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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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Rural Health Services in Ethiopia

Araya Demissie

The health status of Ethiopians is among the worst within the developing countries. Ethiopia has an infant mortality of 155-200/1000, child mortality of 247/1000, and maternal mortality of 20/1000, which is 20, 50, and 20 times greater than the respective rates within developed countries. Sixty percent of all deaths occur among children less than 5 years of age and mothers and life expectancy is estimated at 43–44 years in comparison with a life expectancy of greater than 70 years in developed countries. Because of the generally unhygienic living conditions of the rural people, who constitute over 80% of the population of the country, and a lack of knowledge and means to take appropriate measures to deal with health problems, Ethiopia harbours a variety of infectious diseases. About 80% of the health problems are caused by communicable diseases, which could be prevented by the implementation of such technically simple measures as improving water sources, providing a safe method of disposing of human wastes, controlling insect vectors, providing vaccinations, and changing the health habits of the people, particularly their personal hygiene.

In such a situation, priority should be given to the control of communicable diseases and nutritional disorders through appropriate measures such as environmental sanitation, vaccination, health and nutrition education, and disease surveillance activities in order to improve the health of the population. This paper will describe the measures being taken to solve the health problems in the rural areas of Ethiopia.

Organization of Rural Health Services

The most important mechanism for the delivery of health services in rural Ethiopia is the basic health service system, which involves a network of health centres and health stations throughout the country. Since 1979, a primary health care unit at the village level has been included in the basic health service network.

Kebele Health Service (Primary Health Care Unit)

This is the smallest unit in the health care delivery system. A kebele has an area of 20 gashas (1 gasha = 40 ha). The minimum number of families living in a kebele is about 80, or approximately 400 people. Much emphasis is placed on this level of service, which is intended to reach the majority of the rural masses. The health service at this level is administered and financed by the farmers’ association. The kebele health worker is recruited by the farmers’ association from among their members according to the ability and desire of the individual candidate to serve the community.

The emphasis of the health service at the kebele level is on environmental and personal hygiene; health and nutrition education; and organizing the community to take action, such as protecting springs and

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digging community wells in order to obtain relatively clean and safe water. Each household is encouraged to dig a pit latrine for excreta disposal and for the disposal of other household wastes.

**Woreda (Subdistrict) Health Service**

The woreda is an administrative subdistrict composed of several kebeles. The health infrastructure at the woreda level is called a "health station" and is more complex than that of the kebele. It is staffed by two health assistants whose training is more intensive and longer in duration than the training of the kebele health worker. The health station provides preventive, promotive, and curative services to the people. Environmental sanitation and health education are the main programs of the health station, as well as providing treatment to sick people. In addition to providing basic health services, the woreda health unit is expected to provide guidance, supervision, and training to kebele health workers.

**Awraja (District) Health Service**

The awraja is the highest level of the basic health service network. The awraja health service unit is called a "health centre." There are about 115 of these in Ethiopia at the present time. They are staffed by at least one health officer, who is also the head of the health centre; two or three community nurses; two sanitarians; at least five health assistants; and other administrative staff.

The main activities of the health centre are: diagnosing and treating patients; epidemic control; maternal and child health services; special programs for tuberculosis and leprosy control; school health services; prison health services; health education to the public; and environmental sanitation, including spring and well protection and pit-latrine construction. In addition to these activities, the health centre has to deal with the administration, coordination of activities, supervision, and training of the woreda and kebele health workers. It also serves as a referral centre.

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**Training Health Personnel for the Rural Health Service**

**Training Community Health Agents**

Community health agents are selected from and by the farmers' association from among their members. The criteria for selection are: (1) ability to read and write and understand the Amharic language; (2) membership and active participation in community affairs; (3) positive attitude toward health activities; and (4) preferably not more than 45 years of age. The training takes place in the nearby health centre (awraja health service unit).

The curriculum for training community health agents is based on an objective analysis of the major health problems and on what can be done at the village level to raise the health standard of the people. In developing the curriculum, the focus was on the role of the community health agents, i.e., creating an awareness within the community and directing, organizing, and mobilizing the community to participate in health activities.

The duration of the training is 3 months, with half of the time being used for classroom instruction and the other half for practical training. The courses include environmental sanitation, control and prevention of major communicable diseases, nutrition, health education, maternal and child care, diagnosis and treatment of minor ailments, first aid, and collection and reporting of health statistics.

The curriculum is carefully designed to assess the knowledge and skill acquired and also to indicate a change in attitude. An attempt has been made to clearly identify the knowledge and skill expected to be acquired in a particular field. At the completion of each subject the student is given oral, written, and practical examinations and at the end of the training program an overall evaluation is made.

**Training Health Assistants (Woreda Health Workers)**

Health assistants are recruited and trained by the Ministry of Health at the central
level. The criteria for selection are: (1) completion of the 8th–9th grade; (2) good academic standing in science subjects; (3) not less than 18 and not more than 30 years of age; and (4) passing of the entrance examination and interviews. The training takes place at the health assistant training centres located in 10 of the 14 provinces. The duration of the course is 1.5 years.

The course includes a variety of subjects such as anatomy and physiology, microbiology, nursing art, diagnosis and treatment of the most common communicable diseases and other minor ailments, maternal and child health care, environmental and personal hygiene, and health education. Theoretical and practical lessons are given in an integrated manner; however, a great proportion of the time is allocated to the practical lessons.

Training Health Centre Staff (Awraja Health Service)

Because of the complex and diverse nature of the functions of a health centre, it is necessary to train different types of health personnel who will work as a team to achieve one goal, that goal being an efficient and economical system of health service delivery to the people. The most important members of the health team in a health centre are the health officer, who is also the team leader; the community nurse; and the sanitarian. These three categories of health personnel are trained in the Public Health College and Training Center located in Gondar administrative region.

To qualify for health officer training, one has to complete the 12th grade of education and pass the Ethiopian school-leaving certificate examination, which is also a requirement for university admission. The duration of the health officer training program is 4 years, the fourth year being an internship period during which students spend their time receiving practical training in the field and in different health institutions.

The curriculum for health officers consists of basic sciences, such as biology, chemistry, and physics; social sciences, such as sociology and psychology; clinical medicine and public health, including environmental sanitation and health education, maternal and child health, and control of communicable diseases; and organization and administration of rural health services.

To qualify for training in the community nursing program, the applicant must have completed a minimum of 10th grade education and must pass the entrance examination and interviews. The duration of the training is 3 years, with the third year being an internship period for practical training and field experience.

The curriculum for a community nurse consists mainly of clinical and public health nursing, including maternal and child health and midwifery for attending a normal delivery. Communicable disease control, nutrition, environmental sanitation, and health education methodology are also taught in some detail. The practical training includes home visits to cases such as pre- and post-natal women; school health practice; practical nutrition, such as demonstrating to mothers how to feed their babies; health education; and environmental sanitation.

The entrance requirements for the sanitarian course are the same as those for a community nurse. The duration of the course is 3 years, with the third year again being used as an internship period to gain practical field experience.

The curriculum for the training of the sanitarian consists of basic and social sciences, including applied mathematics in the first year. The greatest portion of the curriculum, however, is in the field of environmental sanitation, which includes water supply and hydraulics; excreta; sewage disposal; refuse collection and disposal; insect and rodent control; housing, school, public building, and industrial hygiene; and meat, milk, and food control. The sanitarian is also taught about health education. In addition, a course on the "principle of the workshop" (elements of carpentry, masonry, plumbing, etc.) is given to the sanitarian students.
Health Education Activities in Rural Areas

Because no health service is successful or complete without having an educational component, one of the important programs of the rural basic health service network in Ethiopia is health education. As mentioned earlier, all categories of health worker trained for the rural health service are also trained in the methodology of health education. This is following the principle that “every health worker should be a health educator,” so that they can add the dimension of education to the specific duties they are assigned, regardless of whether it is curative or preventive work.

Health Education Activities at the Kebele Level

As specified in the job description, one of the most important functions of the kebele health worker is disseminating health information to the members of the community. The emphasis of health education at this level is on environmental sanitation and personal hygiene. It includes such topics as the importance of having latrines for excreta disposal and their proper use, proper disposal of household wastes (garbage), the eradication of flies and their breeding grounds, the importance of clean water to health, and how to protect springs and wells using available local resources and technology in order to obtain clean water.

In order to make health education more relevant, the kebele health worker uses properly constructed latrines, waste disposal pits, and protected springs for demonstration purposes. Also, the community is organized, from time to time, to carry out sanitation campaigns within the village. During these campaigns, the people within the community clean their villages and protect their water sources from being contaminated by animal and other wastes.

Health Education Activities at the Woreda Level (Health Station)

At this level, health education activities are similar to those at the kebele level, except that they involve larger areas of the community. In addition, the woreda health workers supervise the health education activities of the kebele health workers and give them technical guidance and on-the-job training.

Health Education Activities at the Awraja Level (Health Centre)

At this level, the health education activity is concerned more with the supervision and coordination of the health education programs of the woreda and kebele health services. The health officer and the sanitarian periodically go out to the woreda and kebele health service areas to supervise and provide technical guidance with regard to the health education activities carried out at the village level. The health centre also organizes seminars and refresher courses for the health assistants and the kebele health workers.

Support for Health Education at the Central Level

At the central headquarters of the Ministry of Health, there is a health education unit that is responsible for the planning and coordination of health education activities throughout the country. It is also responsible for the training of health personnel in health education; for the production of visual aids such as posters, pamphlets, and films; and for applied studies and research. The staff of the central unit give expert advice to the health education coordinators at the provincial health departments.

At the central level, there is an audiovisual mobile unit that, when called by the provincial health education coordinator, goes into the field to show health education films relevant to the specific health problems of the area. Visual aids such as posters and models are also distributed from the central unit to all of the rural health centres, health stations, and the kebele health units.