

LETTER TO THE EDITOR

LIST DO REDAKCJI

IMPROVING TICK-BORNE DISEASES AWARENESS:

PREVENTING MISDIAGNOSIS AND IMPROPER TREATMENT

**POPRAWA ŚWIADOMOŚCI NA TEMAT CHORÓB ODKLESZCZOWYCH:
ZAPOBIEGANIE BŁĘDNEJ DIAGNOZIE I NIEWŁAŚCIWEMU LECZENIU**

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Plizga JI, Głuszczyk A. Improving tick-borne diseases awareness: preventing misdiagnosis and improper treatment. Health Prob Civil. <https://doi.org/10.5114/hpc.2024.140950>

Tables: 0

Figures: 0

References: 4

Submitted: 2024 Jun 23

Accepted: 2024 Jun 26

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Keywords: tick-borne diseases, co-infections, Lyme disease, environmental factors, prophylaxis

Słowa kluczowe: choroby odkleszczowe, koinfekcje, borelioza, czynniki środowiskowe, profilaktyka

Dear Editor,

Recently, we have had the pleasure of reading an article by Teodorowicz et al. [1], published in *Health Problems of Civilization*, which focused on ticks' significance in transmitting selected bacterial pathogens to humans. Delving into this topic, we encountered several review articles that addressed environmental factors influencing the transmission of Lyme disease in Europe. This topic is crucial, as our experiences and information in the literature suggest that the range of tick-borne diseases may expand.

Based on the data presented in the work of Giesen et al. [2], the authors conclude that higher temperatures and extended vegetation periods contribute to an increased number of Lyme disease cases. Furthermore, Europe's diverse climate and the increasing frequency of extreme weather events can complicate the monitoring and controlling of Lyme disease. In relation to the article published in *Health Problems of Civilization* [1], we are concerned about the authors' conclusions regarding the rising occurrence of co-infections. For this

reason, we recognize the need to establish standardized protocols to diagnose and treat other tick-borne diseases. Additionally, it is necessary to increase the vigilance of primary care physicians in seeking the causes of nonspecific symptoms related to other tick-borne diseases. After reviewing numerous data sources and conducting our research, we found that information on tick-borne diseases and their epidemiology is not easily accessible to Polish citizens.

Referring to the article by Burn et al. [3], we conclude that the varying definition of Lyme disease cases, based on different types of diagnostics, is a significant issue in Europe. Standardizing the reporting system for Lyme disease cases in Europe is essential, allowing for better control and monitoring of the disease across the continent.

According to the article authored by Chen et al. [4], numerous prophylactic measures are available. Due to the increasingly advanced stages of clinical trials for tick-borne disease vaccines for both animals and humans, we would like to discuss the potential application of these solutions in the future.

Due to the increasing prevalence of myths and the widespread focus of pseudoscientific communities on Lyme disease, we want to highlight the necessity of educating patients about this problem. This would reduce the risk of patients resorting to improper treatment methods. We are increasingly encountering this issue in our medical practice. Public health institutions in Poland and Europe should pay greater attention to this arising problem, as these diseases can have serious consequences.

References:

1. Teodorowicz P, Weiner M. The role of ticks in the transmission of selected bacterial pathogens of human diseases. *Health Prob Civil.* 2022; 16(1): 5-14. <https://doi.org/10.5114/hpc.2022.113599>
2. Giesen C, Cifo D, Gomez-Barroso D, Estévez-Reboredo RM, Figuerola J, Herrador Z. The role of environmental factors in Lyme disease transmission in the European Union: a systematic review. *Trop. Med. Infect. Dis.* 2024; 9: 113. <https://doi.org/10.3390/tropicalmed9050113>
3. Burn L, Vyse A, Pilz A, Tran TMP, Fletcher MA, Angulo FJ, et al. Incidence of Lyme borreliosis in Europe: a systematic review (2005-2020). *Vector Borne and Zoonotic Diseases* (Larchmont, N.Y.). 2023; 23(4): 172-194. <https://doi.org/10.1089/vbz.2022.0070>
4. Chen WH, Strych U, Bottazzi ME, Lin YP. Past, present, and future of Lyme disease vaccines: antigen engineering approaches and mechanistic insights. *Expert Review of Vaccines*,. 2022; 21(10): 1405-1417. <https://doi.org/10.1080/14760584.2022.2102484>