Barriers to health education in developing countries

J.H. Hubley

Abstract

This paper reviews some of the barriers to effective health education programmes in developing countries. Both published literature as well as unpublished personal experiences and discussions are drawn upon to identify four overlapping groups of reasons why health education programmes can fail. These are: failures in the planning process to apply epidemiological and behavioural sciences to the selection of appropriate objectives; communication failure in reaching the intended audience and promoting understanding and acceptance of messages; failures in the organization of health education services and the weak status of the specialist health educator; and failure in the evaluation process and the dissemination of research into decision making. Several innovative health education approaches are reviewed and suggestions made for fruitful topics for future research and evaluation studies.

Introduction

Health education is an essential component of any strategy for improving the health of the people in the developing countries (Hubley, 1984). Health education is a cornerstone of the concept of Primary Health Care (WHO/Unicef, 1980) adopted by member states of the World Health Organization in the Alma Ata Declaration. The 1980s have been identified by the United Nations as the Water and Sanitation Decade. Unicef have recently launched their GOBI programme high-lighting the importance of growth monitoring, oral rehydration, breast-feeding and immunization programme (Unicef, 1985). All these programmes require active communication and education components to promote health behaviours, to introduce new technologies and to ensure that services provided are used to the fullest.

Many developing countries have begun channeling scarce resources into the development of health education services and the training of specialist health education personnel. Over-zealous health educators have promised a great deal without always delivering the goods and there is real danger of disillusionment setting in and a questioning of the potential of health education. In this review I will discuss some of the barriers to effective health education and identify areas for further research to overcome these barriers. I will draw on published literature as well as a wide range of unpublished personal experience and discussions with health educators from >20 developing countries whom I have had the chance to work with in the field and teach on our training programmes at Leeds Polytechnic, UK.

The reasons for failures of health education programmes can be separated into four overlapping groups: failures in the planning and communication processes, problems in the organization of health education and failures in the evaluation process.

Failures in the planning process

This group of failures comes from mistakes in basic planning decisions about what to change and who to direct the programmes at. The rationale for health education lies in the im-
importance of human behaviour in determining health (Gillet, 1985). It is essential that attention is directed on the behaviours that are relevant to the health topic in question so that change in behaviour will actually lead to improvement in health. Selection of risk factors, control measures and important behaviours is dependent on our understanding of the epidemiology of the disease in question. An example of health educators promoting an irrelevant behaviour was the promotion in the early 1970s of the consumption of protein-rich foods by infants in order to prevent kwashiorkor. This still continues in many countries today despite > 10 years of criticisms of the ‘protein fiasco’ (MacLaren, 1974). Current understanding of infant malnutrition draws attention to the high bulk of cereal-based weaning diets which cannot be absorbed in sufficient quantities by the infant’s small stomach (Deardon et al., 1980).

An important area where recent epidemiological understandings have implication for health education practice is in the spread of faecal-borne diseases. The environmental classification introduced by Bradley (1977) and associates is a significant advance over the traditional classification of these diseases by pathogen and shows that only some are spread by drinking contaminated water. Most are spread by handling faeces and contamination of children’s play areas, food and drinking water containers. The implications are that water-related diseases such as cholera, typhoid and diarrhoea cannot be prevented by providing clean water alone, but by increasing the quantity of water available, promoting the use of latrines and a comprehensive range of hygiene measures (Feacham, 1986).

This new understanding of water-related disease has led to criticisms of that traditional favourite of health educators — the boiling of drinking water. It is a waste of effort to use expensive and scarce fuel for boiling drinking water if it will become contaminated in the drinking vessel or infection is spread through dirty hands (deWolfe Miller, 1986).

In reality the health educator is often confronted by a whole range of behaviours. The longer the list of actions that the health educator asks the community to carry out, the less likely they are to perform any of them! It becomes essential to make priorities and emphasize those which are more important. An example comes from the disease schistosomiasis. However worthwhile for its own sake, the use of latrines is unlikely to contribute to the control of the disease because the massive reproduction rate of the parasite in the snails can lead to a water system being reinfected if only one person fails to use the latrine. Thus the application of epidemiology shows that the health education priority in the prevention of schistosomiasis is the avoidance of contact with infected water (Robinson, 1985).

Additional behaviours can insidiously creep into messages and distract from the crucial ones. An example of this that I recently came across in a nutritional flip-chart in Africa was the unnecessary advice that mothers should wash their nipples before breast feeding. Another is the boiling of water used in the preparation of oral rehydration solution (ORS). The immediate priority is for mothers to breast feed their infants and give ORS to children with diarrhoea. Adding additional actions can delay the essential ones (Feacham, 1981).

Epidemiology is only one criterion for selecting and making priorities among behaviours. Behaviours may be selected that are unrealistic for the community to change because of economic, social and cultural barriers. The concerns of the outside health educators may be low priority to the community compared with other felt needs. The diffusion of innovation research tradition suggests the following broad criteria for the likely take-up of an innovation. An innovation is more likely to be taken up if it is: simple to carry out; compatible with the existing situation; can be tried out by the community; produces results that are observable in the short term and provide perceived advantages over existing methods (Rogers, 1983).

It is a common finding that changes in knowledge do not necessarily lead to changes in attitude or behaviour (Ajzen and Fishbein, 1980). The reasons for this lie in the many factors that interact to determine health behaviour. The concept of enabling factor, introduced by Green et al. (1980), can be expanded to explain why a person may intend to perform a behaviour but still not do so. This can be because of the influence of enabling factors such as time, money, equipment, skills, and available and
appropriate services as shown in Figure 1.

For a mother to give oral rehydration solution to her child with diarrhoea she would need the following enabling factors: time, containers, salt and sugar and knowledge of how to prepare the mixture. Boiling of water requires time, firewood and a cooking and storage vessel. Construction of a latrine requires the purchase of materials (which must be available) and the necessary skills and time to construct it.

Convenient and accessible services are important enabling factors for the utilization of services. It is also necessary to ensure that when the public do follow the health education advice that the required services and provisions e.g. screening facilities, prophylactic medicines, vaccines, building materials etc. are actually available and in a working condition. A break in the cold chain for vaccine transport and storage will result in children receiving inactivated vaccines, become infected and health educators losing credibility. Thus programmes may fail because they are directed only at the community to change and not at health administrators and policy makers to improve service provision.

An often-neglected important enabling factor is the time to actually carry out the health-promoting actions. The heavy workload of women in developing countries has been well documented in time studies which have considerable relevance for health education (Zeidenstein, 1979). Their multiple roles include looking after the home, fetching water and fuel, caring for children, taking children to the child health clinic, preparing meals, growing food and going out to work. The seasonal peaks of agricultural work can coincide with seasonal peaks in food shortages and diseases such as diarrhoea (Rowland, 1982). While women are hard worked with many demands on their time, most of the preventive actions promoted by health educators (e.g. the GOBI program of Unicef) will actually increase their workload. It is unrealistic to expect women to take action to improve health and nutrition unless we find ways of reducing their workload and to give them time to follow our advice.

Economic and other enabling factors are important determinants of behaviour. Health education programmes can fail because they fail to tackle the poverty and social inequalities that underlie a particular behaviour.

An important challenge in health education planning is thus to determine the relative importance of economic factors compared with other determinants. There can certainly be situations where a person’s beliefs and attitudes are the main influence leading to them performing or not performing a particular behaviour, e.g. eating a food, building a latrine, going for immunization. However there is a tendency to blame communities for their ‘traditional beliefs’ which are often seen to be the main causes of the problem. While some traditional beliefs may be harmful, the importance of traditional beliefs as a stumbling block to change has been grossly exaggerated. Many beliefs are harmless and some may even be beneficial and can be built on in health education messages (Church, 1976).

The question whether health education should try and change a belief based on a person’s wider belief system or religion involves ethical as well as epidemiological considerations. In any case such beliefs are extremely difficult to change. It is better to adapt the programme to fit in with communities’ existing practices and beliefs. For example, the avoidance of eggs by pregnant women is often raised as an obstacle to improved nutrition. In the Indian sub-continent the avoidance of eggs is part of a wider belief system which organizes food and states of health and illness into hot and cold (Foster and Anderson, 1978). An alternative to attempting to change this belief would be the straightforward task of identifying other equivalent foods that they will eat and incorporate these acceptable foods into the health education message.

In programmes promoting technological innovations it is possible to build socio-cultural considerations into the design phase and reduce the need for
subsequent health education (Simpson, 1983). An appropriate technology should be compatible with the culture of the community, technically feasible using locally available skills and materials, require the minimum of maintenance and be simple to use. For example, in the case of sanitation, if our socio-cultural analysis informs us the community prefer sitting to squatting, we design latrines with seats. If it is acceptable to build latrines in a spiral shape without doors we can avoid doors and eliminate the need to tell the community to close the door after use.

Another important group of factors influencing behaviours are normative pressures from other persons. Within the sociological tradition these have been called ‘significant others’ and within the communication literature ‘opinion leaders’. Typical examples of failures to take these into account are health education programmes directed at persons at the clinic, especially women. They may accept the message but be over-ruled by the considerable influence of others in the family or community.

Within the social networks of rural communities there are well-established patterns of informal communication and influence which are often ignored by health education programmes (Marshall, 1971; Kanaaneh, 1979). A remarkable study by Rogers (1977) involved a detailed social network analysis of reported sources of advice on family planning. He was able to show how the failure of a mothers’ club programme in a South Korean village was a result of the choice of a group leader whom none of the women in the village identified in the survey as a potential source of advice.

Many of these enabling factors, belief systems and normative factors operate at different levels, e.g. the individual, family, community, district, national and international levels. Figure 2 summarizes some of the influences at three levels: the individual, community and national level. A belief or value may be held by the individual or be shared by the family, whole community or country. Social pressure on a person may come from the family or community. Lack of services may reflect a problem at a community level or national policy. Other influences on individual behaviour at the national level are agricultural policies or commercial advertising.

Health education can be criticized for over-emphasizing the individual and failing to recognize the influences on an individual’s behaviour at the community, national or international level. Alternative approaches to health education emphasize working at the community level (Hubley, 1980) and attempting to influence governments to adopt health-promoting policies such as the restriction of health-damaging activities, e.g. the advertising of baby milk and tobacco.

Many of the problems of the selection of unrealistic and inappropriate messages and behaviour changes can be resolved by working at the community level and building in community participation in the selection of objectives (Martin, 1983). Working at this level could create opportunities to ‘empower’ com-
munities (Kindervatter, 1979). Non-formal education techniques to generate community participation, raise consciousness and stimulate action on social and economic determinants of health have been described in a remarkable handbook by Werner and Bower (1982).

Much of the discussion on community participation, however, has been at the level of rhetoric with little documented research and evaluation. Little service may be paid to community participation which frequently becomes merely a device to make communities comply with agency-determined objectives with little transfer of real power or decision making to communities (Rifkin, 1985).

Community participation programmes can fail because they do not prepare staff adequately to share power with the community, the programme objectives are too inflexible and the programmes do not use field workers who are properly trained to work with communities, resolve conflicts and carry out dialogue and participatory learning. There is a genuine problem of reconciling the need for planning of large-scale health education programmes with the grass-roots process of community participation. Community participation programmes are not always accompanied by actions to deal with socio-economic influences on behaviour and health at the national level. There is a need for more evaluative research on both non-formal education and community participation.

Some of the key reasons for failure of health education programmes in the planning stage are summarized in Table 1.

### Table 1. Failures in the planning process

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<tr>
<th>Reason</th>
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<td>1. Insufficient understanding of epidemiology so that the behaviours selected for the objectives of health education are not linked to the disease in question</td>
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<td>2. Choosing inappropriate behaviour objectives that are unrealistic for the community to change because of economic, social or cultural barriers and are low priority compared with other felt needs</td>
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<td>3. Over-emphasis on behaviour change as the path to good health without accompanying economic and social development which tackles poverty and social inequalities</td>
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<td>4. Failure to ensure that all the required enabling factors are provided e.g. adequate money, resources, time and appropriate and accessible services</td>
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<td>5. Health education programmes in mother and child health which fail to take into account the already heavy workload of the woman in the home and agriculture</td>
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<td>6. Putting the emphasis on traditional beliefs as the cause of a health problem without looking for other possible explanations</td>
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<td>7. Directing health education at the individual without taking into account the influence at the family, community and national levels e.g. pressure of other people, availability of services, government policies, unemployment etc.</td>
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<td>8. Ignoring influences at the national level e.g. commercial advertising, powerful pressure groups, government policies etc.</td>
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<td>9. Failure to carry out even simple research (‘community diagnosis’) on how the community view their problems, the role of beliefs, pressure from others and economic and social factors</td>
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<td>10. Failure to develop community participation in the health education planning process</td>
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### Failures in the communication process

In reviewing problems in the communication process it is helpful to identify the different stages that a communication can go through from being heard or seen by the receiver; holding his or her attention; being perceived or understood; being accepted and promoting a change; resulting in a change in behaviour; and finally leading to a change in health (see Figure 3).

Communication failure can occur at each of these stages in Figure 3 for a variety of reasons. Examples of blocks in the last two stages would be a change in attitude not resulting in a change in behaviour and a change in behaviour not resulting in improved health. These have already been considered in the
previous section which discussed the use of epidemiology and the behavioural sciences in the determination of relationships between behaviour and health, as well as the identification of influences on behaviour, selection of objectives and target groups. No matter how well-produced a communication is, it will not be effective unless it is seen or heard by its intended audience. A common cause of failure is ‘preaching to the converted’, e.g. posters placed at the clinic or talks given at the ante-natal clinics. These reach the people who are already motivated or who attend the services and often fail to reach the priority groups who may not attend the services. The priority groups may not have access to newspapers, they may not have radios or may be working when the health education programmes are broadcasted. A good example of this common problem was shown by the evaluation study carried out on the use of India’s satellite television experiment for nutrition education. The research workers found out that rural women were busy at the time of broadcast and unable to watch (Ramadasmurthy et al., 1978). This illustrates the importance of undertaking audience research on listening and reading habits (Bertrand, 1980).

It is not enough merely reaching the audience, the communication should be interesting so that they pay attention to it. Otherwise they will ignore it and not listen to the message. Examples of communication failures at this stage are boring radio programmes telling the public what to do, the formal lecture at the clinic and the crudely designed posters. It is not surprising that the community only notice the well-produced commercial posters advertising cigarettes or processed foods and walk past the health education posters without bothering to look at them. It is also understandable when people do not pay attention to tedious and apparently irrelevant talks at the health centre, turn off the poorly made radio programme and switch over to more entertaining radio programmes.

Communications which attract attention are those which deal with subjects that the target group want to know something about and fit in with their felt needs and interests. Another way of attracting attention is by including something in the communication which arouses interest, e.g. unusual objects in exhibitions, drama in a public meeting, an unusual picture on a poster, entertainment in a radio programme. Although building in novelty and entertainment will attract attention, it is important to carefully evaluate their use. They can distract people from the message and not be understood very well.

A message should not only attract attention but be understood. Equivalent terms for this stage are perception, decoding and interpretation. This subjective process depends on the previous experiences, educational level, cultural background and familiarity with communication media. When people hear or see something they try and give it a meaning with ‘makes sense’ to them and fits in with their own experiences. Hence a health education message dealing with unfamiliar content, e.g. the disease theory and bacteria, is more likely to be misunderstood.

Because of the need to communicate to illiterate persons or when there are a number of languages in the community, health educators often emphasize pictures rather than words in their communications. One of the best-documented examples of communication failures at the perception stage are the various studies of perception of pictures by rural communities of low educational level which can be seen as an applied extension of the psychological tradition of cross-cultural research in perception (Shaw, 1969; Kwansa et al., 1972; Unicef, 1976; Moynihan and Mukherjee, 1981; Gustafson, 1986). Typical problems in perception of communications are complex language and unfamiliar technical words, and pictures containing complicated diagrams, distorting details and unfamiliar subjects. Pictures themselves contain a ‘visual language’ with conventions for distance, size, emotions and symbols such as arrows. People who have not had much exposure to pictures can easily misinterpret the message. The term ‘visual literacy’ has been used for a person’s familiarity with pictures and conventions of graphic design (Zimmer and Zimmer, 1978).

Misunderstandings of communications are more likely to take place when the artist, radio producer or communication designer comes from a very different background from that of the target audience. This is especially so when the audience is rural and
of low educational status and the communication planners are urban, highly educated and from a different cultural background. The centralized nature of the production process with mass media and written material can reinforce the cultural distance between sender and receiver and lead to communication failure. The best way of overcoming this cultural distance between the communication planners and the community is to carefully pre-test all communications (Bertrand, 1978) and find ways of involving the community in the production of the materials. Village artists can be used to prepare the materials in the local visual traditions, and dialogues between local members of the community can be incorporated into the radio programmes.

The heavy emphasis in post-colonial health education on visual aids was largely due to the influence of expatriate health educators coming from media-sophisticated societies in the West where oral traditions have largely disappeared. There has been a healthy resurgence in the idea of building on existing visual and oral transitions within developing countries and there are now many reports (but little evaluation) of the use of proverbs, story telling, songs, drama and puppets (Hilton, 1980; Byram, 1980; Kidd and Colletta, 1980; Begbie, 1985).

A communication should not only be received and understood, but should also produce some change. The community may understand the message but not believe or accept it. If the community have alternative beliefs that are well-established, shared at the community or national level (Figure 2) or part of a wider belief system, they are unlikely to be influenced by the communication.

A good example of this has been the heavy emphasis in nutrition education on the use of food groups such as body building, energy and protective foods. This can be criticized on nutritional grounds because of the over-emphasis on expensive sources of protein such as meat and eggs and the ignoring of protein in cereal staples such as maize, but the most serious criticism is that these food groups are not based on the indigenous systems of classification of foods that the community themselves use (Ritchie, 1981). The health education message of water boiling has already been criticized on epidemiological and economic grounds. A socio-cultural objection to water boiling was reported in an example from Sri Lanka where the drinking of boiled water conflicted with local beliefs on disease causality which see boiling water as appropriate only for sick persons (Nichter, 1985).

The influence of beliefs, social pressure from other persons and enabling factors in human behaviour explains the findings of communication researchers that mass media can be less effective in changing beliefs and behaviours than health education carried out through inter-personal channels (Rogers, 1983). There is a tendency to see mass media as the quick solution to health education problems. The mass media are particularly valuable for the rapid spread of simple information to a large population. Comprehensive reviews by Jenkins (1983) and Leslie (1981) indicate that when the community have the resources and the will to act, mass media can lead to behaviour change, but the difficulty of tailoring the message to a specific community, the lack of opportunity to clarify through discussion and the powerful competing influence of local persons put severe constraints on mass media.

There have been some well-documented variations on mass media. The problem of the broad non-localized nature of radio has been tackled by recording locally relevant radio-type programmes on audio-cassettes. These can be played in public places such as communal washing places or clinics. They can be used in groups with field workers leading discussions and stopping and starting the programmes where appropriate (Colle, 1979). An approach which attempts to combine the advantages of mass media and inter-personal approaches is the organized listening group to a radio programme or radio forum. One of the best-documented examples of this is the 'Mtu ni Afya' ('Man is Life') health education programme in Tanzania in which 75 000 discussion leaders were trained to lead radio forums for two million people who listened in groups to a series of 12 radio programmes covering a range of health topics including tuberculosis, malaria and sanitation (Hall, 1978).

An alternative to mass media is the longer-term
measure of up-grading the skills of local field workers and developing new cadres of village health workers as the cornerstone of the concept of primary health care. The effectiveness of field workers ultimately depends on their credibility in the eyes of the community. A sensible strategy is to gain the support of traditional authority figures and allow the community to select their own village health workers from well-respected members of the community. The credibility of field workers is derived not only from the selection process but also the use of appropriate health education messages based on the considerations discussed above. Asking the community to perform actions that they cannot afford, are impossible to do and do not make sense is a good way for a field worker to lose credibility. An even better way to lose credibility is when the people follow the health education messages and no improvements in health result because the advice was incorrect. Thus, careful selection, adequate training and continued supervision are essential for the effective use of village health workers.

The choice of appropriate communication media is ultimately a function of available resources, nature of the audience and intended message. It is a fruitful area for imaginative programmes. Many of the problems discussed above and summarized in Table II below could be overcome through the application of epidemiological and behavioural research to the choice of appropriate objectives, research on target audiences and pre-testing of intended communications.

<table>
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<tr>
<th>Table II. Failures in the communication process</th>
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<tr>
<td>1. Using health education methods and channels of communication that only reach the better off and well-educated people and fail to reach those whose health is the poorest: the poor, mainly rural, low educational level low-utilizers of health facilities</td>
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<td>2. Health education messages not understood because of difficult and unfamiliar concepts, language, complex wording and confusing pictures</td>
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<td>3. Cultural and social distance between the health educator and the community resulting in poorly designed communications which take little account of the way ordinary people think and talk</td>
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<td>4. Use of health education materials produced abroad or from the national headquarters which may not be appropriate for the local community</td>
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<td>5. Failure to test health education messages to see if they are correctly understood and will promote change</td>
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<td>6. Over-emphasis on the ‘hardware’ of communication e.g. slides, films, leaflets and visual aids rather than the building up of understanding, empathy and trust between the health worker and the community</td>
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<td>7. Too much emphasis on mass media such as radio. While efficient at promoting knowledge and awareness, mass media are poor at promoting behaviour change compared with community level programmes involving face-to-face communication</td>
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<td>8. Ignoring the traditional methods of communication such as story telling, songs and drama which may be a familiar part of the culture of the community and are both popular and understood</td>
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<td>9. Low credibility and respect of the health educator in the eyes of the community due to factors such as age, sex, training, personal behaviour and perceived irrelevance of advice</td>
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<td>10. Too much reliance on formal teaching methods such as lectures and talks rather than those in which the learner actively participates and feedback and discussion are encouraged e.g. group discussions, problem-solving exercises and role plays</td>
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Failures due to the organization of health education

Government-based primary health care programmes in many countries have found it difficult to replicate on a national scale the enthusiasm and energy of small-scale projects. A major challenge is to find ways of disseminating improvements in health education approaches at the local field level. This is one of a range of problems faced by the emerging health education support services in many developing countries.

There may be little government commitment to prevention and health education. Support may be at the level of rhetoric only, with the bulk of expenditure remaining firmly with curative urban-oriented health services. Notions of health education, individual responsibility and self-help can be used by governments as a way of avoiding tackling the social and economic determinants of health that were discussed in an earlier section as "enabling factors".

Despite the emphasis on inter-sectoral cooperation and socio-economic measures in the Alma-Ata Declaration on Primary Health Care, there has been a failure to develop the health education potential of
different agencies outside the health services, e.g. schools, community development, agriculture, adult education, radio and television services. A confused public may thus receive uncoordinated, conflicting and sometimes inaccurate advice on health from different field workers and agencies.  

There may be no clear national policy for the development of health education activities and services. A recognition of the need for proper planning of health education effort, coordination between agencies, training of field workers in communication skills and development of support learning materials has led to the establishment in many countries of health education services and the training of health education specialists. However their role has not always been well understood by government and health planners – especially their relationship to the field workers who carry out the main part of the health education. The health education specialist is usually in a weak position within health services. The overall responsibility for health education and key decisions on content of health education programmes are often in the hands of medical personnel with little training in the behavioural sciences and communication. Health education specialists can be frustrated because of low status, lack of training, low power and poor career and promotion opportunities.

A survey of health education in developing countries by the World Federation of Public Health Associations (1986) provides a valuable review of appropriate methodology for health education but fails to consider the organization of health education services and mechanisms for the dissemination of innovations in health education practice. Little attention is given in another comprehensive review by Walt and Constantinides (1984).

Carlaw et al. (1980) reviewed the development of health education services in Indonesia, Papua New Guinea and Nepal and related this to the use by services of personnel with diploma or masters training. The relative competence and authority of these two levels of training in Africa has also been discussed by the health educators based at the WHO Africa Regional Health Education Centre at Ibadan, Nigeria (Adeniyi and Brieger, 1981).

Ochor (1984) has developed a comprehensive check list of 30 criteria for health education service functioning covering four broad areas: guiding philosophy and policy; organizational structure and management; resources; and services and operations. These criteria were applied to Oyo State Health Education Unit in Nigeria and showed short-falls in personnel, funds, facilities, equipment and supplies. Although the survey methodology is poorly described, factors of inadequate status and poor hierarchical status were reported to be linked to the non-attainment of many of the factors. A fruitful topic for future research would be to develop this checklist of Ochor (1984) and apply it to a variety of health education settings. It is also important to consider the problems of health education within the broader context of analyses such as that of Segall (1983) of appropriate health policy making for primary health care.

A summary of the various reasons for failure due to the organization of health education is given in Table III. There has been little research in this important area of organisation of health education ser-

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<th>Table III. Failures due to the organization of health education</th>
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<td>1. Lack of a clear government commitment and national policy for health education. Low priority for health education in health services compared to curative medicine</td>
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<td>2. Poor understanding of the role and importance of health education and prevention on the part of politicians and the public</td>
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<td>3. Failure to develop the health education potential of different agencies outside the health services e.g. schools, community development, agriculture, adult education, radio and television services</td>
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<td>4. Uncoordinated, conflicting and sometimes inaccurate advice on health from different field workers and agencies</td>
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<td>5. Health education is left to a small group of health education 'specialists' only. Other health workers, teachers, etc., say that it is not their job</td>
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<td>6. The weak position of the health education specialist e.g. low status, lack of training, low power, poor career and promotion opportunities</td>
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<td>7. Frustration of the health educator because of isolation and lack of understanding, encouragement, support and practical help from others including national health education services</td>
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<td>8. The overall responsibility for health education in health services and the key decisions on the content of health education programmes are in the charge of medical personnel with little training in the behavioural sciences and communication</td>
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services and health education policy in general. This is a valuable area for future study.

Failure to carry out evaluation research and build up experience

The various problems described above can all be made worse by the failure to carry out basic research and evaluation on the impact of health education programmes summarized in Table IV. Such evaluation is needed for a variety of reasons. At the crude level of survival the credibility of newly developed health education services will require demonstrations of effectiveness to their government paymasters and donor agencies. Another reason is that health education programmes may be based on imported ideas and methods from other countries. Evaluation is needed to build up a body of knowledge of appropriate educational methods for the local situation.

These two reasons for evaluation — economic survival of fragile health education services and building up a professional body of knowledge — can be in conflict. Health educators may be reluctant to admit failures and incur possible reprisals on their budget, even though valuable lessons may have been gained that should be documented and shared.

Evaluation involves showing that two events have occurred: firstly, that change has taken place; and secondly, that the change has taken place as a result of the programme. Problems can occur in the choice of desired changes i.e. objectives. One of the standard rules in programme planning is to keep the number of objectives to a minimum. However, difficulties can occur when a programme is evaluated by measuring changes in only a small number of parameters. If the programme failed, the reasons for failure may not be evident.

Because the complex nature of the interaction between knowledge, attitudes, norms, enabling factors, behaviour and health, a programme may succeed in bringing about changes in knowledge or behaviour but not lead to a change in health because of other factors. A programme may appear a failure when a great deal has actually been achieved. It is thus important to build in a comprehensive check-list of indicators into an evaluation schedule to determine exactly how much has been achieved. The communication model in Figure 3 provides a useful framework for planning an evaluation schedule which will determine whether a programme succeeded or failed in reaching the intended audience, gaining their attention, being understood, being accepted, changing behaviour and influencing health.

The second aspect of evaluation, showing that change has taken place as a result of the programme is much more difficult to achieve. The standard experimental design with randomized allocation of control and experimental groups is possible in clinic and artificially created classroom settings but much more difficult with real life communities. Choosing 'equivalent' or 'matched' communities can only be approximations to true controls and it is essential to provide supporting information on the nature of these communities to demonstrate that they really are similar. Even if it is difficult to set up well-defined controls, questions can be included in questionnaires and other data collected to indicate whether change took place as a result of the programme and exclude other possible influences on change.

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<tr>
<th>Table IV. Failures in the evaluation process</th>
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<td>1. Failure to evaluate even at a simple level</td>
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<td>2. Evaluations based only on measurement of effort and activity and not impact and change in the community</td>
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<tr>
<td>3. Failure to produce evidence that health education is effective and deserves funding</td>
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<tr>
<td>4. Reluctance to carry out evaluation of failures to determine the exact causes of failure and learn from them</td>
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<tr>
<td>5. Demonstrating that change has taken place but providing no evidence that the change has been a result of the health education programme and not other factors</td>
</tr>
<tr>
<td>6. Insufficient description of programmes making it difficult for others to assess special features of programme and community that affect success and replicability</td>
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<tr>
<td>7. Not sharing with other health educators the evaluations of success or failures</td>
</tr>
<tr>
<td>8. Lack of opportunities e.g. a magazine or regular meeting places where health educators can exchange experiences on their work and discuss wider issues on the organization and support of health education activities</td>
</tr>
<tr>
<td>9. Narrowly conceived concepts of research and evaluation which allow no opportunity for participation of health workers and community in the evaluation process</td>
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There may be clear evidence of change brought about as a result of the programme. However, it may not be clear from the programme report what were the special features that led to success or failure and sufficient information should be provided to enable others to decide whether the programme could be replicated. It is essential to fully describe key variables such as the nature of the community and field personnel, training, the health education methods used, message wording/pictures, mechanism for gaining community participation, special assistance from donor agencies, etc.

It is a tragic loss to health education that many interesting and innovative programmes are probably never evaluated at all. In discussing this failure to evaluate significant programmes, Green (1977) makes the point that evaluations that are published are often of trivial programmes. There may be many reasons for this. Small-scale ‘trivial’ programmes are easier to evaluate. Funding bodies may only provide resources for a superficial measure of achievement of programme aims. Field staff may be too busy or lacking in confidence to carry out evaluation and submit papers to journals. The idea of experimental design and randomized controls as the only evaluation method may prevent persons from carrying out simpler evaluation studies which can still yield valuable insights. Another reason may be that while reports are required by funding bodies, there are limited opportunities for publication and dissemination of evaluation studies which discuss in detail issues of educational methodology.

An objection to conventional evaluation approaches is that rigid adherence to predetermined objectives can be seen to be at odds with notions of community participation. Perhaps the greatest challenge is to find ways of involving the community in the research/evaluation process. Persuasive arguments for participatory research and evaluation methods have been advanced (Hall, 1975; Hall et al., 1979; Feurstein, 1980). Such approaches could provide valuable insights into health education methodologies in the community, but further studies are needed to determine whether participatory evaluation methods can produce sufficient evidence to convince sceptics of the value of health education.

Evaluation should not be a one-off activity by external researchers. There is a need to develop suitable indicators for monitoring and evaluation of health education within the information gathering activities of primary health care services (Stinson, 1983; Freund and Kalumba, 1986). The issue of involving community health workers in data collection is an important one for development. There is considerable scope for experimentation and new approaches in evaluation and research methodology appropriate to the special demands of health education and primary health care.

**Conclusions**

A number of barriers to health education have been discussed. Although the emphasis has been on reasons for failure, the outlook is not a pessimistic one as a growing body of experience is emerging on appropriate health education methods (World Federation of Public Health Associations, 1986). The challenge ahead is to expand and consolidate this body of experience with innovative health education programmes based on sound evaluation and research.

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**References**

J.H. Hubley


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