

HEALTH SERVICES IN ETHIOPIA

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To participate in the medical development of a young country is one of the most exciting things a doctor can do in this second half of the twentieth century. Ethiopia is such a country. Though old historically, with legends dating back to the Queen of Sheba, Ethiopia is young technologically. Its modern birth came with the coronation of Emperor Haile Selassie I in 1930, and in the intervening 36 years the country has swallowed centuries under his leadership.

An Orthodox Christian stronghold in the Moslem Horn of East Africa, Ethiopia maintained its identity and independence over the centuries because it was so physically inaccessible. The heart of the country consists of an 8,000-foot plateau interrupted by 13,000-foot mountains and cut by deep gorges. To the east it drops precipitously down to the Danakil Desert, part of which is actually below sea level and among the hottest areas on earth. To the southwest it slopes gently down into lush tropical verdure characteristic of central Africa. Scattered within this geological and geographical variety are about 22 million people whose faces, ranging from Nilotic to Cushitic to Semitic, seem to reflect the variety of their surroundings. To provide modern health services for these people is a challenge.

TRADITIONAL MEDICINE

Though the development of modern health services dates only to the accession of Haile Selassie, Ethiopia has not been without

traditional health services. The best sources for information on these are the early European travelers to Ethiopia whose accounts have been collected by Richard Pankhurst, Director of the Institute for Ethiopian Studies in Addis Ababa.¹ Most of the travelers noted the inseparable relationship of traditional medicine and the Church, a relationship which persists to this day. One of the most famous priests in present-day Ethiopia, for instance, is a man whose specialty is exorcising Zar spirits from depressed or agitated sufferers afflicted with them. His walls are adorned with bottles full of roundworms, tapeworms, etc., that he cast out along with the Zar spirits. Traditional medicine emphasized disease as being connected with the supernatural; indeed, nowhere in the world has medicine yet lost this connection completely.

Epidemics were handled with surprising insight by traditional medicine. Records exist of trade caravans being turned back and cities being closed to control a raging cholera epidemic in 1866. Smallpox was handled by burning the afflicted household, often including its inhabitants, to prevent the spread of the disease. Inoculations against smallpox are recorded early in the nineteenth century using a method of variolation. Bleeding and cupping were widely practiced, especially for headaches and rheumatism. Thermal water was also in wide use. Counterirritation, the practice of burning the body surface with a hot iron over the point of internal pain or infection, enjoyed great popularity. One traveler said that "one could often tell a man's medical history from the site and number of his scars."²

The traditional Ethiopian pharmacopoeia was extensive, and included leaves, flowers, seeds, bark, sap, roots, honey, butter and sheep's fat. Bone-setting was performed commonly and with considerable skill. This was often the first medical skill that the traditional practitioner mastered. Other forms of surgery were occasionally practiced, especially amputations and uvulectomies. The latter was done for diarrhea or slow growth in a small child. Nor are the traveler's accounts devoid of more dramatic proofs of the Ethiopians' skill in surgery, as this description of a man who operated on himself will attest:³

He first filled a wooden bowl with butter, which he covered with a bladder, like a very fine net, of a cow recently killed. Then, sitting down on the ground, he opened the lower stomach with a razor, took out his intestines and placed them in the net, which was still hot, cleaning them, and placing them carefully back in their proper place. He then sewed up the wound, and lying down on his back, took as little food as possible till the wound was healed, and a complete cure effected.

Many of these traditional forms of medicine are still commonly practiced in rural Ethiopia. It is the exception rather than the rule to escape childhood with an intact uvula or without the scars of counterirritation, and much more old butter than chloroquine is used to treat malaria. The implications of these persisting beliefs and practices will be discussed later.

EVOLUTION OF MODERN HEALTH SERVICES

Growing up alongside these practices, beginning at the turn of the century, have been modern forms of medicine. In 1909, the Russian Red Cross built Ethiopia's first hospital in Addis Ababa. Slowly others came into existence over the next 25 years, so that in 1936, when the Italians invaded, the country could count 11 hospitals, two leprosaria, and a serological institute for the production of vaccine.

The Italo-Ethiopian War brought only an overburdening of the existing health facilities. Communicable diseases spread rapidly as whole populations were moved around. The five-year occupation by the Italians following the war was the only period in its history when Ethiopia has been under the control of a foreign power. Even today one can see in Ethiopia that colonialism was a two-edged sword; schools, roads and hospitals built by the Italians are still in use everywhere, along with the fierce pride in being independent that was carved by the other side of the blade. Because the colonialization was brief, however, less mistrust of foreign governments is found in Ethiopia than in many other African countries.

Following liberation in 1941, health services were slowly reor-

ganized. Hospitals and clinics were added gradually, and in 1946, a Public Health Laboratory and Research Institute was opened. The following year a new Public Health Proclamation established the legal basis for a modern health program, which was transferred from the Ministry of the Interior to the newly created Ministry of Public Health.

The next major step in the development of health services came in 1954, with the opening of the Gondar Public Health College and Training Center. Assistance in this project was provided by World Health Organization, UNICEF, and United States AID. The college was designed to train health officers, community nurses and sanitarians to staff the provincial health centers. This fit in with a newly emerging emphasis on generalized, decentralized health services, moving both health services and decision-making out of the few large cities into the provinces. Finally, the most recent major development in health services came in September, 1965, when the Faculty of Medicine of Haile Selassie I University in Addis Ababa opened its doors.

One likes to think of development as an orderly, sequential process, turning the pages of change one by one. In fact, however, the development of health services in a country like Ethiopia is fragmented in time. Centuries exist side by side, comfortably at times, uncomfortably at other times. The incongruities that emerge from this necessarily fragmented development are among the most inspiring and amusing aspects of working in a developing country.

I once entered a very remote part of the Blue Nile Gorge in western Ethiopia to do a medical survey on a tribe who had never seen a doctor. The first patient was an old man, dying of pneumonia. Realizing that my reputation and the success of the survey hinged on his recovery, I filled him full of the best antibiotics that modern medicine could offer. The following day quietly and respectfully, the local healing woman brought a variety of local herbs and roots and fed them to the patient. On the third day the village elders held a ceremony to assure his return to health; it consisted of hand-washing, a ritual over a cup filled with coffee beans, passing a sheep from back to front over his head and having him kiss the tail, and finally

putting a chicken on his head to see which way it would fly off. If it flew forward it was auspicious for a return to health, and in that direction it was subtly encouraged. The man of course got well, but when the elders were asked what had made him well—the antibiotics, herbs, or the ceremony—they looked blank. *Everything* had made him well.⁴

Current Health Services

About 300 doctors practice in Ethiopia at the present time, of whom ten per cent are Ethiopian. Most of the remainder come from India, Eastern and Western Europe and North America. Thus the development of health services is truly an international effort, a fact that provides the strength of perspective as well as the weakness of misunderstanding. In the Ministry of Public Health offices in Addis Ababa, about 15 nationalities work side by side.

Different countries tend to assume different tasks, usually by formal arrangement. The British have been instrumental in establishing the medical school. Americans have partially supported the Gondar Public Health College since its inception, and are now concluding a four-year research study on the value of health centers and of decentralized health services. The responsibility for staffing the main hospital in some of the 14 provincial capitals has been assumed by the Dutch, Swedes, Germans, Czechs, Yugoslavs and Americans. The Peace Corps has become deeply involved in dresser training. Sweden built and has staffed the Pediatric Hospital and adjoining Nutritional Research Unit. The French ran the Imperial Central Laboratory for many years. Certain disease programs are divided along similar lines, e.g., the Americans have been associated with malaria, the British with leprosy, the World Health Organization with tuberculosis, and so on.

Though all major decisions regarding health are still made in Addis Ababa, an effort has been made to decentralize health services and decisions to the capitals of the 14 provinces. Traditionally, in most African countries, the government has been responsible for urban medical services while missions tended to take responsibility for rural medical services. This dichotomy is breaking down, but

still exists to a large degree. Therefore, in some of Ethiopia's provinces a mission hospital doubles as the central government hospital for that province. The record-keeping and financing of such an operation, as might be surmised, can be rather complex.

Ethiopia now has 76 hospitals, 61 health centers, three leprosaria and 481 clinics. In addition to the 300 doctors, these facilities are staffed by 119 health officers, 514 nurses, 109 community nurses, 100 sanitarians and 2,800 dressers. The ratio of doctors to population is about 1:70,000, one of the lowest in the world. Such figures are somewhat misleading, however, as the United States is finding out. The number of doctors, health officers, etc., is important, but equally as important is how efficiently they are being used. The theoretical framework of the Ethiopian idea of generalized, decentralized health services is among the best public health programs in Africa, and should lead to existent personnel being used efficiently. In fact, however, personnel are still in such short supply that the demand for therapeutic services overwhelms them and they do not have time to implement the public health program.

No group of people have ever been without some kind of medical services. And where trained personnel are in short supply, others will jump in to fill the vacuum. Thus, in rural Ethiopia, a variety of people practice medicine, from those named above to pharmacists to untrained dressers to local "wogeshas" who pass their secrets down from father to son. The quality of medicine they practice is occasionally inspired, often humorous and frequently tragic; I once witnessed a pharmacist give a penicillin injection *through* the pants.

Current Health Problems

Current health problems in Ethiopia range as wide as the geography and climate might suggest. Trauma is always a major problem in developing countries, and agriculturally inclined Ethiopia is no exception. Besides the usual range of fractures and knife wounds, however, one may see in certain areas a boy mauled by a lion, a man gored by a water buffalo or a woman with a crocodile bite.

Communicable diseases account for the vast majority of illnesses

and deaths in Ethiopia. The average life-span is still too short to make noncommunicable diseases like cancer or arteriosclerosis much of a problem. A major reason communicable diseases are still so prevalent is the contamination of virtually all surface water supplies and lack of sanitation facilities. Even when these facilities do exist they are often misused out of ignorance. People who do not know about germs and disease transmission are not concerned with wells and latrines. Even the capital city of almost half a million people has no sewerage system, though plans have now been made for one. Those who have the means put in cesspools or latrines; the others defecate in vacant fields. Probably the most efficient sanitation corps in the country is in the town of Harar, where each night large numbers of hyenas roam the streets and pick them clean. In the very small rural villages it is not unusual to find no latrine at all. This, of course, leads to contamination of the surface water supplies.

Wells are used as sources of water in most areas, but are not infrequently contaminated by the bucket system used to get water from them. Very few of them are covered. Even in Addis Ababa and some of the larger towns with reservoirs and a piped water supply contamination may occur through leaks in the pipes, most of which were installed by the Italians 30 years ago. Education clearly will do much to improve the health of the country, and since the end of the Italian occupation the Ethiopian government has made great strides in improving the educational system. Teachers are probably as important to the development of health in Ethiopia as are doctors. This will be discussed below, but first a brief discussion of some of the important disease conditions is in order.

Malaria is the biggest cause of mortality in the country. Approximately half of the population are exposed to it. In one epidemic alone in 1958, more than 150,000 people are estimated to have died. *Falciparum* is the predominant infection, and the peak season is late in the year following the rains. Its economic impact on this agricultural country is enormous, with many fertile valleys lying fallow because of it. A massive eradication program began in 1955, with help from the World Health Organization and the United

States AID. It is still too early to judge its success, but it can be anticipated that the mobile mosquito will continue to effectively navigate the rugged terrain for many years to come.

Tuberculosis is to morbidity in Ethiopia as malaria is to mortality. Already it is known to occur in massive proportions, with one surveyed factory turning up an active infection rate of ten per cent. Since urbanization and industrialization are just beginning, the problem will get much bigger before it gets smaller. The main attempts at control to date have been setting aside 480 hospital beds, BCG mass campaigns, and the creation of a Tuberculosis Demonstration and Training Center in Addis Ababa.

The prevalence of *schistosomiasis* seems to vary widely, though all fresh water lakes in the country are probably infected. Certain localities have reported 70 to 80 per cent of school children passing ova in the stools. The infection is nearly always *S. mansoni*, with *S. hematobium* encountered only rarely. One of the many unknowns about this disease is the low incidence of clinical symptoms in spite of the high incidence of infection. Much work remains to be done on it, and some of it is taking place in Addis Ababa. It is especially exciting, because it is among the first pieces of clinical research to take place in Ethiopia by Ethiopians.

Other infectious diseases. *Trachoma* is a major health problem in Ethiopia, with only token control programs begun to date. A survey of primary school children in 1959 revealed over half the children infected in some towns. *Rabies* is endemic, with about 20 deaths a year reported. Control of stray dogs is limited to intermittently reducing their number, but they continue to roam even the capital in large groups at night. *Leprosy* is limited to pockets of infection, though within these pockets up to 15 per cent of the children may have early signs of the disease. *Venereal diseases* are endemic, and will increase as urbanization takes place. The only unusual feature is the apparent absence of tertiary manifestations of syphilis and a very low incidence of congenital syphilis despite the prevalence of its earlier stages. *Hepatitis* and *tetanus* are often seen, the former causing much liver failure and the latter causing many deaths in the newborns. *Amebic* and *bacillary dysentery* are

very prevalent, as are *hookworm*, *roundworm* and *tapeworm*. *Filariasis* and *onchocerciasis* are only found in isolated areas. The triad of *typhus*, *typhoid* and *relapsing fever* are all found, though nobody knows the true incidence because they are usually recorded as malaria. Lack of laboratory facilities and long outpatient lines often preclude definitive diagnoses in diseases such as these. *Dengue*, *smallpox* and *yellow fever* are found only during occasional small epidemics, and *cholera*, *yaws* and *trypanosomiasis* are apparently not found at all.

Mental illness. Since Ethiopia has only four psychiatrists in the whole country, none of them Ethiopian, the incidence of mental illness is unknown. Psychotics, who are believed to be possessed by spirits, are cared for in the villages by the people unless they become destructive. When that happens they are usually handed over to the police for incarceration. The one mental hospital has 200 beds, and a general hospital has another 40. Psychotherapy, of course, takes place at all levels, as it does in every society in the world. The priests are the main therapists in Ethiopia, as was mentioned above, and the chief "causes" of mental illness are Zar spirits. Lesser levels of malfunctioning are common, reflecting the rapid transition the society is undergoing.

Local Health Beliefs and Health Education

As mentioned above, traditional forms of medicine are still widely practiced in Ethiopia. They simply represent the application of the vast lore of local health beliefs found in the country. These beliefs grow up as attempts to explain the unknown; when the belief becomes strong enough, man acts on it as if it were true.

Many local health beliefs are harmless. For instance, the belief that exposure of a pregnant woman to the mid-day sun may cause abortions will only lead to keeping women indoors at noon. Or the belief that spider urine causes skin diseases will only lead to avoiding being urinated on by spiders.

On the other hand, many local health beliefs are definitely harmful. Every medical practitioner in Ethiopia has seen the consequences of uvulectomies, gum cutting and pulling out of the back teeth for

infant diarrhea. The belief that sunlight is harmful for small babies is the main cause of the high incidence of rickets, estimated to be clinically present in one-third of children at one year of age. Applying dirty butter to the umbilical cord of newborns is a frequent cause of tetanus neonatorum, usually fatal. And the belief that the best cure for syphilis is to have as many sexual contacts as possible (so as to weaken the disease) has consequences that are obviously adverse to venereal disease control. Beliefs in local remedies often produce a fatal delay in correct care; many patients are brought to the hospital with advanced malaria after having been treated at home with old butter for three or four days. Finally, beliefs in evil spirits as the cause of disease can lead to a certain fatalism that makes active public health measures difficult to institute; all that can be done is to appease the spirits. It can also lead to inhumane treatment of mental illness. This is certainly not confined to Ethiopia; not many years ago witches were being burned in Salem.⁵

Since local health beliefs grow up as attempts to explain the unknown, the number and intensity of these beliefs can be expected to decrease as education is more widely disseminated. Change comes slowly, however. Human beings are loath to give up a false belief without a struggle, and one can often observe this struggle in Ethiopian students. It is a multistaged change, taking place in several phases as the student comes into contact with the "truth" several times. For instance, the belief that gonorrhoea is contracted through urinating while facing the moon is one of the most widely held beliefs in Ethiopia. Students will talk about bacteria rather easily, and write on their examinations that bacteria are the cause of gonorrhoea. But when it comes to actually urinating in the moonlight, much fiercer resistance is encountered. Even in a group of primary school directors, a relatively sophisticated group who would all answer on an examination that gonorrhoea was caused by bacteria, one-third of them admitted that they would not urinate in the moonlight under any circumstances.

The answer, of course, is health education, starting early and integrated into the curriculum. Multiple exposure over a period of time can and will change beliefs in a meaningful way.

TOWARD THE FUTURE

The future control of health problems and the development of health services in Ethiopia should closely follow the development of the educational system. The symbol of failure to do this in the past is the large cement latrine donated by a foreign government standing unused out of ignorance. It is a symbol commonly seen, though it may take such varied forms as a covered well with pump or a shiny new obstetrical unit. Services and facilities which are either not used or misused are no longer services except on paper. Health education must accompany the evolution of health services, and should be given the highest priority.

Lack of funds will continue to slow the upgrading of health in Ethiopia as it will in other developing countries. As long as the realities of keeping the country's borders intact on an unstable African continent demand that the majority of revenues be diverted toward defense, little will remain to develop health services. Help could come from wealthier countries, but with United States foreign aid presently sinking to new lows, this is not likely to be any more significant than it is at the present. Manpower shortages will also continue to be a major problem, and the deficiencies will have to be filled by foreign personnel for many years to come. The opening of its own medical school is a large step toward offsetting this.

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