels without coming into contact with hands.
- Water should be transported in a covered container.

#### **Water storage**

- Water should be stored in vessels which are covered and regularly cleaned.
- Drinking water should be stored in a separate container from other domestic water wherever possible.

#### **Water drinking**

- Drinking water should be taken from the storage vessel in such a way that hands, cups or other objects cannot contaminate the water.

#### **Water use**

- Adequate amounts of water should be available, transported and used for personal and domestic hygiene. (It is estimated that some 30-40 litres per person per day are needed for personal and domestic hygiene).

#### **Food handling**

- Hands should be washed with soap or ash before preparing or eating food.
- Vegetables and fruits should be washed with safe water and food should be properly covered.
- Kitchen utensils should be washed with safe water as soon as possible after use and left in a clean place.

#### **Excreta disposal**

- All men, women and children should use latrines at home, at work and at school.
- All stools of infants and young children should be safely disposed of.
- Household latrines should be used by all family members and regularly cleaned and maintained.
- Latrines should be sited in such a way that the pit contents cannot wash into water sources or enter the groundwater table.
- Hand-washing facilities and soap or ash should be available and hands should always be washed after defecation and after helping babies and little children.

#### **Wastewater disposal**

- Household wastewater should be disposed of or re-used properly. Measures should be taken to ensure that wastewater is not left to create breeding places for

mosquitoes and other disease transmission vectors or to contaminate the safe water?

## Box 2. Key Hygiene Actions /Behaviours that Influence Health

-  
-  
-

TO ACCESS ALL THE 24 PAGES OF THIS CHAPTER,  
Visit: <http://www.desware.net/DESWARE-SampleAllChapter.aspx>

### Bibliography and Suggestions for further study

#### *Manuals providing technical guidance on hygiene promotion methods*

Adam, G. and Harford, N. (1998) *Health on air - a guide to creative radio for development*, London: Health Unlimited. [A useful manual that provides guidelines on how to make the best use of radio for the promotion of health.]

Almedom, A., Blumenthal, U. and Manderson, L. (1997) *Hygiene evaluation procedures - approaches and methods for assessing water- and sanitation-related hygiene practices*, London: International [This handbook provides practical guidelines for carrying out research to understand community hygiene behaviour and also includes guides on the use of participatory rural appraisal methods.]

Boot, M. (1991) *Just stir gently - the way to mix hygiene education with water supply and sanitation*, The Hague: IRC International Water and Sanitation Centre. [This book reviews some of the earlier experiences with water and sanitation.]

Boot, M. (1995) *Hygiene education in Bangladesh*, New York: UNICEF. This case study was prepared in 1993 over a series of field visits. It documents a range of hygiene education activities in Bangladesh.]

Cairncross, S. and Kochar, V.E. (1994) *Studying hygiene behaviour: methods, issues and experiences*, New Delhi, India: Sage Publications. Ref ID: 3491. [A multidisciplinary compendium of 32 essays by scholars from different countries covering theoretical and empirical issues relating to research methods for studying hygiene behaviour and educational interventions to change hygiene behaviour.]

Hubley, J. (2004) *Communicating health: an action guide to health education and health promotion*, Basingstoke and London: Macmillan. [This handbook provides a comprehensive overview of a range of health education methods and the factors that need to be incorporated into programmes in order to achieve effective outcomes.]

Mariotti, S.P. and Pruss, A. (1999) *The SAFE strategy - preventing trachoma a guide for environmental sanitation and improved hygiene*, Geneva: World Health Organization. [A basic manual of environmental measures than can be used to reduce the spread of trachoma.]

Sawyer, R., Simpson-Hebert, M., and Wood, S. (1998) *PHAST step-by-step guide: A participatory approach for the control of diarrhoeal diseases*, WHO

Srinivasan, L. (1990) *Tools for community participation - a manual for training trainers in participatory techniques*, New York: United Nations Development Programme. [A guide to a range of participatory learning methods that can be used in water and sanitation programmes that were developed as part of the PROWESS/UNDP programme for involving women in water and sanitation.]

UNICEF (1998) *Towards better programming - a manual on school sanitation and hygiene*, New York: UNICEF in Collaboration with IRC. [This manual provides a comprehensive review of technical, social and programme planning factors that need to be taken into consideration when promoting hygiene in

schools.]

WHO (1993) *Improving water and sanitation hygiene behaviours for the reduction of diarrhoeal disease - the report of an informal consultation Geneva 18-20, May 1992*, Geneva: Community Water Supply and Sanitation Unit/Control of Diarrhoeal Disease Programme, World Health Organization.

WHO (1997) *Guidelines for drinking water quality. Volume 3 Surveillance and control of community supplies*, Geneva: World Health Organization. [This manual brings together current knowledge about the role of surveillance and monitoring in ensuring the quality of drinking water and includes a chapter on hygiene education.]

***Some published papers in research journals providing evidence for impact of hygiene promotion activities***

Ahmed, N.U., Zeitlin, M.F., Beiser, A.S., Super, C.M., Gershoff, S.N., and Ahmed, M.A. (1994). Assessment of the impact of a hygiene intervention on environmental sanitation, childhood diarrhoea, and the growth of children in rural Bangladesh. *Food and Nutrition Bulletin* 15(1):40-52.

Ahmed, N.U. and Zeitlin, M.F. (1993). Assessment of the effects of teaching germ theory on changes in hygiene behaviours, cleanliness and diarrhoeal incidence in rural Bangladesh. *International Quarterly of Community Health Education* 14(3):283-297.

Alam, N., Wojtyniak, B., Henry, F.J., and Rahaman, M.M. (1989). Mothers' personal and domestic hygiene and diarrhoea incidence in young children in rural Bangladesh. *International Journal of Epidemiology* 18(1):242-247.

Bilqis, A.H., Ali, N., Zeitlyn, S., Yahya, F.S.M., and Shaheed, N.M. (1994). Promoting sanitation in Bangladesh. *World Health Forum* 15(4), 358-362.

Curtis V. and Cairncross S. (2003). Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *The Lancet Infectious Diseases* 3 (5):275-281.

Curtis,V., Kanki,B., Cousens,S., Diallo,I., Kpozehouen,A., Sangare,M. and Nikiema,M. (2001) Evidence of behaviour change following a hygiene promotion programme in Burkina Faso. *Bulletin of the World Health Organization*. **79**, 518-527.

Haggerty, P.A., Muladi, K., Kirkwood, B.R., Ashworth, A., and Manunebo, M. (1994). Community-based hygiene education to reduce diarrhoeal disease in rural Zaire: impact of the intervention on diarrhoeal morbidity. *International Journal of Epidemiology* 23(5), 1050-1059.

Hoque, B.A., Aziz, K.M., Hasan, K.Z. and Sack,R.B. (1994). Women's involvement in a rural Bangladesh water and sanitation project. *Southeast Asian J. Trop. Med. Public Health* **25**, 67-73.

Lynch, M., West, S.K., Munoz, B., Kayongoya, A., Taylor, H.R., and Mmbaga, B.B. (1994). Testing a participatory strategy to change hygiene behaviour: face washing in central Tanzania *Transactions of the Royal Society of Tropical Medicine & Hygiene* 88(5), 513-517.

Nanan,D., White,F., Azam,I., Afsar,H. and Hozhabri,S. (2003). Evaluation of a water, sanitation, and hygiene education intervention on diarrhoea in northern Pakistan. *Bulletin of the World Health Organization*. **81**, 160-165.

Pinfold, J. (1999). Analysis of different communication channels for promoting hygiene behaviour. *Health Education Research: Theory and Practice* 14, 629-639.

Shahid, N.S., Greenough, W.B.,3rd, Samadi, A.R., Huq, M.I., and Rahman, N. (1996). Hand washing with soap reduces diarrhoea and spread of bacterial pathogens in a Bangladesh village. *Journal of Diarrhoeal Diseases Research* 14(2):85-89.

Stanton, B.F., Clemens, J.D., and Khair, T. (1988). Educational intervention for altering water-sanitation behavior to reduce childhood diarrhea in urban Bangladesh: impact on nutritional status. *American Journal of Clinical Nutrition* 48(5), 1166-1172.

Thevos, A.K., Quick, R.E. and Yanduli, V. (2000). Motivational interviewing enhances the adoption of water disinfection practices in Zambia. *Health Promotion International* **15**, 207-214.

### **Biographical Sketch**

**Dr John Hubley** is Principal Lecturer in Health Promotion at Leeds Metropolitan University. He is the author of '*Communicating Health*' and '*The AIDS Handbook*' both published by Macmillans, and co-author of '*Public health in developing countries*' published by Oxford University Press. He recently worked for FAO in the final editing of their recently published manual on nutrition and AIDS. He is currently working with Macmillan Education on the Living Health readers for schools in Africa and a book for school-aged children on home based care. His main research interests focus on evidence-based health promotion in developing countries, and he maintains the Leeds Health Education Database of evaluated health education interventions on hygiene promotion and other health topics. He has been involved in training, consultancy and research activities in more than 25 countries in Africa, Caribbean, Asia, Europe and the Pacific. His consultancy activities have included working for WHO, EU, DFID and other donors and NGOs in project formulation, implementation and evaluation on reproductive health and other health topics. Further details are available at <http://www.hubley.co.uk>