Schistosomiasis was first officially reported in southern Tunisia in 1908, and this region remained endemic with high prevalence rates for decades. In 1967, before the implementation of a decade-long, government-supported control initiative in the 1970s, 11.6% of the country’s population was exposed and prevalence was as high as 64% in southern regions like the district of El Hamma. Strategies to approach schistosomiasis control in Tunisia have been straightforward, as Schistosoma haematobium is the sole human schistosome species, Bulinus truncatus is the sole intermediate host snail, and oases are the primary disease transmission sites. Though oases were frequently used by nearby communities, they are isolated and easy to treat. Before executing the first control initiative in 1970, control teams found baseline prevalence of 41.3% in transmission sites that contained the host snail B. truncatus, and estimated that 160,000-200,000 Tunisians were at risk of infection. Nationally prevalence was estimated at 8.9%, with maximum local prevalence up to 80% in school-age children from the endemic region.
In 1969, the Tunisian government included schistosomiasis in a disease elimination plan aimed at reducing the burden of infectious disease and increasing tourism. The program began in June of 1970 with three major strategies: (1) monthly surveys of all sites previously identified as containing B. truncatus, and subsequent mollusciciding with niclosamide if positive; (2) mass screening and treatment of infected human residents with niridazole (or metrifonate, if subjects presented counterindications to niridazole); (3) annual comprehensive screening in 10 highly infected villages, until 1978 when screening continued every other year due to rapidly falling infection rates. There is some mention of praziquantel use, though disease was all but eliminated from Tunisia in the early 1980s when the drug became readily available. Personnel from the control teams were inhabitants of the endemic area, which may have helped to avoid cultural and linguistic problems and improve the program’s success.

The Schistosomiasis Elimination Plan

As Tunisia deployed molluscicides in infected oases, prevalence rates drastically decreased to near zero. The last cases of schistosomiasis were reported in 1982.

Success with Molluscicides

The first treatment round of molluscicides in 1971-1972 eliminated B. truncatus from 75% of infested sites. The government allocated significant resources to the program; for example, in 1976 it budgeted $65,411 USD (0.1% of $120,728,410 total healthcare budget that year) to hire and equip 34 employees to treat patients and cover 75 square kilometers of the country with molluscicides. There was a steady decline in prevalence throughout the elimination program. Less than one percent of Tunisians were infected just 5 years after the program’s initiation, down from initial estimates of 8.9% prevalence.

Schistosomiasis was declared eliminated from Tunisia as early as 1980. However, the last autochthonous cases occurred in 1981-1982. By 1994, artesian wells had dried up a large percentage of the oases that had previously harbored B. truncatus, diminishing any possibility of the disease’s return.