

# Infections in Iran

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## Abstract

Currently some parasitic and viral infections, tuberculosis, brucellosis and hospital-acquired infections are challenging issues in Iran. Despite decreasing the rate of some infectious diseases in Iran in recent years, improved sanitation, active surveillance, comprehensive infection control strategies and monitoring appropriate use of antibiotics are indispensable.

**Keywords:** Incidence, infectious diseases, Iran, prevalence

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Infectious diseases still cause death worldwide, especially in developing countries. Over the past decades the incidence of infectious diseases, particularly parasitic ones, has decreased significantly in Iran. Shifting in the causes of death from infectious diseases to noncommunicable diseases shows the success of improved sanitary measures and effective national surveillance. However, cutaneous leishmaniasis, hepatitis B virus (HBV), hepatitis C virus (HCV), human immunodeficiency virus (HIV), tuberculosis (TB), brucellosis and hospital-acquired infections are still challenging issues [1]. In the case of viral infections, the infections caused by HIV, HBV, HCV and recently Crimean-Congo haemorrhagic fever virus are the most important infections, and gastrointestinal and respiratory infections are the most common infections.

Despite a dramatic decline in its prevalence, HBV remains the main cause of acute hepatitis in adults [1]. In recent years, for sociocultural reasons, the rate of HIV has increased in Iran, and currently the number of HIV-infected people is estimated to be almost 110 000. According to the most recent reports, HIV is commonly transmitted by injection (67%) and sexual contact (18%) (<http://aids.ir/Info>) [2]. During the past two decades an increased rate of Crimean-Congo haemorrhagic fever has been reported from almost all parts of Iran. The virus is

often transmitted by ticks, and less commonly through close contact with infected patients [1,3]. In parasitic infections, echinococcosis and cutaneous leishmaniasis are endemic infections, but malaria is in the preelimination phase [3]. Although TB is one of the most important diseases in developing countries, great success has been achieved in decreasing the TB prevalence from 40 to 14 cases per 100 000 population in Iran in the past 50 years.

The incidence of multidrug-resistant TB varies from 1.3% to 8.3% for new cases and previously treated cases, respectively [4]. The reasons for this success in controlling TB are mainly the launching of nine regional laboratories of TB as well as improvements in diagnosis and treatment. Because of the increasing incidence of immunodeficiency diseases such as AIDS, and as a result of the significant improvements in laboratory diagnostic methods in recent years, diseases caused by nontuberculous mycobacteria such as *Mycobacterium simiae*, *Mycobacterium fortuitum*, *Mycobacterium kansasii* and *Mycobacterium intracellulare* are rising [5]. Despite a substantial decline in the incidence of human brucellosis in the past decades, brucellosis remains endemic in all parts of Iran. Moreover, plague, leptospirosis, tularaemia and Q fever are some of the emerging and reemerging bacterial infections.

The most common hospital-acquired infections in Iran are urinary tract infections, pneumonia, and surgical site and bloodstream infections [1,3]. In recent years, as a result of the overuse and/or inappropriate prescribing of antibiotics, there has been a dramatic increase in the emergence of antibiotic-resistant bacterial strains. Resistance to colistin, the last-

resort agent against multidrug-resistant/extensively drug-resistant Gram-negative bacteria, has recently been detected among the clinical isolates of *Klebsiella pneumoniae* [6]. Furthermore, some Gram-positive cocci (staphylococci and enterococci) have developed resistance to critical antibiotics so that the prevalence of methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant enterococci have been found to be 43% and 9.4% respectively [7,8], and there are some reports on vancomycin-resistant *S. aureus* [9].

Despite a substantial reduction in the rate of some infectious diseases in Iran in recent years, we need improved sanitation as well as better active surveillance systems and comprehensive infection control strategies. We also need to monitor the appropriate use of antibiotics.

### Conflict of interest

None declared.

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