INFECTIOUS DISEASES IN MOROCCO

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Climate change is affecting ecosystems and may have direct or indirect effects on human and animal health. Climate change also acts on viruses, bacteria or parasites pathogens, forcing a selection of populations better adapted to environmental conditions. Within a Moroccan perspective, the main health vulnerabilities to climate change include the following risk of reactivation of certain diseases sensitive to climate change, such as malaria, typhoid, leishmaniasis, dengue and cholera; possibility of reemergence of infectious diseases, vector-borne diseases as well as diseases and deaths related to extreme weather events, especially among the most vulnerable groups and increased water and food-borne diseases.

In Morocco, infectious diseases such leishmaniasis, malaria and schistosomiasis are still a public health problem and the situation may be more complicated in light of climate change despite the adoption of a domestic program to fight against these parasitic diseases. Currently, they are a federally reportable disease and the number of reported cases -indigenous and -imported is increasing. According to the Moroccan Ministry of Health, 2 086 cases of malaria were imported between 2005 and 2014. The risk of autochthonous malaria resumption is important in Morocco because of the possible presence of gametocytes carriers in the last malaria focus.

Leishmaniasis is a complex disease caused by Leishmania species and transmitted by a phiebotomine sand fly. Two forms are known, cutaneous and visceral leishmaniasis. The main reservoirs are dogs for zoonotic visceral leishmaniasis (ZVL), rodents for zoonotic cutaneous leishmaniasis (ZCL) and human for anthroponotic cutaneous leishmaniasis (ACL). Actually, three parasite species co-exist in Morocco. Leishmania infantum causes mainly ZVL and is transmitted by species of the subgenus Larroussius. It is widespread in the whole country and is more frequent in its northern part. Leishmania infantitni can cause CL as well even if it is a rare condition with a few sporadic cases in the North of the country (especially in Sidi Kacem Province) with little epidemiological data available. Malaria is a mosquito-borne infectious disease caused protozoans of the genus Plasmodium and is transmitted by female mosquito vectors of the Anopheles species. The cycle of Plasmodium is carried out in several stages which spread between mosquitoes and humans. Malaria raged in Morocco for centuries and was an endemic disease in the majority of provinces. In 1960, a domestic program to fight the disease was launched.

It allowed to control the situation after 40 years of bitter struggle. By 1999, malaria was occurring as sporadic cases of Plasmodium vivax in some residual foci in the north. The epidemiological assessment undertaken by the Moroccan Ministry of Health showed a shift towards the elimination of indigenous cases and the last indigenous case was reported in 2004. Malaria is now certified free in Morocco by World Health Organization but imported cases are reported constantly. Schistosomiasis is a disease caused by parasitic worms belonging to the class of trematodes and genus Schistosorna. The parasite develops successively in two hosts: mollusk and human. This parasite is commonly found in ponds, streams and irrigation canals, housed in freshwater mollusks, and infests humans through the skin via contact with contaminated water, In Morocco, the disease had spread in the oases in the south and along the southern side of the Atlas. The majority of cases have been filed in the Province of Tata, Chtouka, Taroudant, and Errachidia. In recent years, many S. haematobium foci are proved to be unstable and some even disappeared. However, creating large water supply for irrigation may lead to the onset of new foci.

In 2004 the minister of health announced that the country had eradicated a variety of childhood diseases, specifically diphtheria, polio, tetanus, and malaria, but other diseases continue to pose challenges. According to estimates for 2013, 21,000 people or approximately 0.16 percent of the population between the ages of 15 and 49 was infected with human immunodeficiency virus/acquired immune deficiency syndrome (lily/AIDS). UNAIDS (Joined United Nations Programme on HIV/AIDS) have slated that around 270 000 people in the Middle East are currently living with HIV. Research from between 2001-2012 have shown that adults and children living with HIV had increased significantly by 73%. The predominant cause of I-UV transmissions, are caused by the lack of knowledge and education to help prevent the likely spread. Treatment services are also lacking significantly in the Middle East to help treat the infection before passing in on. Research is showing that particularly in Morocco, 89% of HIV infections are amongst men having sexual intercourse with other men, female sex workers and shared contaminated needles. New research is revealing that Morocco’s newest HIV infections are amongst females with three quarters receiving it from their husbands.

On march 2016, King Mohammed VI proceeded to the Military Instruction Hospital Mohammed V in Rabat, at the inauguration of the Virology Center for Infectious and Tropical Diseases. This center has mobilized investments in the order of 210 million dirhams. It is equipped with state-of-the-art equipment and is responsible for the diagnosis and treatment of infectious viral, bacterial, parasitic and mycotic diseases. It will also be responsible for the management of highly contagious diseases requiring confinement, including tropical pathologies and travel.