CONTROL OF LEPROSY IN COLOMBIA

by

J. Ignacio Chala H., M.D.

Director of the Federico Lleras Acosta Institute;
Professor of Dermatology in the School of Medicine of Bogota

The methods used in the control of leprosy in Colombia are based on the generally accepted belief that leprosy is an infectious disease transmitted from the infected to the healthy person. Experience has shown that direct contact and, in some instances, indirect contact, between patients in the infectious stage of the disease and healthy persons is of the greatest importance in the spread of the disease. Inheritance, if of any influence, is of secondary importance.

The Department of Labor, Health and Social Welfare of Colombia has formulated the following rules for the prevention of leprosy:

1. Isolation of all open cases either in leprosaria, at home, or in special wards in government hospitals.

2. Treatment and supervision, without isolation, of all closed cases either by physicians in the dispensaries or by employees of the National Health Department.

3. Protection and care of healthy children of leprosy patients.

4. Free treatment with chaulmoogra oil for all leprosy patients and compulsory notification of the disease.

5. Education and dissemination of information regarding the prevention of leprosy.

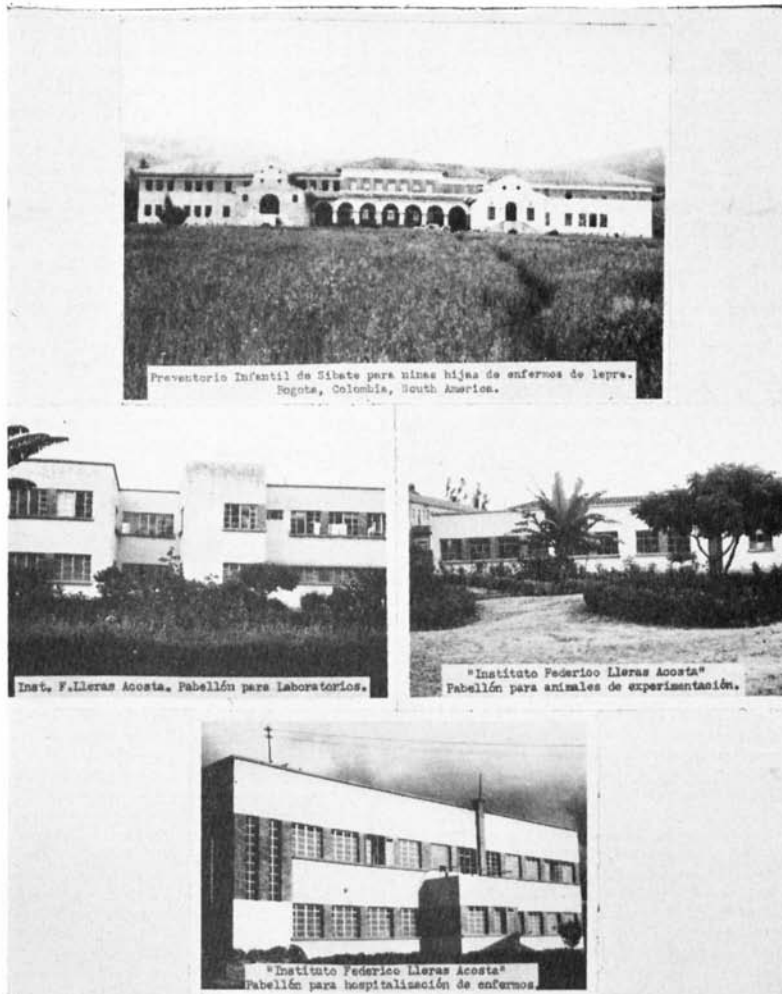
6. Support and stimulation of research carried on by the Federico Lleras Acosta Institute; teaching of leprology to students of medicine and to personnel employed in the control program.

ISOLATION OF OPEN CASES IN LEPROSARIA OR AT HOME

Leprosaria: There are 3 leprosaria in Columbia: Agua de Dios, Contratación, and Caño de Loro.

Agua de Dios, the largest leprosarium, founded in 1870, is located in the basin of the Magdalena river 161 kilometers (100 miles) from Bogota. It is about 450 meters (1350 feet) above sea level. The climate is dry with an average temperature between 28° and 35° C. (82° to 95° F.) and with a range in temperature from 25° to 37° C. The Leprosarium accommodates 4,484 patients and about 5,000 healthy persons.

The colony has many houses, mostly with straw roofs, some



Preventorio Infantil de Sibate para ninas hijas de enfermos de lepra.
Bogota, Colombia, South America.

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with metal roofs. A large proportion of the population, both patients and others, have no occupation. A few are employed in bar ber, carpenter, and tailor shops and in other commercial and agricultural activities found in the ordinary community. A special coin has been used in trade for many years.

There are 4 hospitals, 2 asylums for sick children, and a clinic "Carrasquilla" where medical service, a diagnostic laboratory, and physiotherapy are available. There are 8 physicians employed in the colony, including an eye, ear, nose and throat specialist and a dentist.

The institution is headed by a medical director, who is directly responsible to the Department of Health. The budget is supervised jointly by the Department of Labor, Health and Social Welfare and the "Contraloria General de la Republica." In addition to the medical personnel, lay members of the staff have administrative duties. Patients are not generally permitted to leave the leprosarium, and violations of isolation rules are punished by imprisonment. Under certain conditions they may leave the leprosarium temporarily. Arrangements are made for families and friends to visit the patients.

Contratación, founded in 1835, is located in the Province of Santander del Sur, in the northwest of the republic, 320 kilometers (200 miles) from Bogota. It is 1600 meters (4800 feet) above sea level. The average temperature is 22° C. (68° F.). This colony accommodates 2,296 patients and about 4,000 well persons.

There are 2 hospitals, 2 asylums for children, and a small diagnostic laboratory. The organization is similar to that of the Agua de Dios Colony, with a medical director, 3 physicians, and necessary administrative personnel.

Caño de Loro, the oldest leprosarium in Colombia, was founded in 1791. It is located on an island in the Caribbean Sea near Cartagena Bay and has an average temperature of 28° C. (80° F.). It accommodates 506 patients and 200 healthy persons. At the time of the foundation of this colony, all patients in the San Lazaro Hospital in Cartagena were transferred to the new leprosarium by order of the Viceroy Ezpeleta. The first cases of leprosy in Colombia appeared in the sixteenth century in Cartagena and spread slowly to other regions along the trade routes.

The leprosaria in Colombia, as organized at present, do not provide adequate prophylactic service. In spite of the law against it, there are 11,730 healthy persons, adults and children, living in the colonies in intimate contact with the leprosy patients. There

are 2,530 children in the asylums—an obvious result of the deficiencies in organization. Patients escape frequently, and there are many marriages and births.

The support of these colonies, plus the cost of isolation of the new patients, is a heavy burden on the national treasury. Even so, they do not satisfy the aims of the Health Department. The Director of Health is desirous of completely reorganizing these centers, making them true preventive centers utilizing all available knowledge. The government is ready to take extraordinary economic measures to assist.

Cases isolated at home: At the present time there are 189 open cases isolated at home under supervision of the Health Department. These patients must have sufficient income for their care and must obey the rules for their care. Isolation at home is allowed only when the patient is not dangerous to the public health and when supervision by the Health Department is possible.

TREATMENT AND SUPERVISION OF THE CLOSED CASES OF LEPROSY

The National Government, recognizing that the compulsory isolation of all patients with leprosy in leprosaria, regardless of the type and stage of the disease, as had been done in the past, was a failure from the preventive standpoint and an expensive burden on the treasury, adopted a new anti-leprosy program. This was outlined in Law 32 in 1932. It changed the former law and provided for isolation only of open cases. It provided for treatment and supervision of closed and arrested cases in leprosy dispensaries.

These dispensaries were organized in 1934 and are the center of activities against the endemic disease. The work carried on includes clinical and bacteriological examinations of all patients and suspects, treatment of patients with leprosy in the non-infectious stage and of arrested cases, periodic examination and supervision of healthy contacts, selection of cases to be isolated in leprosaria or to be treated in dispensaries, epidemiological study of the disease and the census of leprosy patients with emphasis on early diagnosis as the basis for epidemiological control.

The personnel of the dispensary instruct the public in hygienic measures for prevention of leprosy, see that the laws are carried out and teach preventive measures in the public and private schools.

There are now 11 dispensaries in the country. Under their control are 707 closed cases of leprosy, 978 non-infective cases paroled from leprosaria and 189 open cases isolated at home. The epidemiologists (physicians) employed in the dispensaries travel constantly throughout the provinces.

PROTECTION OF HEALTHY OFFSPRING OF LEPROSY PATIENTS

This is the major problem in the leprosaria. The majority of the healthy children born within the leprosaria or brought there by their parents live in intimate contact with their infected parents. The government is aware of this problem, with all its scientific, social, and economic implications. There are at present 2,530 healthy children who should be removed from the leprosaria as soon as possible. Institutions for their care, while provided for by law, are still too few. There are now 4 asylums run by religious sisters which care for 1,134 boys and girls. The government provides food, education, and vocational training for these children who remain in the asylum until they are 18 years of age.

Leprosy in children is quite frequent in Colombia. There are now 143 child patients in the leprosarium. According to a study made by Dr. R. F. Parra between 1920 and 1934, there were 726 children admitted to Agua de Dios as patients. Of these, 593 had relatives with the disease. Some of these children were born in the leprosaria, some left the leprosaria but returned as patients, while others developed the disease after entering with their infected parents. Among the children sent to the special asylums from the leprosarium, very few develop leprosy. The Asilo de Guadalupe, founded in 1910, has cared for 534 girls of whom only 7 have developed leprosy. Of 439 boys cared for in the Asilo San Bernardo, 2 have developed the disease; and among 75 in the Preventorio de Sibate, 3 have become ill. The government is anxious to have the children removed from the leprosaria. It is planned to enlarge the nurseries, open new asylums, and make clinical and bacteriological examinations compulsory for all children of school age.

The Preventoria Infantil de Sibate, built by a group of women, under the leadership of Mme. Elvira Lleras Restrepo, is located at Sibate about 32 kilometers (20 miles) from the capital. It cares for healthy children of leprous parentage. At present, 74 girls are lodged there. The building has well-equipped pavilions and has recently been enlarged.

TREATMENT

Aside from isolation of infective cases of leprosy, treatment has been most important in the control of the disease. At present 1368 cases are under treatment at the leprosaria and 707 at the dispensaries. This number has decreased in the last few years because the patients have become pessimistic about their cure.

The principal medication used is chaulmoogra oil (from *Taraktogenous* and *Hydnocarpus* species), purified and mixed with olive

oil and benzocaine. The ethyl esters of the iodized fatty acids of chaulmoogra oil are also used. These are prepared in the National Institute of Hygiene. About 54 per cent of patients improve under treatment, of whom about half become arrested, 34 per cent remain stationary, and 12 per cent become worse. The success of this form of treatment depends upon the individual attention shown the patient by the physician, the treatment of intercurrent disease, tolerance of the drug, dietetic and general hygienic regime, innate resistance, and accessory treatment by medicine, surgery, and physiotherapy. Success also depends on the type of case selected. In general, experience shows that lepromatous cases have become worse. Chaulmoogra oil is better for these cases, but the esters are tolerated best by the neural cases. Carpotreno oil *(Carpotroche brasiliensis)* extracted from the Sapucainha plant has also been used, but not extensively enough to pass judgment on its value. At present, a new anti-leprous serum prepared by the Federico Lleras Acosta Institute is being tried. Promin and some other drugs have also been used.

At present, nothing can be said about definite cures. There has been, however, in early cases, a favorable modification of clinical and bacteriological signs, easily noticeable, which has permitted them to be classed as arrested cases. Such patients are not isolated but are kept under supervision of the Health authorities. Chaulmoogra oil and its derivatives as the principal form of treatment are still a useful therapeutic agent in treatment of leprosy but cannot be considered a specific cure for the disease.

In Colombia a patient is released as arrested only after he has had four successive negative clinical and bacteriological examinations by the medical staff at 3 month intervals. Before release he gives bail, guaranteeing that he will submit himself for examination every 6 months, either to the dispensary or to an official Health Department physician. If he fails to do this, his bail is forfeited, and he is forced to return to the leprosarium. The arrested case must continue treatment. If relapse occurs, the patient may return to the leprosarium or be isolated at home. There have been 978 arrested cases, of whom 757 (77.5 per cent) have relapsed.

EDUCATION

The health laws make the teaching of hygienic rules for avoiding infection and principal facts about leprosy compulsory in all public and private schools. The dispensaries also teach the public general health measures and specific rules for prevention of leprosy. The former National Department of Health has published a

Cartilla de Lepra (a short work on leprosy) written by outstanding specialists.

FEDERICO LLERAS ACOSTA INSTITUTE

The program of this institution, as well as its aim, is directed toward the solution of the scientific problems related to leprosy. The program may be summarized as follows:

(a) Coordination and planning of research on leprosy by physicians at the dispensaries and asylums.

(b) Study of epidemiology, serology, pathology, and therapy of leprosy.

(c) Study and verification of research done in other countries.

(d) Experiments relating to modern treatment of the disease.

(e) Technical training of personnel employed in the control program.

The Institute acts in an advisory capacity on problems relating to leprosy to the Department of Labor, Health and Social Welfare. The present law provides that all physicians in leprosaria, dispensaries and offices of inspection (visitadurias) shall collaborate with the Institute. In addition to the laboratories, there are a pavilion for hospitalization of patients and a dermatological office. Students of medicine receive their training in dermatology and leprosy in the Institute.

STATISTICAL DATA

The Republic of Colombia, with a population of 8,701,816 according to the census of 1938, has 8,412 known cases of leprosy according to the last reports, distributed as follows: 7,286 living in the leprosaria; 189 isolated at home; 707 not infective, under supervision of the dispensaries and other health offices, and 230 infective cases scattered throughout the country not under supervision. Included in this total are 52 foreigners from various countries, most of whom are isolated. The prevalence rate for the country is 0.97 cases per 1,000 persons. The annual average number of births in leprosaria is 174; of marriage, both parties being patients, 31; of marriages, one healthy and the other a patient, 3; of marriages, both healthy, 9. The annual average number of deaths in leprosaria is 487, the main causes being in order of frequency: leprous cachexia, 40.5 per cent; nephritis, 12.0 per cent; pulmonary tuberculosis, 5.7 per cent; leprous enteritis, 4.7 per cent; pneumonia, 4.6 per cent; septicemia, 2.7 per cent; uremia, 2.1 per cent, etc. All the patients in the leprosaria are not infective. If the estimates of Browning (quoted by Rogers and Muir) be accepted, there should

be about 30,000 leprous persons in the Republic; in making such a computation, however, it must be kept in mind that isolation in Colombia has been compulsory for 50 years, and so the majority of cases are isolated in the leprosaria.

Colombia has endemic zones in her territory. The provinces of South and North Santander, Boyacá and Cundinamarca are the more highly infected; the morbidity rate varies widely in the country from 3.90 per 1,000 in South Santander, 2.86 per 1.000 in Boyacá, 1.16 in Cundinamarca, to 0.20 per 1,000 in the remainder of the Republic. Lepromatous leprosy is the predominant form, comprising about 90 per cent of the whole. There are more males than females infected and more single persons than married. Clinical histories show that 4,786 patients state that they have had relatives with the disease. A large proportion of patients are from rural areas.

Since the beginning of her existence as an independent nation, Colombia has been fighting this scourge, brought in by the Europeans and Negro slaves. Evidences of interest are the laws relating to leprosy and the large expenditures in the budget. But there is general dissatisfaction with the results and a constant desire to improve preventive and therapeutic methods. In the last ten years, expenditures for the control of leprosy, including upkeep of the leprosaria and social aid for the patients, have been 21, 355, 184.31 pesos. The government pays 60 centavos daily for food for every isolated patient. The health authorities are not completely satisfied with the present program and plan completely to reorganize the methods of control as well as the leprosaria.