Village Polyclinics in Middle Java

By WARREN A. KETTERER, M.D., M.P.H.

THE PUBLIC HEALTH DIVISION of the Mutual Security Agency mission to Indonesia was requested in January 1952 to assign a medical officer for a 2-week period to two rural polyclinics in the Pati Peninsula on the Island of Java. The core of the peninsula is Mount Moerio, some 40 miles northeast of Semarang, and around the mountain is a fertile plain some 15 miles wide. During the war, dikes were destroyed and mosquito breeding increased greatly, causing a serious rise in the malaria incidence. This area between the mountain and the sea is densely populated.

The clinics are on opposite sides of the mountain, one in Margaredjo on the northeast side and the other in Kajuapu on the southwest side. Operated by the Mennonite Mission in Indonesia, which has had a medical relief unit in the area since 1902, the two polyclinics are located in Mennonite-owned schoolhouses. The staff, which lives at Pati, consists of a French physician, a German nurse, four Americans, including the administrator and the laboratory technician, and Javanese helpers. The latter act as interpreters, maintain records, dispense medicines, and dress wounds. No laboratory facilities are available at the Margaredjo clinic; the Kajuapu clinic has equipment for minimal laboratory procedures. The Margaredjo clinic operates 2 days a week, with an average daily attendance of 150 patients; the Kajuapu clinic, 3 days a week, with an average daily attendance of 90 patients.

The writer's assignment to these clinics, from January 4 through 19, 1952, provided an opportunity to study the disease entities of an Indonesian rural population and to observe the problems involved in providing preventive and therapeutic services.

Dr. Ketterer, a commissioned officer of the Public Health Service, is deputy chief of the public health division of the Technical Cooperation Administration Mission (formerly the Special Technical and Economic Mission, Mutual Security Agency) to Indonesia. He has been with the mission since June 1951.

Analysis of Cases

A total of 1,029 patients, including 883 new patients, were seen during the 11-day visit. Sixty-one percent of the new patients were male, 39 percent female; 16.8 percent were under 9 years of age, 56.4 percent between 10 and 40 years, and 26.8 percent more than 40 years of age.

Only superficial examinations of the patients were possible because of the large number of patients and because of the language difficulty. A brief case history and a statement of the present complaint was obtained from each patient through an interpreter, translating through three languages. Consequently, minor diseases and complaints may have been overlooked if not indicated in the history. Even some major diseases may have been overlooked since many patients had more than one major disease. For example, one patient who had tuberculosis, scabies, malaria, trachoma, and tinea complained only of sudden severe diarrhea. Although laboratory facilities were minimal, laboratory confirmation was obtainable for tuberculosis, malaria, and gonorrhea.

An inventory of the major complaints of the 883 new patients (table 1) and of the major diagnoses for these patients (table 2) indicates

that malaria, yaws, and tropical ulcers and their accompanying symptoms are responsible for 54 percent of the illness in this population group.

Primary or secondary nutritional deficiencies were present in almost 100 percent of the patients. The complaints of aching bones and joints were attributed to secondary nutritional deficiencies resulting from diseases such as malaria and tuberculosis. The cases presented in table 2 represent those in which beriberi or other avitaminosis was the major diagnosis.

Since malaria is endemic in the area, all cases of fever and chills were diagnosed as malaria unless another diagnosis was proved. Diagnoses of malaria were frequently confirmed by microscopic examination of both thick and thin smears. Because of the apparent high incidence of malaria in Margaredjo, 39 school children were examined for palpable spleens; of these 29, or 74 percent, had splenomegaly. Spleen index confirmation for malaria is usually reliable in Indonesia, since leishmaniasis and schistosomiasis are not prevalent.

Ulcers were the presenting complaint of the greatest number of patients. The differential diagnosis of tropical ulcer as distinguished from gummas of yaws and syphilis was difficult. Multiplicity of lesions, presence of "patek" (frambesioma), history of trauma, and presence or absence of other signs and symptoms were used for diagnosis. Many patients with tropical ulcers gave histories of abrasions from bamboo, knife wounds, chengkol (hoe)

Table 1. Major complaints of 883 new patients

Complaint	Kajuapu		Margaredjo		Total	
	Number	Percent	Number	Percent	Number	Percent
Dermatologic						
Ulcer	85	13. 2	156	25. 6	241	19. 3
"Bubul" (crab yaws)	33	5. 1	12	2. 0	45	3. 6
"Patek" (frambesioma)	21	3. 3	10	1. 6	31	2. 5
Pyoderma	14	2. 2	25	4. 1	39	3. 1
Itching patches	18	2. 8	16	2. 6	34	2. 7
Skin eruption	16	2. 5	19	3. 1	35	2. 8
Systemic						
Aching bones and joints	65	10. 1	64	10. 5	129	10. 3
Fever	50	7. 9	63	10. 3	113	9. 0
Chills	32	5. 0	35	5. 7	67	5. 4
Cough	47	7. 3	53	8. 7	100	8. 0
Headache	14	2. 2	7	1. 1	21	1. 7
Ear, eye, nose, and throat; respiratory						
Eye inflammation	30	4. 7	16	2. 6	46	3. 7
Blindness, deafness	10	1. 6	4	. 7	14	1. 1
Dyspnea	13	2. 0	10	1. 6	23	1. 8
Earache and/or discharge	11	1. 7	8	1. 3	19	1. 5
Genitourinary						
Genital lesion	14	2. 2	2	. 3	16	1. 3
Dysuria	13	2. 0	2	. 3	15	1. 2
Genital discharge	12	1. 9	3	. 5	15	1. 2
"Woman's disease"	8	1. 2	1	. 2	9	. 7
Other						
Diarrhea	9	1. 4	12	2. 0	21	1. 7
Absess	9	1. 4	10	1. 6	19	1. 5
Bone deformities	11	1. 7	0	0	11	. 9
Painful feet	14	2. 2	6	1. 0	20	1. 6
Miscellaneous	93	14. 5	75	12. 3	168	13. 4
Total	642		609		1, 251	

lacerations of feet and toes, burns, shrapnel wounds, and bites from leeches and boars.

The penicillin provided by the Indonesian Ministry of Health was used sparingly and in minimal recommended doses. However, the response to penicillin therapy was unusually dramatic. Huge facial swellings from long-standing purulent otitis media and mastoiditis disappeared overnight. Three days after receiving 300,000 units of penicillin aluminum monostearate followed by warm soaks, a patient with a vast granulating infection of the entire hand and forearm returned with all but a few isolated areas healed. Several persons with double and triple infections of differing etiology responsive to penicillin were successfully treated with one injection of 300,000 units of the drug.

Yaws was prevalent, especially in the Margaredjo area, and was diagnosed on the basis of signs and symptoms in 205 of the 883 patients, although blood tests were not available. Several cases of severe late yaws were observed in addition to the all-too-prevalent crab yaws and larger destructive gummas.

The most common eye disease found among these patients was trachoma, which was seen in all stages.

Acute venereal diseases were more prevalent in Kajuapu than in Margaredjo, a venereal disease being the major diagnosis for 11 percent and 2 percent of the patients, respectively. The proximity of Kajuapu to a military camp may explain this difference. The converse was observed in the geographic incidence of tropical ulcer and *falciparum* malaria.

Scabies, avitaminosis, and tuberculosis, diseases common to both clinics, were comparable in incidence. Cases of tuberculosis, however, were undoubtedly undertabulated because only those patients presenting obvious symptoms or whose sputum was positive on direct examination were included. Since no laboratory was available at Margaredjo, Kajuapu showed a

Table 2. Major diagnoses for 883 new patients

Diagnosis	Kajuapu		Margaredjo		Total	
	Number cases	Percent of 428 patients	Number cases	Percent of 455 patients	Number cases	Percent of 883 patients
Malaria	47	11.0	94	20.7	141	16.0
Tropical ulcer	(20)	(4.7)	(110)	(24.2)	(130)	(14.7)
Nontraumatic	5	1.2	64	14.1	69	7.8
Traumatic	15	3.5	46	10.1	61	6.9
Yaws, all types	137	32.0	68	14.9	205	23.2
Tuberculosis	41	9.6	30	6.6	71	8.0
Trachoma	25	5.8	12	2.6	37	4.2
Avitaminosis [1]	31	7.2	36	7.9	67	7.6
Scabies	34	7.9	35	7.7	69	7.8
Dysentery	8	1.9	12	2.6	20	2.3
Syphilis, all types	11	2.6	5	1.1	16	1.8
Gonorrhea	28	6.5	4	.9	32	3.6
Lymphogranuloma venereum	5	1.2	0	0	5	.6
Chancroid	4	.9	0	0	4	.5
Granuloma inguinale	1	.2	0	0	1	.1
Tinea	11	2.6	17	3.7	28	3.2
Impetigo	5	1.2	14	3.1	19	2.2
Otitis media, mastoiditis	9	2.1	8	1.8	17	1.9
Pneumonia	5	1.2	4	.9	9	1.0
Heart disease	6	1.4	7	1.5	13	1.5
Leprosy	1	.2	0	0	1	.1
Other	101		60		161	
Total	530		516		1,046	

[1] As a single diagnosis.

much larger number of positive tuberculosis cases.

These statistics indicate the importance of regional surveys prior to undertaking preventive measures to control these diseases, particularly in a country where personnel and supplies are scarce.

Needs and Objectives

The poverty and disease existing among the population of this rich agricultural area of the Pati peninsula appear representative of much of rural Java. Despite the seeming agricultural prosperity of the peninsula, nutritional deficiencies are almost universal. Superimposed upon poverty and malnutrition are diseases induced by poor housing, lack of sanitation, overcrowding, and lack of education. Families are unable to work because of debility and sickness; thus they are caught in the vicious cycle of illness and poverty.

The need and desire for and appreciation of medical care were demonstrated by the distances the patients traveled, usually on foot, to reach the clinics; 48 percent of the 883 new patients came 4 or more miles over muddy and rough terrain. Occasionally patients travel for 8 or 10 hours by horse cart, arriving the night before they attend the clinic. Sometimes regular trips are arranged for groups who share expenses. Although no specific records of the percentage of patients making return visits to the clinic were kept, approximately half of the patients who had been requested to return did so.

For the most part, the nearly 1,000 practicing physicians in Indonesia are engaged in curative rather than preventive health activities. They object to the competition of foreign-staffed dispensaries. Therefore, increased preventive programs in public health appear to be the most practicable for reducing the suffering of the masses of the rural population.

About 90 percent of the Indonesian Ministry of Health budget of 500 million rupiah (less than $1 per capita per year) is devoted to curative medical care and administration. Hence, technical assistance will be needed for the preventive programs. Outside assistance in the form of commodities and personnel would significantly improve, perhaps double or triple,

At the request of the Government of Indonesia, the United States, through its Technical Cooperation Administration Mission to Indonesia, is assisting the country in numerous health activities: disease control, professional education, and the rehabilitation of health centers, hospitals, clinics, and research and teaching institutions. Shown here are a maternal and child health clinic in Djakarta, Java (above) and preparations for giving injections in the treatment of yaws (below).

present preventive efforts against some of the major diseases.

The diseases which can be prevented most effectively deserve first attention. In a country having perhaps 30 million cases of malaria and 12 million cases of yaws, supplies, equipment, and technicians could bolster existing malaria and yaws campaigns by increasing area coverage and assisting in training local subprofessional personnel to carry on activities.

Tuberculosis presents one of the most difficult and threatening public health problems. Currently, there appears to be an overemphasis on leprosy—a far less menacing disease than tuberculosis—and an underemphasis on tuberculosis. A reversal of attention to these diseases would seem desirable. Practical isolation facilities and BCG inoculation might be feasible, but mass fluoroscopy and X-ray are not indicated until minimal isolation can be provided for the great numbers of persons with active tuberculosis who are now spreading the disease.

Basically, additional education facilities for the Indonesian rural population, which should provide health education as well as other types, are essential. For those unable to obtain formal schooling, health education devices such as the nutritional posters currently used by the Ministry of Health, showing nutritious yet inexpensive foods should be expanded. Medical, nursing, and public health training for Indonesians should be accelerated through the loan of foreign professors to Indonesian institutions and through the advance training of Indonesians elsewhere.

The prevention of diseases that increase poverty and reduce the ability of labor to produce food in the fertile and densely populated Pati peninsula appears to be a necessary objective of the Indonesian Government, both from the standpoint of economic gain and from the standpoint of strengthening the Government's relations with the people. The World Health Organization, the United Nations International Children's Emergency Fund, and other international organizations as well as the Technical Cooperation Administration are rendering effective assistance to the Indonesian Government in the implementation of its program.

Veterans' Syphilis Records

Syphilis registers for veterans of the United States Army and of the United States Air Force were transferred from the dermatology and syphilology section of the Veterans Administration to the Department of the Army on April 13, 1953. The Department of Medicine and Surgery of the Veterans Administration has announced the closing of the activities of the syphilis follow-up study unit. Public health agencies need no longer return VA Forms 10–2550 to the Veterans Administration.

Health departments, clinics, physicians, and others wishing information concerning these records should direct inquiries to: Military Personnel Records Center, The Adjutant General's Office, Department of the Army, 4300 Goodfellow Boulevard, Building 203, St. Louis 20, Mo.

Inquiries concerning syphilis records for Navy and Marine Corps veterans should be directed to: Department of the Navy, Bureau of Medicine and Surgery, Physical Qualifications and Medical Records Division, Code 33, Washington 25, D. C.

Inquiries about the syphilis records of former members of the United States Coast Guard should be sent to: The Commandant, United States Coast Guard, Attention Chief Medical Officer, Washington 25, D. C.