

THE CONTROL OF INFECTIOUS DISEASE IN MALTA  
A BRIEF HISTORICAL SURVEY

P. Cassar

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The earliest preventive measures enforced against the entry of infectious disease into the Maltese Islands were adopted at a time when medical men had not yet understood the natural history of various communicable illnesses and unravelled their aetiology and mode of transmission.

It was only towards the end of the 19th century that this blind groping for the effective control of infectious diseases gave place to more enlightened and effective preventive actions. Since then Malta has been in the forefront of these advances and has evolved and maintained a very high standard of control against the occurrence of communicable illnesses to the extent that human brucellosis has been practically eliminated and that the most formidable of them - such as plague, smallpox, diphtheria and polio - have been completely eradicated.

PLAGUE

The earliest tentative steps to control the appearance and spread of infectious disease in the Maltese islands go back to the Middle Ages. They were implemented by the 22nd February 1458 when ships suspected of carrying plague-infected crews, passengers and merchandise were directed to moor in the Quarantine Harbour in Marsamxett away from other ships. Severe penalties were imposed in 1526 against persons caught trafficking with ships undergoing quarantine. They included the confiscation of the goods and the burning of the homes of the culprits. Guards were posted along the coast where ships were likely to attempt to land cargo clandestinely.

When, by the 16th century, Malta passed under the rule of the order of St. John, all merchandise was brought ashore at the Lazaretto on Manoel Island for disinfection. passengers were detained in this

establishment for up to forty days and exposed to "smoking" from the burning of aromatic herbs before being allowed pratique, i.e. freedom of communication with the inhabitants. In October 1744 plague was raging in Messina (Sicily). Crews and passengers on board ships arriving in Malta from that city were not allowed to disembark. An English sailor who insisted on going ashore in defiance of this prohibition was shot dead by the sentinel on guard [1].

In 1781 a plague-infected Venetian ship entered Marsamxett Harbour. All members of the crew, except one, had died during the voyage. The ship was towed to the open sea and set on fire and destroyed with its cargo. As paper was considered a potential vehicle of "contagion" by plague, letters from abroad were disinfected by dipping in vinegar or exposure to the fumes of burning straw and a mixture of manganese and a solution of sulfuric acid. This precaution prevailed until 1800 [2].

By the mid-nineteenth century it was realised that quarantine restrictions could not always be relied on to prevent plague from invading Malta. So in 1908 new measures, based on the Paris Convention of 1903, were adopted - the most important one being the introduction of the principle of allowing passengers to have pratique soon after their arrival in Malta but keeping them under medical supervision in their places of residence for a certain period of time [3].

An anti-rat campaign by the public health authorities has been in operation since 1937. We have been free from plague since 1946 when five cases were reported [4].

### LEPROSY

An early recorded case of leprosy in Malta was that of a Dominican friar who died in the Rabat convent on the 30th April 1630. The isolation of lepers to prevent the dissemination of the malady had been resorted to by 1679. By 1883 leprosy had sufficiently spread as to lead to recommendations for the provision of a suitable asylum where the necessary treatment would be available.

Leprosy was made a reportable disease by Ordinance VII of 1893 which also enforced the compulsory segregation of sufferers from the illness. deprivation of liberty, however, was ill-tolerated by the patients giving rise to episodes of violence and escapes from the asylum. With the passage of time concern with the contagiousness of the disease underwent a change so that it became possible to abolish compulsory segregation in 1953. This measure removed the greatest deterrent to the early treatment of the illness as owing to fear of segregation sufferers from leprosy concealed the existence of their malady until it became too advanced for successful treatment. The number of lepers thirty-five years ago was 151 (total Maltese population 319620). In 1989, there were only a few spent-out individuals apart from three active cases notified to the Health Department [5].

#### SMALLPOX

The eruption of smallpox outbreaks in the Maltese Islands has been documented since the 17th century. Other epidemics occurred in the subsequent three hundred years. Immunization by variolation was being fostered in Malta in 1769 but its results were so disappointing that it was given up by 1780. Vaccination or cowpox inoculation, as performed by Edward Jenner, was introduced in the Maltese Islands in 1800 but this measure did not prevent smallpox from erupting in 1830, 1837, 1861, and 1870-71. During this last outbreak, seven thousand persons were attacked with seven hundred deaths. Vaccination had been made compulsory in 1855 but this law was not regularly observed which explains the great number of persons attacked in 1870-71.

Between 1897 and 1925 - a period of almost thirty years - there were six epidemics but all on a restricted scale. Smallpox (with only seven reported cases, one fatal) appeared for the last time in Malta in 1946 - thirty-four years before the global eradication of the disease was declared by the World Health Organization in May 1980. Compulsory vaccination against smallpox ceased to apply in 1982, but the disease is still notifiable [6].

### PULMONARY TUBERCULOSIS

Lung tuberculosis was recognised as an infectious disease in Malta by the 18th century. Special precautions were taken at Santo Spirito Hospital (Rabat) and at the Holy Infirmary (Valletta) to prevent its spread. Tubercular persons were kept apart from other patients in these hospitals. Their utensils and clothing were marked with a distinctive sign to avoid their being used by others. The bedding was disposed of by burning. In some churches small boxes or spittoons were provided for churchgoers suffering from cough to induce them not to spit on the floor.

In 1909 a tubercular hospital was opened at Mdina where the Natural History Museum now is. An anti-tuberculosis drive was launched in 1946. Preventive measures included the medical examination of entrants in the government service and of children prior to admission to school; and the provision of adequate housing accommodation for large families. The effects of these salutary measures were enhanced by the introduction of free mass BCG vaccination in the spring of 1950. This campaign was so successful that the tuberculosis hospital at Mdina was no longer needed and was closed down in 1956 [7]. The number of persons reported as suffering from pulmonary and other forms of tuberculosis in 1989 was 27.

### DIPHTHERIA

The first recorded death from clinically diagnosed diphtheria occurred in 1859 in a girl of 13 years. It has been estimated that between that year and 1874 - a stretch of fifteen years - 1053 persons were killed by the disease in the two islands.

Diphtheria anti-toxin serum was first obtained from England and administered in 1895. At first the value of this inoculation was insufficiently appreciated by the masses but thanks to persistent propaganda on the part of the government for free immunization over 85% of school children were inoculated by 1952. Diphtheria has been well under control since 1969 when the last case was reported [8].

### POLIOMYELITIS

This disease first struck Malta in epidemic form in 1942, and again in 1945, 1947 and 1950, the majority of cases being children under five years of age. An immunization campaign was embarked upon in November 1956 for children from one to ten years of age by the use of the Salk vaccine so that by July 1959, 34000 children had been vaccinated. The Sabin oral vaccine was first administered in 1961. The last case of polio - a solitary one - occurred in 1964 [9].

### VISCERAL LEISHMANIASIS

This illness was first identified in Malta in children and dogs in 1909 and 1910 respectively. The earliest preventive efforts against this infection go back to 1912. They consisted in the spraying of houses with an insecticide against the sandfly. A thorough campaign to eliminate breeding places by the DDT residual technique was carried out in 1946 with very good results. Its incidence per 1000 population during the last thirty years has varied from 0.05 (1960) to 0.03 (1990). In 1989, there were 15 cases of the visceral and two cases of the cutaneous form [10].

### BRUCELLOSIS

The causative agent of Undulant Fever, now known as Brucellosis, was discovered in Malta in the human spleen in 1887 and in the blood and milk of the goat in 1905. In this same year the Public Health Department instructed the public to boil goats' milk before drinking it to destroy the microbe, and began to slaughter infected goats to eradicate the disease in these animals. The boiling of milk, however, was not given the serious consideration that it deserved by the consumer so that there was no appreciable diminution in the incidence of the disease.

Pasteurization of milk on a national scale was the only solution. This idea was put forward in 1922 but it was only in 1938 that it was implemented and that the sale of raw goats' milk to the consumer banned between 1939 and 1957. This measure, together with the policy of

slaughtering infected goats [11] brought down the number of reported cases of brucellosis from 642 in 1900 (pop. 185647), 1102 in 1922 (pop.210348), and 456 in 1942 (pop.305991) to 127 in 1961 (pop.329763), 49 in 1971 (pop.303161), and 21 in 1990 (pop.355910) [12].

### VENEREAL DISEASE

The order of St. John of Jerusalem came to Malta in 1530 and settled at Birgu which was then the maritime centre of the Island. By 1551, Birgu had become notorious for the many foreign and Maltese prostitutes living there. When the order moved its seat to Valletta in the late 16th century, these women followed the knights to the new city.

The earliest reference to the existence of venereal disease in the Island belongs to the 1580's by which time local medical men were aware that such diseases were contracted through sexual intercourse. Legislative measures were devised to discourage and restrain prostitution. Concurrently with these legal provisions, medical measures to treat and check the spread of these diseases were also taken in the shape of periodical medical examinations of prostitutes - a practice that was introduced during the Order's rule and maintained during the first half of the 19th century under British rule.

By 1830 more than 150 women were being examined each month. As some of them declined to submit to such an examination, an ordinance was enacted in 1861 enforcing the compulsory examination of prostitutes and the treatment of infected ones in hospital where they were detained until they were declared cured (Ord.IV of 14th June 1861). One hundred years later a new measure was introduced (Ord.VII of 1930) making it a criminal offence knowingly to transmit venereal diseases through sexual intercourse and to engage in occupations likely to spread these diseases. This ordinance was repealed in 1931 against the advice of the Chief Government Medical Officer but was re-enforced again in 1943 during the Second World War. as this was a wartime measure, it fell in abeyance when the many servicemen left the Island at

the end of hostilities.

As syphilis and gonorrhoea are not notifiable disease [13] there are no official statistical data by which one can assess their incidence/prevalence. The figures that are available are those of the number of persons treated as in- and out-patients in hospitals. Those for 1963, for example, show that 9 cases of syphilis were under treatment at the Central Hospital (Floriana) and 180 unspecified venereal cases as out-patients (pop. 314216). Their occurrence was already low ten years before and limited to barmaids, laborers and seamen [14]. Both diseases have continued to decline, one specialist in the field stating that he sees on an average 2 cases of syphilis and 4 of gonorrhoea a year [15].

The appearance of AIDS due to sexual intercourse in our time poses a far more serious problem than did syphilis and gonorrhoea 50 or 40 years ago because unlike them it is not confined to easily distinguished occupational classes but has its roots in a wider social and cultural matrix with less rigorous sexual mores than in the past.

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