

Leprosy in Peru^{*}

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Introduction

The appalling earthquake in the Huaraz area to the north of Lima in 1970 brought Peru into the headlines and stimulated massive financial aid from many countries of the world—not least from Great Britain, which raised over a quarter of a million pounds. Following this disaster, many individuals in voluntary and other agencies came to see medical and social problems in Peru for the first time, and when the emergency settled down it was therefore hardly surprising that various requests should be made for help in the public health field. By a curious chain of circumstances involving an internationally famous entertainer, an ophthalmologist, and a Peruvian army general, the British Leprosy Relief Association (LEPRA) was approached with a view to finding someone to go to Peru and assess the leprosy situation in the country.

The author was given this task, and the present paper describes impressions gained during a 4000-mile tour of the main areas and centres of leprosy work.

Background Information

Peru has a population of approximately 13 million, and a total area of 1,280,219 km²; after Brazil and Argentina, it is the third largest country in South America. The government is a military dictatorship, with the army in control of all aspects of life in Peru, but with civilian advisers at many levels. The budget of the Ministry of Health appears to be adequate to maintain services, without however allowing of much expansion and development. The physical geography of Peru is indeed extraordinary, and has an important effect on medical services. The country may be roughly divided into a long arid, rainless strip along the Pacific coast on the west; this merges into the Andes, running more or less the length of Peru, which in turn merge into the vast jungle area to their east and north-east, stretching to the Brazilian and Columbian borders. The contrast in climate, altitude, people, living conditions, and vegetation in these areas is almost beyond description.

It is difficult to identify the racial origins of the Peruvians; to a visitor, most of the people one meets appear to be of mixed blood and describe themselves as “mestizo”. In addition it is usually stated that there are around 46% of “pure Indian stock”, and these are Indian tribes living in the mountains and jungles,

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some of them not yet fully contacted by outsiders, and with hundreds of different sub-groups and languages. Their origin seems open to dispute; the word "Indian" is of course a misnomer. Perhaps around 1% of the total population is of Chinese, Japanese, or pure European origin. There are 2 or 3 main "Indian" dialects but the national language is Spanish, and English has very little use.

Objectives of the Visit

The opportunity of sending someone to Peru was of particular interest to LEPRA, since in September 1970 a decision had been taken to extend its activities and aid to the international field, funds having been previously allocated only to projects within British Commonwealth areas. The fact that Peru had asked for help was thought to be important, and it was considered worth while to send someone to report on the practical possibilities of helping with leprosy control in a Spanish-speaking country, under a dictatorship, and at a considerable distance from London. OXFAM in England and the World Health Organization (WHO) in Geneva were able to supply information and contacts which proved of great value, and as events turned out the whole visit was greatly helped by the widespread interest and co-operation received in Peru itself.

Prevalence

The following sources need to be considered: (a) The WHO Guide to Leprosy Control (1966) gives the registered number of cases of leprosy as 2808 (0.24 per 1000) and the estimated number as 7000 (0.61 per 1000), based on a total population of 11,511,000; (b) however, more recent information from WHO states that at 31 December, 1968, a careful examination of the relevant clinical histories revealed an "active list of patients" of only 1347. Based on a population of 12,520,917 this would give a prevalence of 0.11 per 1000; (c) a report entitled "Information about Leprosy" by Neyra Ramirez, Chief of the Peruvian National Programmes against tuberculosis, leprosy and smallpox (Ministry of Health, Lima, July 1970) gives an *accumulated* total, starting from the year 1900, this figure being 3432.

Clearly many of these sufferers must now be dead, and others completely lost sight of. In others again the disease must surely be clinically and bacteriologically inactive and no longer in need of drug treatment or supervision. On this present visit it was not possible to get definite figures for the percentage of active/inactive cases, but Dr Neyra's belief is that approximately 2400 of the above 3432 are still "on the books", attending clinics and receiving treatment with dapsone.

Various other publications indicate a prevalence of significant cases of somewhere between 2000 and 3000. It is the present author's impression that about 3000 is a reasonable figure for known cases, and that the WHO estimate of a further 4000 still to be found (giving an estimated prevalence of about 7000) is supported by findings at the present time.

Incidence

Consecutive figures were not available, but in the year 1966, 98 new cases were notified in Peru, and figures for subsequent years have been of the same order

Lepromatous Rate

From the 98 cases in 1966, 25 were classed as lepromatous, i.e. 25.6%. However, the classification of the others raises some doubt as to the terminology used; 28 (28.6%) were classed as tuberculoid, 43 (43.9%) as undifferentiated, 1 as "dimorphous" and 1 as unclassified.

Distribution of Leprosy by Areas

For all practical purposes, leprosy in Peru occurs only in the Departments of Loreto (a vast area in the north-east quarter), San Martin and Amazonas (adjoining Loreto on its western border and in the north central part of Peru), and in Apurimac (that is, towards the southern third of the country). To say categorically that it does not occur in the numerous other departments is of course open to the usual arguments that a thorough search has not been made, that medical workers are not aware of the disease, etc., but in fact these arguments apply equally well to areas where leprosy continues to occur. The coastal strip is virtually free; cases diagnosed in Lima have almost invariably come from the interior. The population of Lima is now about 2 million, but on this visit no evidence was forthcoming for a case actually arising in Lima. The mountain range has very few of the notified cases, and the tropical, watery Department of Loreto is undoubtedly the most important source of leprosy in Peru; taken together with the adjoining departments of Amazonas and San Martin, it can be said that over 90% of all cases come from this region. It is the opinion of Dr Neyra Ramirez in the Ministry of Health that leprosy in the endemic areas mentioned above is still in a state of "increase and expansion"; that in the mountains the disease is tending towards self-limitation; and that in the coastal strip cases occur only in persons from other regions. The undoubted focus of leprosy towards the south, in the Department of Apurimac, is difficult to explain. The registers give about 130 cases for the whole Department at the present time, but there is some evidence to suggest that there were many more in recent years.

The Leprosaria of Peru

At one time there were three leprosaria in the country, but two are now officially closed and only one remains in use.

(a) *Guia Leprosarium, Lima*. This leprosarium in the city area continues to receive patients and is the only one remaining open for new admissions. Built originally for cases of plague, the general appearance and facilities have fallen below expected standards, and in the very near future it is planned to close it and receive patients at one of the general hospitals in the area.

(b) *Huambo Leprosarium*, in the Department of Apurimac, was closed about 5 years ago, and all patients are now treated as out-patients.

(c) *San Pablo Leprosarium* is in the extreme north-east corner of the country, where the Amazon enters Brazil, and is quite near the border. Though it is now officially closed and no longer available for the admission of patients, there are in fact about 400 patients still in residence who are cared for jointly by Ministry of Health staff and mission sisters. San Pablo was founded in 1933, and by 1955 had about 780 patients; it was closed for admissions from 1967, and the

present policy of the Ministry is to treat all leprosy patients as out-patients from the outset, and to treat complications in general hospitals.

In 1968, Dr Masayoshi Itoh visited San Pablo and his report (AMRO-0504/D) for WHO) describes the extent of disability among the patients he examined. He found over 87% of them had disability of Grade III and to be in need of surgical treatment and/or intensive physical rehabilitation. Since then it may well be that matters have deteriorated; it is the present author's impression that several hundred people are in need of an almost massive programme of mental and physical rehabilitation if anything worth while is to be achieved.

Ministry of Health Policy on Leprosy Control

In the Peruvian Ministry of Health, measures against tuberculosis, leprosy and smallpox are combined under one programme and under one doctor. Since 1967 it has been medical policy to treat all leprosy patients, wherever possible, as out-patients from the outset, and to use clinics, jungle dispensaries, local and general hospitals and all medical staff for the diagnosis and treatment of this disease. Very full and practical details have been circulated from the Ministry in a well-thought-out handbook entitled *Normas y procedimientos para los programas de control de tuberculosis y lepra*, which gives detailed instruction for the diagnosis, notification, treatment and prevention of leprosy in the field. In every department of Peru there is a doctor who is appointed by the Ministry of Health in Lima to be responsible for campaigns against tuberculosis, leprosy and smallpox, and there is usually at least one senior medical assistant (auxiliary) with administrative, if not clinical, experience in these fields to assist him. It appears to be a matter of chance rather than design if these departmental doctors have had experience in, or are interested in, leprosy. Many of them commented that mountains, rivers, rains and bad roads made out-patient leprosy control a theoretical possibility in Lima, but an impossibility in their own areas. The original diagnosis may be made by medical assistants (auxiliaries) in remote areas, and they are all trained in the performance of the histamine skin test and in the taking of skin (not nasal) smears, which are dispatched to the local departmental hospital, or to Lima, for examination.

Treatment and Prevention

Dapsone is the Ministry of Health standard drug, in a dosage of 100 mg weekly for adults, appropriately less for children. "Reactors" to dapsone, using the term very generally, are changed to Thiambutosine (CIBA, 1906) for a maximum of about 18 months. Thalidomide is used with a frequency characteristic of South America, mainly for lepromatous reactions. Warnings about the teratogenic hazards have been issued from Lima, and from now on it is likely that thalidomide will be kept by and issued from the Ministry only. Chemoprophylaxis for selected contacts at risk is also official policy, in a dose of 100 mg weekly for adults, and 50 mg weekly for children—but only in areas where supervision at a hospital or by an experienced medical assistant is possible. BCG inoculation has been practised for many years in Peru, using a syringe, not the Heaf gun, and on a wide, virtually indiscriminate scale without prior tuberculin testing. This campaign has been greatly advanced by WHO through the Organización Panamericana de Salud, which has supplied materials and organized teams for

smallpox vaccination in most parts of Peru. The Ministry of Health has wisely taken the opportunity to perform BCG inoculation on the other arm, and in some departments it is thought that a very high degree of population coverage has been attained. Taking the whole country over, however, the present figure for those vaccinated with BCG is probably about 50%.

Tuberculosis in Peru

The Ministry figures indicate a prevalence of 1.5% (i.e., 15 per 1000), and both in Lima and elsewhere all doctors interviewed were unanimous that tuberculosis presents a larger problem than leprosy at the present time. No figures were obtained for prevalence. A control programme is integrated, as noted above, with leprosy and smallpox; X-ray facilities are available in most areas, but the chief method of diagnosis and assessment of tuberculosis is direct sputum examination. The general impression gained was that in Peru this disease is better understood and diagnosed than leprosy, and that within the budget and personnel allowed, campaigns are proceeding reasonably well.

Conclusions

Though numerically not a large one, Peru has a continuing and significant leprosy problem. At senior levels in the Ministry of Health there is a great deal of enthusiasm and expertise; and a commendable programme of leprosy control, following principles laid down by WHO, has been drawn up and widely circulated throughout the country. Particular emphasis has been given to the out-patient diagnosis and treatment of leprosy and to its acceptance and handling by general medical services at all levels. This policy began in 1967 after many years of work based on remote leproseries, and the change may well account for the fact that today the leprosy service in Peru finds itself very short of experienced personnel at "leprosy control officer" or "senior medical assistant" grade to supervise field work over such difficult terrain.

It was therefore decided to advise LEPROA that while giving serious attention to the plight of 400 patients with "burnt-out" leprosy in San Pablo Leprosarium and also to the provision of certain basic items of equipment and transport, the most important priority was the training of suitable Peruvian nationals for leprosy control work in the field. This is now being followed up, with the possibility of sending candidates for training to Mexico or some other South American centre. Both in the short-term and long-term it would seem that the provision of training in leprosy work is by far the best contribution LEPROA can make towards the problem in Peru.

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