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**BOOK OF ABSTRACTS**



## Q Fever in Portugal: A One Health-Oriented Literature Review

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Q fever is a zoonosis caused by *Coxiella burnetii* (*C. burnetii*), a highly infectious and environmentally persistent bacterium. Its transmission from animals to humans occurs mainly via inhalation of contaminated aerosols, often originating from small ruminants. Although the disease is widely distributed in Europe, its burden remains underestimated due to nonspecific clinical presentation and insufficient surveillance integration. As part of an ongoing PhD project in Biomedical Sciences, a comprehensive literature review was conducted to assess the current state of knowledge on Q fever in Portugal. This work aimed to synthesize available data from animal, human and environmental studies, while comparing findings with the broader European context. Over 40 national studies were analyzed, covering humans, domestic and wild animals, ticks, and environmental matrices. Reported seroprevalence values ranged widely: from 0% up to 45.9% in some livestock studies, with values often exceeding 30% in goats and sheep. In human studies with occupational exposure, positivity rates reached 30.7%. Molecular detection of *C. burnetii* was reported in milk, placentas, and reproductive tissues, and in urban tick populations. The analysis revealed major gaps in national surveillance. Notably, there are no published studies specifically targeting the northeastern region of Portugal, despite its relevance in small ruminant production, and furthermore, no study to date has simultaneously assessed humans, animals and environmental matrices in the same geographic context, a key limitation for understanding transmission dynamics and implementing the One Health approach. These findings underline the need for targeted and integrated research in underrepresented regions. The next stages of the doctoral project will involve the collection and analysis of new biological and environmental samples in northeastern region of Portugal, with the goal of mapping local *C. burnetii* circulation and proposing context-adapted surveillance strategies.

### Keywords

*Q fever; Coxiella burnetii; One Health; Portugal*