

## A REVIEW ON PREVALENCE AND ANTIMICROBIAL RESISTANCE OF SALMONELLA SPP. AND CAMPYLOBACTER SPP: ONE HEALTH PERSPECTIVE

Valentina CRETU<sup>1</sup>, Olga BURDUNIUC<sup>2</sup>, NICOLAE STARCIUC<sup>1</sup>

<sup>1</sup>Technical University of Moldova, Chisinau, Republic of Moldova

<sup>2</sup>National Agency for Public Health, Chisinau, Republic of Moldova

Corresponding author: Valentina Cretu, e-mail: valentinaa.cretu@gmail.com

**Keywords:** carcasses, incidence, *Salmonella spp.*, *Campylobacter spp.* AMR, poultry.

**Introduction.** Conducting an updated review of the antimicrobial resistance phenomenon and associated factors, as well the mechanisms and current perspectives on the “One Health” approach, including the Republic of Moldova’s position in response to the World Health Organization’s call, are priority directions for both human and veterinary medical services. Systematic review and gathering scientific information on the spread, incidence, resistance, and serotyping of bacteria from the genera *Salmonella spp.* and *Campylobacter spp.* remain crucial priorities worldwide.

**The aim.** The study focuses on analysing and assessing data regarding the incidence of infections with microorganisms from the *Campylobacter spp.* and *Salmonella spp.* genera in humans and in products of animal origins.

**Material and methods.** The study was conducted by analysing specialized literature from various databases, selecting relevant articles published between 2018 and 2023. The keywords used included prevalence, distribution of serotypes, antimicrobial resistance phenotypes, and genotypes of *Salmonella spp.* and *Campylobacter spp.* strains in humans and animal products. The *One Health* approach was employed. In total, 93 bibliographic sources were examined; utilizing databases such as *Embase*, *PubMed*, *Hinari*, *Google Scholar*, and data published by ECDC and WHO.

**Results.** The results regarding the proposed subjects were analysed. This was carried out within an integrative approach to the current situation in the field of human health, animal health, and the environment, as well as the position of the Republic of Moldova in combating the phenomenon of AMR. The obtained data confirmed that the highest prevalence of *Campylobacter spp.* among all types of samples investigated was found in poultry carcasses, with an average prevalence of 57% (44 out of 77 carcasses tested positive for *Campylobacter*). In comparison, based on surveillance data, on average, 38% of samples from fresh poultry meat in 22 European countries tested positive for *Campylobacter* (as of 2018).

The prevalence of pathogens in the carcasses of free-range broilers may result from the dissemination of bacteria from the genera *Salmonella spp.* and *Campylobacter spp.* in small-scale poultry farms, potentially affecting food safety.

**Conclusions.** The results regarding the incidence of *Salmonella spp.* and *Campylobacter spp.* argue for the importance and necessity of applying new techniques to assess the impact of zoonotic bacteria on public health. Systematic monitoring of the “environment-animal-human” components is an activity that will determine the level of quality of life. Bacteria from the genera *Salmonella spp.* and *Campylobacter spp.* are most frequently involved in foodborne infections in humans, underscoring the need for a revision of monitoring programs and mitigation strategies to reduce their impact on public health.