Sanitation in Developing Countries

Proceedings of a workshop on
Sanitation held in Lobatse, Botswana,
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Sanitation in Developing Countries

Proceedings of a workshop on training held in Lobatse, Botswana, 14–20 August 1980

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Health Education, an Essential Component in the Promotion of Health, with Emphasis on Rural Sanitation

Saidi H.D. Chizenga

Human behaviour plays a big part in the aetiology and epidemiology of many of the diseases of greatest importance to society. It means, therefore, that in the promotion of health and prevention of diseases the effectiveness of modern public health measures is ultimately dependent upon the health consciousness of policy makers and citizens, and the preparedness of every person to help themselves by making the best use of available knowledge and health services.

If we aim to attain a level of health that will permit the entire world population to lead a socially and economically productive life by the year 2000, health education should form an integral part of the entire system of primary health care. Health care should be based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in communities through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.

Studies at different levels have shown that well over 60% of the common intestinal diseases in rural areas could be reduced to a minimum with proper disposal of human excreta, and correspondingly, the remaining 40% could be reduced with ample safe water supplies and personal hygiene. Urban populations have benefitted from medical science and technology, but rural and peri-urban populations experience quite a different situation, for in many areas there is no systematized form of health services.

Health Education

Many doctors, working as individuals and in groups, have made several attempts to publish information about health for the general public or for special groups, between 1762 and 1835. The aim was to give advice about health and diseases, based on the general principle that information and demonstrations of how to better conditions would, in the course of time, be adequate to improve them. Since that time, health education has steadily gained in importance from the early years of the 20th century to the present.

The Establishment of Health Education Services in Tanzania

The Health Education Unit of Tanzania is a functional department within the Ministry of Health headquarters. It was established in 1957, with a staff of four, including one medical officer, a nurse, and two other people with printing skills. The main activities of the unit were designing and printing posters and leaflets and distributing them to the rural regions and to voluntary agency hospitals. Later, as the unit grew larger in terms of manpower and facilities, it became involved in seminars and health education

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pilot projects. In 1960, the unit started a project against schistosomiasis, in addition to several other projects. Today, the unit has 48 workers.

**Functions of the Health Education Unit**

The Health Education Unit, which operates under the leadership of the director for preventive services, has the following functions: (1) demonstration of health education skills; (2) provision of orientation and training in health education for preservice and in-service health workers, with priority being given to the training of health personnel holding key positions in training institutions or in other programs concerned with training; (3) provision of orientation and training in health education for schoolteachers, agricultural extension workers, social workers, and other community development workers, including political leaders and administrators; (4) collection of information about resources for health education; (5) collection of information about the peoples' knowledge, attitudes, and practices related to health problems; (6) development of basic health education materials for use in health programs; (7) management and direction of short- and long-range development of health education service in accordance with the health problems, policies, priorities, and services of the Ministry of Health; (8) evaluation of the health education objectives and requirements of national health programs and helping to plan the health education activities needed to achieve these objectives; (9) assisting other health personnel to select approaches for planning and conducting continuing education and various other types of education and training programs; (10) assisting staff within the ministry to keep abreast of new developments in health education methodology and related fields of education; (11) participating with the relevant national educational authorities and their professional workers in planning the health education aspects of teacher preparation and school programs and helping to plan in-service education programs for teachers; (12) identification of opportunities and methods by which the Ministry of Health could collaborate on matters of health education with other ministries, professional associations, voluntary agencies, and other groups in an effort to meet national health goals; (13) encouraging universities, where appropriate, to establish special curricula or departments of health education and assisting them to strengthen health education in relevant existing courses; (14) designing, coordinating, and conducting field studies in behaviour, health education concepts, methods, and media relevant to health education practice and provision of training in the conduct of such studies; (15) identification of problem areas in health education needing studies and research and promotion of studies and research by universities and other competent groups; (16) interpretation to the public of the problems, plans, programs, and achievements of the Ministry of Health through appropriate channels of communication such as the press, radio, and professional publications, including journals; and (17) promotion of technical coordination and collaboration with international organizations, including voluntary agencies, on the health education aspects of health programs.

**Health Education of Children and Young People**

Explaining to younger generations the importance of building a healthy society is vital. School health education programs offer learning opportunities for the children. It is important that those who are involved in the education of children and young people receive adequate initial training. For the purpose of this paper, the children should learn more about human excreta disposal, in addition to accident prevention, general cleanliness, personal hygiene, preparation for puberty and family life, and education about smoking, drugs, and alcohol.

Although school health services have, as yet, not been spread widely throughout Tanzania, the services are offered through practical demonstrations and the use of mass media.
Health Education to Groups

Groups such as women’s groups, clubs, religious groups, and other similar groups are easy to approach as prospects for receiving health education programs. They are easy to approach because they are already organized for a common interest.

Community Participation in Health Education Activities

The Importance of Involvement

Self-reliance and social awareness are key factors in human development. Community participation in deciding upon policies and planning, implementing, and evaluating development programs is now a widely accepted practice. Community participation is the process by which individuals and families assume responsibility for their own health and welfare and for those of the community, and develop the capacity to contribute to their own development and that of the community.

Complete community participation cannot be achieved without involving the local leaders at the very early stages of introducing any health education program. These leaders include political, administrative, departmental, and religious leaders, as well as other influential people such as the village healer or the head of the popular dance troop. At the operational level, the people are involved in the actual planning, implementation, and evaluation of the program. Involvement should be geared toward a feeling of concern. The people should feel that the problem is theirs and that they are in a position to solve it through their own efforts, utilizing local resources as much as possible.

Self-Reliance

Life in rural areas has forced people to become self-reliant and to depend upon their own skills and efforts. Rural people know one another better than people living in cities. Rural people meet quite often, talk more to one another, and can work together more easily within their communities. In many parts of Africa, rural people work together to build schools and clinics, improve roads, and protect their streams, wells, and springs. This spirit of cooperation can promote rapid rural health improvement through health education. Rural health improvement depends upon: (1) health services that are closely related to the needs and ways of life of rural people; (2) good understanding and cooperation between health services staff and the people; and (3) coordinating and organizing community resources for a better livelihood.

Health Education Staff Training

Health education is a profession by itself. It can be acquired through training, usually by people who have had experience in some kind of health or teaching duties.

Tanzania started using health educationists in 1976. In addition, all persons engaged in public health work, be it preventive or curative, must have received an adequate amount of health education knowledge as part of their initial training.

Present Manpower

Health Education Specialists

Tanzania has only four MPH (health education) degree holders, one of whom is now the director for preventive services.

Health Educationists

There are eight Advanced Diploma in Health Education (ADHE) graduates who qualified between October 1975 and June 1980 for mainland Tanzania and the islands. These people and the Master’s Degree holders attended university courses on the sponsorship of the World Health Organization. Two of the eight ADHE graduates are in the islands of Zanzibar and Pemba. Two other graduates have been assigned to the country’s two schools of hygiene. The remaining four are stationed in the Health Education Unit, one as the head of the unit.

There are now about 265 health officers and about 650 health assistants. All of these people are health educators. The rate at which the number of health officers is
increasing is very slow, and to make matters worse, a number of health officers leave the profession to join other fields, such as the medical profession, due to more attractive salaries. The enrollment for training is 35 per year (15 preservice and 20 upgraders). Some are dismissed due to poor performance during the course and some fail their final examinations. The yearly number of graduates ranges from 20–25. The basic reason for the low rate of growth in the number of health officers is the small enrollment of trainees.

Manpower Requirements

Six health education specialists with a Master's Degree in health education, three to be stationed at the Ministry of Health headquarters and the remainder in the three consultant hospitals within the country, are required. Their duties will consist of designing health education programs at national and zonal levels and research work.

The requirements for health educationists with the ADHE are: Health Education Unit, 5; schools of hygiene, 2; zonal consultant hospitals, 3; city of Dar es Salaam and the municipalities of Tanga, Mwanza, Dodoma, and Arusha, 4.

The rate of production of health assistants does not seem to be too slow, however, it must be constant so that 100–120 can begin employment every year. By 1990, there will be one health assistant in 1650 of the 2500 wards, each serving a population of 5000–10000.

It is recommended that training facilities be increased, even if doing so would require asking for external training assistance in whatever form was necessary. The primary objective is to provide sufficient staff to meet the goals of the Water and Sanitation Decade.

Case Studies

"Mtuní Afya"

The 1973–1974 environmental health campaign in Tanzania, popularly known as "Mtuní Afya" (man is health) was a milestone for the promotion of health within the country. In this campaign, mass mobilization was the backbone of its achievement. This national health campaign involved everyone in the country. Small radio-listening groups met and discussed specific topics based on the guidance provided by the radio programs. Participants were engaged in physical activities to improve their health conditions. What was very important was that at the end of the campaign, people had developed an awareness and desire to improve their health conditions.

Handing over Responsibilities to the Local People

Experience has shown that achievements made during many campaigns do not last long, depending upon how much responsibility is left on the shoulders of the local people. In an environmental health program started in 1979, which operated as a follow-up to the "Mtuní Afya" campaign, workshops, rather than seminars, are held in villages. A 3–4 day workshop is held in a village selected by the local leaders. The participants, who are local leaders of 5–8 villages, identify a number of health problems in their own areas. They set out priorities and plan for implementation and evaluation on certain problems.

It is traditional, probably everywhere, that some kinds of closing ceremonies are held at the end of seminars. In Tanzania today, however, health education seminars organized by the Health Education Unit normally close with an activity such as digging a latrine, cleaning a well, or clearing the bush within the hospital area or the local court building. At one workshop in Nachingwea, in the southern part of Tanzania, the district party secretary wound up the workshop by planting a fruit tree. Malnutrition was one of the problems in that area identified by members of the workshop. There was a total of 21 trees planted that evening and they included some pawpaw, guava, and orange trees.
Latrine Construction Project at Nyamoli Village

In 1976, an agricultural and fishing village, Nyamoli, situated about 4 km offshore in Lake Tanganyika, in Kigoma Region, began an anti-worm infection campaign. At the beginning of the campaign, the number of latrines within the village was 56. This was only 9.9% of the total number of 564 households. There were 116 households without latrines and the other 392 households had unserviceable latrines.

Seminars for the village leaders and public meetings were held for educational purposes. The villagers were taught how to construct suitable pit latrines, in particular how to cast a concrete slab. Cement and welded mesh, for making the concrete slabs, were the only material aids required from outside of the village. The rest of the materials needed to complete a latrine, including labour, were met by the villagers themselves. In December 1979 there were 348 serviceable latrines for 350 households.

In examining the population to determine the worm-infection rate, 340 people out of 737 examined showed positive results. Table 1 shows the different types of parasites as they affected different age groups.

The Improved Pit and Compost Latrines

Because these two types of latrines provide for ventilation facilities, they stand a good chance of acceptance by communities that dislike the smell of human excreta. Some communities dislike the basic idea of the pit latrine because the user is bound to smell the waste in the latrine for the entire time they remain inside. The argument against latrines is that one does not smell the faeces very strongly if defecation is carried out in the open air. During a latrine construction campaign in the Shinyanga Region of Tanzania, near Lake Victoria, it was found in one area that all pit latrine shelters, measuring about 1.5 m² and built of sun-dried bricks, had at least eight 12 cm × 12 cm holes through three of the four walls. In fact, the walls were almost honeycombed and the whole purpose of screening was defeated. There was, however, a maximum circulation of air within the latrine to reduce the foul smell to a minimum. This is one area where the ventilated pit latrine would be accepted without many difficulties.

The compost latrine is acceptable in communities where there is a need to fertilize the soil and the local people traditionally use night soil to fertilize their farms. Such communities are found in China as well as in some parts of Africa.

Mass Media

Radio Tanzania Dar es Salaam offers ample airspace for health programs. In addition to the ordinary health education programs for the general public, there is a school health education program that is

<table>
<thead>
<tr>
<th>Parasite</th>
<th>1-4 years</th>
<th>5-15 years</th>
<th>&gt;15 years</th>
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<tbody>
<tr>
<td>Hookworm ova</td>
<td>57</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>Ascaris ova</td>
<td>22</td>
<td>47</td>
<td>28</td>
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<tr>
<td>Trichuris trichiura</td>
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<td>1</td>
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<tr>
<td>Enterobius vermicularis</td>
<td>7</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Strongyloides stercolaris</td>
<td>2</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Schistosoma mansoni</td>
<td>2</td>
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<td>2</td>
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<tr>
<td>Taenia saginata</td>
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aired during school hours. The teacher should remain with the children at this time, however, to ensure that they listen to the radio program.

Use of the press is also very important. The language most commonly spoken by the local population should be used in this case. During national campaigns, mass media should cooperate in offering maximum coverage of events, but in such a way that the end result is positively educational and not detrimental.

Research

Research work should be a component of health education. Researchers may be required to work in a small area within a defined region, where a specific disease seems to be almost impossible to combat, whereas common measures have succeeded in eliminating the same problem in other areas. Research, therefore, is essential before any planning, but further research may be required on individual problems.