

## Povara bolilor zoonotice și abordarea EcoSănătate

### A “ONE HEALTH” SURVEILLANCE AND CONTROL OF BRUCELLOSIS IN AZERBAIJAN

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**Introduction.** The epidemiological situation of brucellosis in Azerbaijan remains concerning due to the presence of the infection among agricultural animals (cattle and small ruminants), which serve as the primary source of human infections. One of the most challenging regions in the country is the Kura-Araks region, accounting for over 50% of all reported brucellosis cases in recent years. Long-term trends in the incidence of the disease indicate a correlation between the number of brucellosis cases in humans and the reported cases in animals. **Aim.** To determine of the epidemiological features of brucellosis in Azerbaijan, focusing on one of the most endemic areas in the country. **Material and methods.** Study was carried out using data from the database of the electronic infection diseases surveillance system (EIDSS) of the Ministry of Health of Azerbaijan, Special Dangerous Infections Control Centre (SDICC) for the period spanning 2018 to 2022. Confirmed brucellosis cases were defined as those exhibiting clinical signs, epidemiological links, and positive results (with a titer of 1/200 or higher) in serology reactions, bacteriology tests, and PCR. The diagnostics for brucellosis in SDICC laboratories adhere to methodical instructions for the prevention and laboratory diagnosis of human brucellosis. Bacteriological analysis involves sending a patient's blood sample only if they exhibit clear clinical signs of brucellosis and have not taken antibiotics. The results of the bacteriological examination revealed that all strains identified in patients with brucellosis were attributed to *Brucella melitensis*. **Results.** The average incidence rate during this period is 3.4 per 100,000 population, which is consistent with the rates observed in the republics of the Caucasus and Central Asia (3.6 per 100,000 population). An evaluation of the impact of risk factors on patients with brucellosis revealed that milk consumption was reported in 18.84-38.9% of cases (OR=0.96, 95% confidence interval CI=0.67-0.79), insufficiently thermally processed meat consumption was observed in 5.86-9.2% of cases (OR=0.87, 95% CI=0.45-0.73), and contact with a sick animal occurred in 7.06-14.35% of cases (OR=0.826, 95% CI=0.71-0.89) among all notified cases during the study period. Analysis of the distribution of brucellosis cases by the employment status of the affected individuals revealed that up to 60% of the cases involved unemployed individuals. To combat brucellosis in animals, veterinarians employ a strategy that includes vaccination and periodic studies of brucellosis seroprevalence. Young livestock of both large and small cattle receive annual vaccinations, while a general vaccination (full flock) is conducted for both cattle and small cattle every four years. **Conclusions.** This study revealed a higher prevalence of consumption of raw milk (non-pasteurized) and other traditional dairy products, which can be attributed to the presence of more traditional livestock and a high production of milk and dairy products, ranging from 18.84% to 38.9% (OR=0.96, 95% CI=0.67-0.79). The current epidemiological situation of brucellosis in Azerbaijan remains concerning due to ongoing epizootic issues among farm animals, particularly cattle and small cattle. Therefore, it is crucial to continually monitor the incidence of brucellosis in humans, enhance the tactics for epizootological and epidemiological examinations of brucellosis outbreaks, and identify the contributing factors that sustain and exacerbate this infection.