



Ss. CYRIL AND METHODIUS UNIVERSITY IN SKOPJE
FACULTY OF VETERINARY MEDICINE - SKOPJE

BOOK OF ABSTRACTS

**“Days Of Veterinary Medicine”
10th International Scientific Meeting
and
2nd European Conference on
Veterinary and Medical Education 2024**

22-25 September 2024,
Republic of North Macedonia

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SEROLOGICAL EVIDENCE OF CRIMEAN CONGO HEMORRHAGIC FEVER INFECTION IN THE POPULATION OF SMALL RUMINANTS IN TWO MACEDONIAN REGIONS

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Global trends like climate change, intensive trade and travel, political instabilities, and insurgencies affect the epidemiology of many diseases and place many vector-borne zoonotic diseases high in the priorities of public health authorities. Crimean Congo Hemorrhagic Fever (CCHF) disease is a vector-borne, potentially fatal viral zoonotic disease caused by ssRNA *Nairovirus* of the *Bunyviridae* family. This virus is mainly transmitted by ticks where domestic and wild animals are the main reservoir and source for the spread of the virus during viremia. Sero-epidemiological data represent a relevant indicator for the circulation of the virus in the environment allowing identification of areas with high risk for CCHF exposure. The presence of CCHFV-specific antibodies in small ruminants indicates virus exposure and it's an indirect proof of its presence in the areas where seropositive animals are identified. This study aims to determine the presence of specific antibodies against CCHFV in sheep and goats in two of the eight statistical regions in Macedonia. A total of 447 randomly selected sheep and goats from 65 flocks of two regions were tested for the presence of CCHFV-specific antibodies. Samples originated from Polog region (249 animals from 38 herds) and the Northeastern region (198 animals from 27 herds). Laboratory testing was performed at the Faculty of Veterinary Medicine– Skopje using a commercial ELISA kit. Overall, 15.4% (95% CI 12.1%-18.7%) of the tested samples coming from both regions were found to be positive. Observed prevalence at the flock level was 26,2%. Seroprevalence at an animal level in the Polog region was 2.4%, while in the Northeastern region 31.8%. At the flock level, the prevalence in the Polog region was 13.1% and 42.8% was found in the Northeastern region. According to the obtained serological results, this survey indicates the presence and potentially active circulation of the CCHFV in both regions. This study should be extended to the country's remaining six regions to provide complete information at the national level. Such information would then form the basis for targeting the efforts for direct detection of the virus in the main vectors, as well as genetic characterization to better understand the regional and global epidemiology of this disease.

Keywords: Crimean-Congo hemorrhagic fever, seroprevalence, vector-borne diseases