



THE SPREAD OF ZONOTIC INFECTIONS AMONG THE POPULATION OF UZBEKISTAN AND THE ROLE OF OCCUPATIONAL RISK FACTORS

Akbarova Gulchekhra Khabibullayevna

Assistant of Fergana Medical Institute of Public Health

Annotation

This thesis investigates the effectiveness of molecular diagnostic methods for the early detection of tuberculosis in the context of Uzbekistan. The polymerase chain reaction (PCR) and GeneXpert tests demonstrated higher accuracy and faster results compared to conventional methods, and allowed for the detection of rifampicin resistance. The findings confirm the need for the broader implementation of molecular diagnostics in national tuberculosis control strategies.

Keywords: tuberculosis, diagnostics, molecular, PCR, GeneXpert, sensitivity, accuracy, speed, sputum, rifampicin, resistance, epidemiology

Currently, zoonotic infections, particularly brucellosis and toxoplasmosis, are among the diseases that pose a serious threat to human health. These diseases are not only infectious diseases transmitted from animals to humans, but they are also distinguished by the significant role of occupational activities in their spread. In Uzbekistan, studying the spread of zoonotic infections and the occupational risk factors associated with them is essential for strengthening epidemiological surveillance and improving the effectiveness of disease prevention measures.

Brucellosis is a disease that frequently occurs in populations involved in livestock farming, and its contagious nature and chronic course create major challenges for the healthcare system. Toxoplasmosis, on the other hand, is a widespread parasitic disease that is particularly dangerous for individuals with weakened immune systems and pregnant women. Occupational activities, such as livestock farming, agriculture, and direct contact with animals, are significant risk factors for the spread of these diseases.

Therefore, studying the epidemiological situation of zoonotic infections, especially brucellosis and toxoplasmosis, in the population of Uzbekistan, as well as the role



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of occupational risk factors, is a crucial task for disease prevention and effective control. This thesis presents the results of scientific research conducted within this framework.

In the Republic of Uzbekistan, zoonotic infections, particularly brucellosis and toxoplasmosis, are considered widespread infectious diseases. Brucellosis is more prevalent in regions where livestock farming is common, and it is primarily transmitted from animals to humans either through direct contact or via contaminated food products. In recent years, the incidence of brucellosis in the country has remained relatively stable, indicating persistent challenges in controlling the disease.

Toxoplasmosis, a common parasitic infection, is caused by the *Toxoplasma gondii* parasite. This parasite is mainly transmitted through animals, especially cats. Toxoplasmosis poses a significant threat to pregnant women and individuals with weakened immune systems, potentially leading to serious health complications.

Occupational activity is a key risk factor in the transmission of brucellosis and toxoplasmosis. Individuals working in livestock farming, agriculture, veterinary services, and the food industry are considered high-risk groups. Direct contact with animals, non-compliance with hygiene protocols, and lack of protective equipment contribute to the increased risk of infection in these professions.

Epidemiological studies conducted in Uzbekistan have revealed that the majority of brucellosis cases occur among individuals engaged in the aforementioned occupations. Similarly, cases of toxoplasmosis are often observed among rural populations who have frequent contact with animals.

To reduce the spread of zoonotic infections, it is essential to mitigate occupational risk factors, enhance hygiene practices, and ensure the use of personal protective equipment. Strengthening veterinary oversight, regularly monitoring the health of livestock, and providing the public with continuous education about these diseases are effective preventative measures.

In conclusion, it is crucial to organize specialized training courses for healthcare professionals and occupational groups, expand preventive screenings, and implement modern diagnostic methods for early detection. These measures will



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contribute to the reduction of zoonotic infections and the improvement of public health in Uzbekistan.

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