

THE HISTORY OF TUBERCULOSIS IN MOROCCO

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INTRODUCTION

Tuberculosis (TB) is an infectious bacterial disease caused by mycobacterium. Tuberculosis was first identified in 1882 by Robert Koch [1]. It mainly affects the lungs, but also other organs, and can be fatal if not treated. Tuberculosis seems to have always existed as the first documented cases were described roughly around 8000 years ago [1]. In Morocco, TB has claimed thousands of victims throughout history and is still strongly present with 27,000 new cases per year [2].

METHODS

In order to trace the history of the disease in Morocco, its epidemiological development throughout history and different ways used to fight it, we consulted several printed and online databases, general and specialized in the history of medicine (Google scholar, Pubmed, Scopus, Gallica ... etc). We consulted the catalogs of national libraries in Morocco and France, as well as specialized bookstores in history. The Moroccan league to fight against tuberculosis was also contacted, and official documents of the Ministry of Health reviewed.

WHEN DID TB APPEAR IN MOROCCO?

Whether TB was already spread in Morocco before the French protectorate or was it brought by foreigners, is an interesting debate in the medical history of Morocco. It was common among practitioners who were first interested in the health situation of Moroccans. TB, and especially its pulmonary form, was rather rare in Morocco [3]. In the 19th century, a medical doctor (Despine) who lived in Essaouira, declared the absence of TB in

this Moroccan city, which was open for trade with Europeans very early in history [4]. A few years later, Raynaud confirmed the rarity of TB among the Moroccan Muslim population, and its prevalence in the Jewish population [5]. Moreover, TB was cited in Douzans's classification of diseases observed in Morocco before the French protectorate, but as a rather rare condition [6].

Conversely, other practitioners strongly sustained that TB was already spread out in Morocco long ago before the French arrival, especially so that the local population do not blame the French for bringing the disease along, which was already a common idea among the locals [3]. For example, Dr. Colombani declared that TB was known among the population and was named "the big evil", and argued that the doctors who claimed TB's rarity in Morocco did not get close enough to the locals (especially Muslims) to diagnose it [4]. Besides, Dr. Bienvini claimed that Syphilis, which was very common among the local population, made it difficult to diagnose TB, as its symptoms were hidden by those of Syphilis [7]. Dr. Dolanoe acknowledged that TB was not a health problem in Morocco until after 1919 because of the great influenza pandemic (Spanish flu), which weakened the lungs and immune defenses of Moroccans who had contracted TB and recovered from it, causing severe TB relapses [8].

EPIDEMIOLOGICAL EVOLUTION OF TB

The first cases of tuberculosis in Morocco were diagnosed in 1900 at the French hospital in Tangiers [3]. Since then, the incidence of reported cases had been increasing in different cities to reach 7053 new cases per year in 1938, with a global mortality rate of 24% [9]. The increase in the incidence and mortality rates was observed

gradually; especially in the cities where medical care was available in dispensaries [3]. Table 1 represents the evolution of mortality rate among different populations in Morocco between 1929 and 1937 [10]. It should be noted that these statistics

only reflected the situation in the major Moroccan cities where medical facilities were available. Hence, they are clearly underestimated as the population in the countryside represented two thirds of the Moroccan population at that time [3].

Table I. Number of deaths caused by TB in Major Moroccan cities between 1929 -1937 [10]

Years	1929	1930	1931	1932	1933	1934	1935	1936	1937
Muslims	911	773	766	829	1046	1131	1068	1335	1428
Jews	73	64	45	44	34	59	48	74	154
Europeans	105	101	102	82	82	89	86	86	93
Total number	1089	938	913	955	1162	1279	1202	1495	1745

The most severe extra-pulmonary TB forms were more frequent in the city of Fez (20% of bone tuberculosis), then in other cities (only 3% of TB affected bones in the city of Sale) [2]. The extremely unhealthy housing, poor hygiene and confinement in the medina of Fez at that time could explain this disparity [3].

THERAPEUTIC AND PREVENTIVE MEASURES AGAINST TB

The first tuberculosis out-patient clinic in Morocco was founded in Fez in January 30th, 1921 in the district of “Ras Jenane” (Figure 1), by the initiative of JulesColombani -a French doctor who was in charge of the Department of “Health and Public Hygiene” of the French Protectorate governing system in Morocco (1912-1956)-, and Inès de Bourgoing,-spouse of the first French Resident-General in Morocco, also known as La Marechale Luyauté-, who was very active in several charities promoting health among the indigenous people of Morocco [11, 12].



Figure 1: The first dispensary to diagnose and treat TB in the city of Fez 1921.

The Fez tuberculosis clinic offered radiographs, collapse therapy and all kind of medications as well as health education. Its annual number of consultants reached 2500 in 1940 [12]. Six months later, another dispensary was opened in Casablanca in June 25th, 1921. It was managed by an exclusively female staff, with a tuberculosis

specialist nurse and two visiting nurses [12]. The most severe TB cases and those requiring surgery were referred to hospitals. “Cocard Hospital”, named after a French male nurse who was killed in violent events in 1912 [11], was the first hospital to be opened to the local Moroccan populations under the French Protectorate in 1914. It was created and managed by Dr. Cristiani; one of the most famous and respected medical doctors who practiced in Morocco at that time [11].

In the French catalog of anti-tuberculosis armament, published in 1926, we found the trace of a preventorium, an isolation facility for patients infected by tuberculosis and who did not yet have an active form of the disease. It was named “Jardin du Soleil” and located in the city of Sale [13]. As for sanatoriums (medical facilities for long-term illness and especially for patients suffering from TB), they did not appear in Morocco until late, compared to other countries. The first identified TB sanatorium in Morocco; “the Sanatorium Hélios” was created in 1943 through the reorganization of an older hotel in the city of Azrou[14]. And the largest TB sanatorium; “the Bensmim Sanatorium” located in the middle Atlas mountain range was not open to the patients till 1954 [14].

Meanwhile, several decisions were taken to achieve an early diagnosis in order to reduce the spread of this contagious disease. In 1924, the Moroccan League against tuberculosis was created [11], and reporting all TB cases was made mandatory by the Department of Health and Public Hygiene in the same year [15]. Moreover, TB screening based on chest radiographs and bacteriological tests was made compulsory for all new recruits in the public functions in 1930 [2, 11]. The first international vaccination campaign by BCG took place in Moroccan dispensaries in 1949 [2]. Finally, the first national program to fight Tuberculosis after independence did not emerge until the late 70s[2].Financing various activities of prevention and control of TB was mainly provided by the department of Health and Public Hygiene, NGOs and by the sales of solidarity stamps (Figure 2) [2, 11]



Figure 2: Solidarity stamp to fight against TB, issued in Morocco 1946

CONCLUSION

Tuberculosis control in Morocco, at the time of the French protectorate, was based on similar measures and therapies to those used in Europe at that time. However, if TB disappeared -almost completely- from European natives, it is still present in Morocco with an endemic setting. This underlies the importance of improving life conditions of the population in order to eradicate TB.

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