

SESSION I. CLINICAL ASPECTS

Chairman: **D L LEIKER (THE NETHERLANDS)**

On the epidemiology of leprosy in Malta

D L LEIKER

*Royal Tropical Institute, 63 Mauritskade, 1092 AD Amsterdam,
The Netherlands*

The Malta Project was not primarily set up as a trial of the combination of rifampicin–Isoprodian, but as a leprosy eradication project. Therefore the question that should be raised is whether or not Malta is a suitable area for demonstrating eradication of the disease by mass-chemotherapy. In order to answer this question epidemiological data are required, in particular about the trend of the disease prior to the introduction of MDT. Unfortunately, data based on population surveys are not available. However, it was possible to recover all notifications of leprosy to the Ministry of Health since 1900. Notifications do not necessarily reflect the incidence of the disease. In Malta, being a relatively small and close community where few patients escape notice when the disease becomes more advanced, it is believed that, although the notifications do not give a complete picture of the incidence of the disease, they give valid information on the trend of the disease. After screening of the records for duplication a clear and consistent pattern emerged.

The curve of notifications shows two peaks, corresponding with the opening of a male hospital in 1900 and the opening of a female ward in 1911. The number of notifications between 1915 and 1965 remained rather steady; after 1965 the number of notifications decreased significantly. Sulphone therapy was introduced in Malta in 1955.

At first glance the number of notifications suggest that the decrease started only about 10 years after the introduction of chemotherapy. However, if the numbers are related to the population figures a different picture emerges.

The number of notifications per 10,000 population (based on census figures) have already shown a steady decrease since 1900, long before chemotherapy was introduced and there is no evidence of a marked additional effect of chemotherapy.

In the first decades of the century there is no marked shift in the average age of notification towards higher age groups. In the last 20 years there is a shift towards

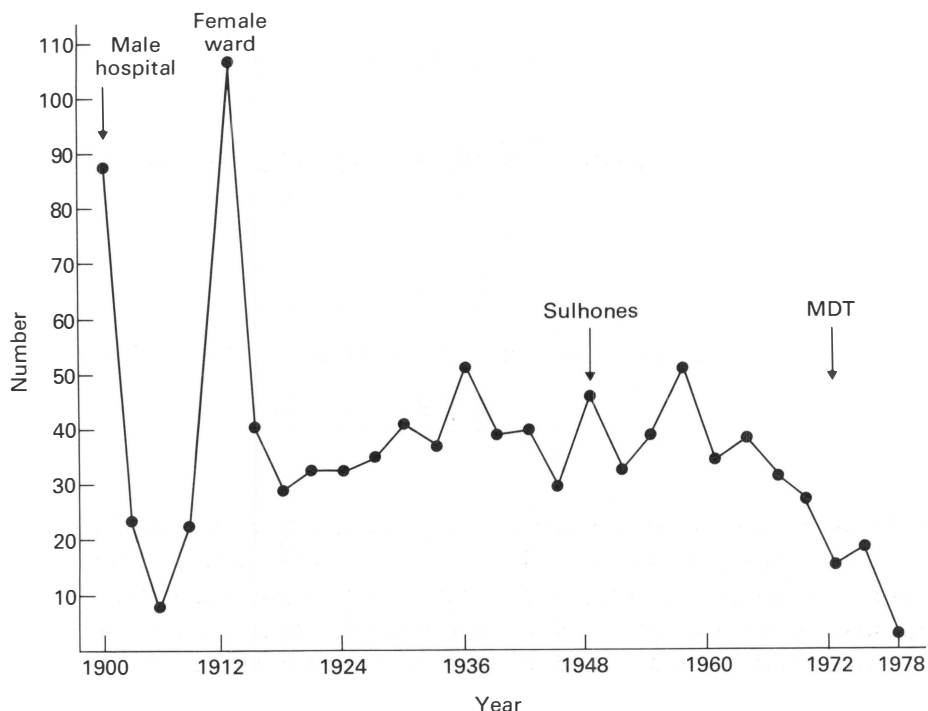


Figure 1. Notifications of leprosy to the Ministry of Health.

a higher average age, which is in support of a decrease in transmission of the disease.

In a proportion of the patients notified in the last decades it was possible to identify the most probable type of contact with a source of infection.

Table 2 shows that in two-thirds of the patients a contact in the family could be identified. The age of onset of the disease in patients with family contact is, on average, significantly lower than that of patients without family contact. The average age of onset of patients with a mother suffering from leprosy was lower than that of patients whose father or another relative was a patient. In Malta the disease shows marked clustering in families, which is compatible with a relatively low rate of transmission. When the figures are studied in greater detail significant differences are found between various parts of the island (Table 1).

In the capital Valetta, the incidence of leprosy was already low in 1900 and remained at the same level, in spite of the fact that large numbers of people from more highly endemic rural areas have moved to the capital, either permanently or as day-time labourers. Apparently the conditions for transmission of the disease in the capital were less favourable than in the rural areas.

Already in the first decades of the century a very marked decline of the disease is reflected in the figures of the Outer Harbour area. This corresponds with a rapid

Table 1. Notifications per 10,000 population per year in the districts.

	1900–1919			1920–1939			1940–1959			1960–1978		
	Census 1911	No. notifications	Notifications/ yr/10,000	Census 1931	No. notifications	Notifications/ yr/10,000	Census 1948	No. notifications	Notifications/ yr/10,000	Census 1967	No. notifications	Notifications/ yr/10,000
Inner Harbour	93,783	23	0.12	109,296	25	0.11	120,958	33	0.14	118,342	25	0.12
Outer Harbour	30,973	75	1.21	42,456	46	0.54	64,774	39	0.30	74,562	23	0.17
North West	20,412	36	0.88	23,052	52	1.13	34,208	70	1.02	35,230	29	0.46
West	24,478	23	0.47	26,373	26	0.49	34,899	26	0.37	36,134	22	0.34
North East	14,798	110	3.72	16,507	68	2.05	23,472	64	1.36	23,932	37	0.86
Gozo	22,695	37	0.82	23,837	37	0.78	27,680	36	0.65	25,975	28	0.60
Total	207,139	304	0.73	241,521	254	0.53	305,991	268	0.44	314,175	164	0.29

Table 2. Age at onset of disease and type of contact.

Age of onset	Family contact		Type of contact		
	Known	Not known	Mother	Father	Other relative
< 20	9 (32%)	43 (68%)	11 (85%)	10 (66%)	22 (63%)
20–29	19 (68%)	20 (32%)	2 (15%)	5 (33%)	13 (27%)
Total	28 (31%)	63 (69%)	13 (21%)	15 (24%)	35 (56%)

urbanization of this former rural area, with socio-economic and hygienic conditions similar to those in the capital. The decline in the highest endemic rural areas came somewhat later. This corresponds with a later improvement in socio-economic and hygienic conditions.

In the last decades leprosy in Malta has become a disease which is largely restricted to a small number of villages ‘at the end of the road’, where conditions have not yet reached the same high standards as the capital and surrounding area.

In conclusion, largely due to socio-economic and hygienic improvements, the incidence of leprosy had already been declining long before the introduction of effective chemotherapy. The additional effect of chemotherapy is not measurable. Even without chemotherapy it is likely that—as in Norway and other European countries—the disease would cease to be endemic in Malta in the near future. Therefore, Malta does not appear to be a suitable area for demonstrating the eradication of the disease by chemotherapy.

Acknowledgments

The author wishes to thank Dr E Bonnici and Dr G Depasquale, who are executing the programme in Malta, for their kind and valuable cooperation, Professor Dr E Freerksen for making available all previous bacteriological data and the Ministry of Health of the Government of Malta for permission to publish the findings.