

XXXIII

CONGRESSO NAZIONALE  
DELLA SOCIETÀ ITALIANA DI PARASSITOLOGIA  
PADOVA, 18-21 GIUGNO 2024



PADOVA - NAPOLI



**F**ORMAZIONE È FUTURO  
IN PARASSITOLOGIA  
SOIPA 2024

## EPIDEMIOLOGICAL UPDATE OF CYSTIC ECHINOCOCCOSIS IN LIVESTOCK AND ASSESSMENT OF PRACTICES RELATED TO ITS CONTROL IN THE MEDITERRANEAN AREA

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**Keywords:** *Echinococcus granulosus*, Epidemiology, One Health.

**INTRODUCTION:** Cystic echinococcosis (CE), caused by the tapeworm *Echinococcus granulosus*, is a zoonotic parasitic disease that still represents a serious threat to human and animal health worldwide (Casulli et al., 2023. *Lancet Infect Dis*, 23:e95-e107). The Mediterranean basin is recognized as one of the main hotspots of CE due to several factors, including the presence of diverse intermediate host species as well as socio-economic and cultural conditions of local communities (Borhani et al., 2020. *PLoS Negl Trop Dis*, 14(5): e0008114). This study aims to take a closer look at epidemiological data on CE in the Mediterranean area and assess the knowledge attitudes and practices of shepherds towards this disease in four countries (Algeria, Greece, Italy and Tunisia), highly endemic for CE, with the final goal of identifying highly endemic risk areas and practices in use which might potentially allow the persistence of *E. granulosus* infection in these areas.

**MATERIALS AND METHODS:** A comprehensive review of peer-reviewed literature on CE prevalence data published during the 2017-2023 period was carried out and, through a geographical information system (GIS), a map displaying the current CE distribution in the Mediterranean area was generated. In addition, a questionnaire survey was conducted through in-depth interviews of the farmers to collect information on their management system as well as knowledge attitudes and practices towards CE.

**RESULTS AND CONCLUSIONS:** The data obtained showed a prominent presence of *E. granulosus* infections in the Mediterranean region with high prevalence rates, although a decreasing trend in the number of CE cases was observed in ruminants in southern Europe, especially in southern Italy (Campania region) and Greece (Central Greece, Macedonia, Thessaly and Thrace). In particular, recent updated reports on the endemic status in Campania region showed a prevalence value of 9.7% in sheep, which is lower than that observed in prior epidemiologic investigation in the same study areas, 52.5% (Cringoli et al., 2021. *Vet Parasitol*, 290:109347), resulting in a noteworthy reduction of the parasite infection rates (e.g. up to 80%). From the farmer-participatory survey some risky practices emerged including the non-regular deworming of dogs (54.8%) or the use of ineffective drugs or dosing, as well as the provision of uncooked animal viscera to dogs (53.0%). Finally, lower levels of knowledge and awareness of the disease was observed among farmers from North Africa compared with those of European countries. In conclusion, the results obtained highlight that CE is still a very serious problem in Mediterranean areas and increased efforts are needed to promote awareness among farmers and to turn research results into policy in order to reduce the spread of this disease, according to the One Health perspective.