

## LEPROSY IN SOUTHERN RHODESIA

Southern Rhodesia is separated from Northern Rhodesia by the Zambesi and from the South African Union to the south by the Limpopo River. To the east lies Portuguese East Africa, and to the west Bechuanaland. Its area is one and a half million square miles and the population in 1936 was 1,212,769 of which 55,395 were Europeans, 2,239 Asiatics and 3,135 coloured. It is a self-governing colony since 1923.

The time available for my visit—from July 14th to 24th, 1939—was unfortunately very short, and any views I express are limited by lack of knowledge of local conditions.

In Nyasaland and Northern Rhodesia anti-leprosy work is done chiefly by missionary organisations in small settlements subsidised by Government grants; in Southern Rhodesia this work is conducted in two comparatively large Government settlements and one small mission settlement.

The Report for 1938 gives the following figures:—

Settlement.	On register beginning of 1938.				On register at end 1938.
	Admitted.	Discharged.	Died.		
Ngomahuru	458	120	50*	41	490
Mtemwa	284	155	102	9	377
Mnene	40	9	3	2	46

MTEMWA. (Mtoko District).

This settlement lies in the north-east of the country, not far from the Portuguese frontier and on the road from Nyasaland to S. Rhodesia.

I had an opportunity of paying a visit on July 14th, 1939, in company with Dr. Martin, the Medical Director, and Dr. Barnet, the medical officer in charge, and inspecting a number of the patients. Time was not available for examining all the patients and classifying them, but I received a complete classification later from Dr. Barnet. The following points appear to be particularly noteworthy :—

1. The large proportion of lepromatous cases (55%). In this respect the findings are similar to those found recently in Nyasaland which is not far distant. There were 90 cases with tuberculoid lesions.

\* See note on discharges from Ngomahuru in 1938 on p.34.

2. The comparatively mild type of the lepromatous cases, and the absence of lepra reaction. There were only 33 (0.8%) disabled and deformed cases.

3. The uncommonness of trophic ulcers, and the comparatively mild type of those ulcers found.

4. The dirtiness of the patients' skins, and the frequency of scabies, tinea and septic infections.

5. The large number of patients with enlarged spleens.

In my Report on Nigeria (Leprosy Review, October, 1936), the following requirements for the site of a leper settlement are mentioned, and these requirements have been generally approved in Nigeria and elsewhere:—

" (a) Four or five hundred acres of good arable land with suitable soil, preferably in elevated undulating country—not excessively hot.

(b) Not on a main road but within two or three miles of a main road. Communication with all parts of the province should be as easy as possible; and yet the settlement should be far enough away from main towns and lines of communication to render isolation easy in a well-disciplined settlement.

(c) Good water supply both for domestic use and for cultivation.

(d) Healthy site, or one capable of being rendered healthy, with special reference to malaria, sleeping sickness, etc. It is also important that the settlement should be situated inside the most highly endemic area."

It is advisable that the site of the Mtemwa Settlement be examined in the light of these requirements, especially as regards water supply and the prevalence of malaria. The chance of improvement or recovery of the patients is very much prejudiced by the prevalence of skin diseases due to dirt, and I was informed that the want of water is largely responsible for this condition. Also the prevalence of malaria is bound to counteract any benefit that may be derived from treatment. I understand that the question of transferring the settlement to a more suitable site is being considered on the grounds of health, water supply and accessibility. I have not had time to form a personal opinion, but I certainly consider that there is need for careful investigation of the question.

#### NGOMAHURU

Ngomahuru is about 15 miles from Fort Victoria and not far from the famous Zimbabwe Ruins. I spent about four days there and had an opportunity of examining 436 of the patients, discussing them with Dr. Moiser, the Superintendent, and classifying them into five groups. 1. Severe open cases ( $L_2$  and  $L_3$ ); 2. Slight open cases; 3. Those with definite tuberculoid lesions; 4. Those with flat and residual lesions; 5. Those without active signs. Each group

was subdivided into those with and those without deformities and disablement, and the whole was subdivided into men, women, boys and girls :

Group.	Men.	Women.	Boys.	Girls.	Totals.
1. Deformed ...	4	4	0	3	11)
Undeformed ...	64	22	10	0	96) 107
2. Deformed ...	3	7	0	0	10)
Undeformed ...	70	23	3	0	96) 106
3. Deformed ...	14	13	1	0	28)
Undeformed ...	51	22	4	0	77) 105
4. Deformed ...	0	1	0	0	1)
Undeformed ...	5	1	0	0	6) 7
5. Deformed ...	28	14	0	0	42)
Undeformed ...	57	8	4	0	69) 111
	—	—	—	—	—
Totals ...	296	115	22	3	436

The fifth group was composed of those who had, and those who had not, been formerly open cases; I recommended the cautious use of potassium iodide in several of those of the former who were in robust health, with a view to discovering bacillary foci which might otherwise be missed. This group was unusually large, as several arrested cases had not been discharged owing to the absence of the Medical Superintendent on leave.

Of those with active lesions, only 50 (15 per cent) had deformities and disablement. The last group, without active signs, contains a much larger proportion of these, as it is partly composed of cases which have sought admission only when the disease had already begun to cause crippling.

The number of cases with tuberculoid lesions is large, nearly a quarter of the whole.

There were comparatively few cases with trophic ulcers, and these were, on the whole, of a mild type. Though the proportion of lepromatous cases was large, very few of them were of the severe type which ends by causing bone destruction.

I saw no case of "lepra reaction," and I understand from Dr. Moiser that this condition is uncommon.

On the whole, the form of leprosy found at this settlement is of a mild type, as is shown by:—

1. The mild type of lepromatous cases;
2. the few deformed and disabled cases, and the fewness and mildness of trophic ulcers;
3. the small proportion of child lepers, an acknowledged sign of low virulence of leprosy;
4. the large number of definite tuberculoid cases.

The European Staff of the Settlement consists of a Medical Superintendent, a steward, and a T o c H Worker supplied by B.E.L.R.A. The African staff includes a clerk and three medical orderlies, and much of the work of the settlement, such as tailoring, building and horticulture is done by the patients.

The patients are housed in square huts built of bricks and thatch by the patients themselves at a cost of about seven shillings each. They are divided into six villages in which the patients are arranged as follows :—

1. Single males belonging to S. Rhodesia who are not severe open cases, about 150 in number.
2. Similar patients who have migrated to S. Rhodesia, chiefly for the purpose of labour, about 90 in number.
- 3 and 4. Married quarters for similar patients, also including young girls, some 90 in number.
5. Males and females who are severe open cases, some 50 or 60 in number.
6. Quiescent cases awaiting further examination before discharge.

I understand from the Superintendent that it is found impossible entirely to prevent intermixing of the sexes, and that some 4 to 6 illegitimate births take place each year.

*Urgent Requirements.* I was very much impressed with the need for a *trained European nurse* who would act as matron. Few first class leper settlements in other British territories are without a matron. Among her duties would be to control the women patients, to train male and female nurses from among the most suitable patients, and to establish and superintend a creche.

Another urgent need is for *skin sanitation*. There is little doubt that leprosy is spread by scratching of the skin, and that the presence of tinea, scabies and septic skin disorders helps to disseminate leprosy. They also lower the patients' health and retard or prevent recovery. A large proportion of the patients in the settlement are suffering from these conditions. Shower baths and a supply of soap are urgently necessary, and the patients should be supplied with oil for inunction, to prevent cracking and abrasion of the skin.

Microscopic and other special examinations are at present carried on under considerable handicap in the treatment room. A small, but well-equipped, *laboratory* is urgently required, with a suitable annex for stool-examinations. The Kahn, sedimentation and other tests, if introduced, would considerably enhance the efficiency of the work. The laboratory work is under the T o c H worker: it would be valuable if he could have a short period of training at a Government laboratory. He should also have an orderly to help him in his laboratory work.

*Special Treatment.* The special treatment consists of injections of an expensive proprietary preparation of hydnocarpus oil. The report of the Cairo International Congress makes the following statement: "No proprietary preparation of hydnocarpus oil or esters, or any other proprietary preparation at present on the market is more effective than the pure oil and esters prepared in institutions." (*Leprosy Review*, October 1938.)

I would suggest, therefore, that much money could be saved with no loss of efficiency if the oil were used. In examining the patients I found that a large proportion of them showed hard lumps in the muscles which had been injected. To prevent this, I would suggest (a) using heated hydnocarpus oil with 4 per cent creosote; (b) dividing the dose so that not more than 1 c.c. is injected at any one point; (c) injecting slowly.

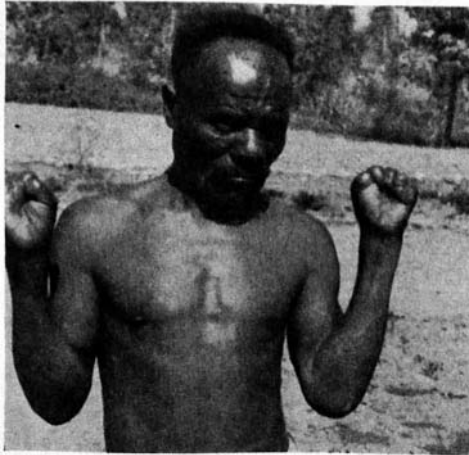


FIG. 5.

NGOMAHURU: fine physique in spite of crippled hands.

I would suggest the use of intradermal injections in cases with tuberculoid lesions, and that trichloroacetic acid be painted on carefully in such cases by trained workers.

*Occupational Treatment:* The physical development of a large proportion of the patients is excellent, and most of them are kept fully occupied with agriculture, horticulture and general work about the colony. Games such as football are very popular. The settlement is one of the best run Government leprosy institutions I have visited in Africa, and the results obtained, as far as I could judge by my examination of the patients, compare very favourably with those of other first class settlements.

The climate is particularly suitable for the treatment of leprosy

as it is dry and never excessively hot, and there is a constant cool breeze, but no excessive or unpleasant winds.

The following is a table of admissions and discharges of patients from 1929 to 1938, during which period 1,452 patients were treated :

	No. on list	Admitted	Re-admitted for further treatment	Re-admitted for economic reasons	Discharged	Died	Deserted
1929	224	49	—	—	—	9	5
1930		108	4	—	98	12	3
1931		139	9	—	34	22	7
1932		172	9	4	98	21	3
1933		127	7	—	24	30	1
1934		139	12	—	78	23	2
1935		116	14	3	114	37	2
1936		79	6	3	159	32	6
1937		179	—	2	129	25	5
1938		120	8	1	50*	41	5
Total		1,228	69	13	784	252	39
			4.7%	0.9%	53.9%	17.3%	2%

#### GENERAL COMMENTS

*British Leprosarium.* A number of European patients suffering from leprosy have been treated with marked success at Ngomahuru, and a suggestion has been made that a leprosarium for British patients should be instituted. A certain number of Britons working in endemic countries are liable to contract leprosy. Many of these have been treated in England with discouraging results, as the climate is unsuitable, especially in winter, and the ostracism connected with the disease causes mental depression. At Ngomahuru patients may lead an active and care-free outdoor life, in an ideal climate and under expert medical supervision. I understand that the Medical Department and Government look upon this suggestion with favour, and a proposal has been put forward to build some suitable houses which may be rented to patients. It is hoped that it will be possible to overcome any difficulties that there may be in obtaining travelling facilities or in entering the country.

*Surveys.* With the aid of funds supplied by B.E.L.R.A. a leprosy survey was carried out by Dr. Moiser in 1932. The two provinces of Gatu and Chibi were surveyed; 9,698 people were examined in the former and 9 lepers (0.92 per thousand)

\* The small number discharged in 1938 was due to the absence on leave of the Medical Superintendent.

found; in the latter 6,814 were examined and 57 cases (8.3 per thousand) found. At this rate it may be suggested that there are six or seven thousand lepers in S. Rhodesia, at least 2,000 of whom are open cases requiring segregation. This is only a rough surmise, and I consider it important that surveys in other provinces be carried out.

Leprosy is seldom found among purely nomadic tribes, nor is it common among those who have settled in large well-organised communities or townships. It is in the semi-nomadic period between these two stages that it is commonest, when tribal discipline is disintegrating and nothing has as yet taken its place. The natives of Southern Rhodesia and the surrounding countries are still in this period of flux, and the demand for labour in the mines and other industries has the effect of rendering semi-nomadic those who would otherwise have settled down on the soil in a more tribally organised condition. I consider it therefore only just to the native that definite and serious steps should be taken to counter a danger that is rendered more acute by modern labour demand. The best methods of doing this could be ascertained by including investigation of this subject in the leprosy survey.

*Treatment at Clinics and Training of Doctors.* While severe open cases are unsuitable for treatment at clinics, a large proportion of neural cases, especially those with tuberculoid lesions, could with advantage be treated at the general clinics throughout the country with every hope of recovery. Few doctors are familiar with the practical points connected with the diagnosis, type-differentiation and treatment of leprosy; and I would suggest that here, as in India and other countries, all doctors in Government employ should receive a short course of training from an expert in leprosy. The simpler non-infectious cases could then be treated at general clinics, the more severe and contagious cases being sent to one or other of the leper settlements. In this way, at very little extra cost, large numbers of cases might be treated and the treatment popularised.

*Specialised Staff.* In visiting the British territories of Africa one is particularly struck with the semi-nomadism not only of the native, but also of the Government Medical Officer, and the frequency with which he is changed from one station to another. This is no doubt contingent on the exigencies of the Service. For obvious reasons specialists form an exception to this rule. Leprosy is a complicated disease the treatment and control of which can be effectively undertaken only by specialists. It is

partly on this account that, in the absence of Government specialists, leprosy has been chiefly dealt with by Christian missions, which, with their settled staff, are able to give continuity and effective service.

The Ngomahuru Settlement forms an exception to this rule. Here we have a Government Leprosy Specialist who, on retiring after his full term of medical service in Africa, has given ten years to studying, relieving and controlling leprosy.

He has turned a wilderness into a beautiful garden, and shown how lepers can be attracted and effectively treated without compulsion. The table on page 34 shows in ten years 53.9 per cent of patients discharged as disease arrested, and only 4.7 per cent re-admitted with relapse; under the voluntary system it is unlikely there are many more relapsed who have not sought re-admission.

I consider it very necessary that there should be a third doctor engaged in leprosy work in connection with the two Government Leprosy Settlements. He could take charge at these settlements while the medical officers are on leave, and at other times he could carry out surveys, train doctors in leprosy and initiate treatment of leprosy at suitable general clinics. The staff should also be increased at Mtemwa Settlement by the appointment of a European similar to the Toc H worker at Ngomahuru. B.E.L.R.A. would be willing to find a suitable man, though I am unable to say if they are in a position to pay his salary. I have already referred to the need of a European matron at Ngomahuru.

The additions that I have suggested above are only the most obvious and urgent. Ngomahuru is at present not the economic proposition that it might be. It may be compared to a twenty horse-power engine which is only doing ten horse-power of work. If the suggestions made above are carried out—additional doctor, survey, training of doctors in charge of clinics, treatment of mild leprosy at clinics and forwarding of serious cases to the settlement—then it could work at full strength and deal effectively with a larger “turn-over” of patients.

These comments on Ngomahuru apply also to Mtemwa Settlement. This institution has suffered from what has so far proved an unsuitable site, and from frequent changes of medical staff. There certainly is room for two first-class leprosy settlements in the country; and, given Government support, it should not be difficult to establish a second effective settlement on the lines of Ngomahuru.