



## Emerging Parasitic Diseases as a Growing Concern in a Transforming World

Nourridine Friedman\*

Department of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, United States of America

### DESCRIPTION

In a world that is constantly changing, the dynamics of infectious diseases are shifting, and emerging parasitic diseases are becoming a growing threat to global public health. These diseases, caused by a diverse array of parasites, have the potential to devastate human and animal populations, disrupt ecosystems, and strain healthcare systems. Factors such as climate change, globalization, urbanization, and ecological imbalances have contributed to the emergence and reemergence of parasitic diseases, posing significant challenges for researchers, healthcare professionals, and policymakers. This article explores the landscape of emerging parasitic diseases, their causes, and the critical strategies needed to combat this rising menace.

Emerging parasitic diseases are those that have recently increased in incidence or geographical range, or are anticipated to do so in the near future. They include a wide range of infections caused by various parasites, including protozoa, helminths (worms), and arthropods (insects and arachnids). Examples of these diseases include malaria, Chagas disease, schistosomiasis, and Lyme disease. One of the leading factors behind the emergence of parasitic diseases is climate change. Rising temperatures, altered precipitation patterns, and shifts in ecosystems create favorable conditions for parasites and their vectors (organisms that transmit parasites) to thrive. For instance, warmer temperatures can expand the geographic range of malaria-carrying mosquitoes, potentially exposing new populations to the disease.

The interconnectedness of the world through trade, travel, and migration has facilitated the spread of parasitic diseases. Infected individuals or vectors can easily move across borders, leading to the introduction of parasites into new regions. This globalization effect is evident in the spread of diseases like leishmaniasis and *Trypanosoma cruzi*, which causes Chagas disease. The rapid growth of urban areas creates densely populated environments where parasitic diseases can spread easily. Poor sanitation, overcrowding, and inadequate healthcare services in urban slums contribute to the transmission of diseases like schistosomiasis and soil-transmitted helminth infections.

Human activities, such as deforestation and habitat destruction, can disrupt ecological balance. These disruptions can lead to changes in the distribution of animal hosts, which can harbor parasites. For example, deforestation can bring humans into closer contact with wildlife carrying parasites, increasing the risk of zoonotic infections like Ebola virus and various forms of trypanosomiasis. The misuse and overuse of antiparasitic drugs have led to the development of drug-resistant parasites. This poses a significant challenge to the treatment and control of parasitic diseases, as fewer treatment options are available.

Malaria remains one of the most prominent parasitic diseases, with approximately 228 million cases and 405,000 deaths reported in 2018. The emergence of drug-resistant strains of the malaria parasite, *Plasmodium falciparum*, is a grave concern. Leishmaniasis is a group of vector-borne diseases caused by protozoa of the genus *Leishmania*. Climate change and urbanization have expanded the range of sandfly vectors, contributing to the emergence of this disease in new areas. Lyme disease, caused by the bacterium *Borrelia burgdorferi* and transmitted by ticks, has been on the rise in many parts of the world. Changes in tick distribution driven by climate change have played a role in its emergence.

The emergence of parasitic diseases poses significant challenges to public health systems worldwide. These diseases disproportionately affect vulnerable populations, particularly those in low- and middle-income countries with limited access to healthcare services. The consequences of these infections can be severe, leading to chronic illness, disability, and death. Additionally, the economic burden of parasitic diseases is substantial, as they can hinder productivity and strain healthcare budgets.

Timely surveillance systems that monitor changes in disease patterns and vectors are vital for early detection and response. This information can help authorities implement targeted interventions. Strategies to control the vectors responsible for transmitting parasitic diseases are essential. This includes measures like insecticide-treated bed nets for malaria control and

**Correspondence to:** Nourridine Friedman, Department of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, United States of America, E-mail: nourrid.fried@icloud.com

**Received:** 21-Aug-2023, Manuscript No. JBP-23-23359; **Editor assigned:** 24-Aug-2023, Pre QC No. JBP-23-23359 (PQ); **Reviewed:** 07-Sep-2023, QC No. JBP-23-23359; **Revised:** 14-Sep-2023, Manuscript No. JBP-23-23359 (R); **Published:** 21-Sep-2023, DOI: 10.35248/2155-9597.23.14.482

**Citation:** Friedman N (2023) Emerging Parasitic Diseases as a Growing Concern in a Transforming World. J Bacteriol Parasitol. 14:482.

**Copyright:** © 2023 Friedman N. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

controlling sandfly populations in leishmaniasis-endemic areas. Developing effective vaccines and treatments for parasitic diseases is a top priority. Research into novel therapies and vaccine candidates is essential to combat these diseases. Public education campaigns can help raise awareness about parasitic diseases, their transmission, and prevention methods. This includes promoting hygiene, proper sanitation, and the use of protective measures like insect repellent. Efforts to mitigate climate change and protect ecosystems are essential to prevent the further emergence of parasitic diseases linked to ecological imbalances. To combat drug resistance, responsible use of antiparasitic drugs and the development of new therapies are critical. Promoting antimicrobial stewardship practices can slow the spread of resistance.

## CONCLUSION

Emerging parasitic diseases represent a formidable challenge to global public health, driven by a complex interplay of environmental, social, and biological factors. As our world continues to change, it is imperative that we adapt and respond to these evolving threats. By investing in research, prevention, and treatment efforts, as well as addressing the root causes of disease emergence, it can be expected to reduce the impact of these diseases and protect the health and well-being of populations worldwide. Fighting against emerging parasitic diseases is not just a matter of medical science; it is a collective responsibility that requires international collaboration and concerted action.