OPEN ACCESS Freely available online

ISSN: 2329-9088
Tropical Medicine & Surgery

Perspective

Parasitic Infections: A Silent Epidemic in Tropical Health

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DESCRIPTION

Parasitic infections are a significant global health concern, particularly in tropical and subtropical regions. These infections caused by various parasites, affect millions of people, leading to substantial morbidity, disability, and socioeconomic burden [1]. In this article, we delve into the world of parasitic infections, exploring their impact, common parasites, modes of transmission, and strategies for prevention and control. Parasitic infections pose a significant challenge in epidemic control within the field of tropical health. In tropical regions, where poor sanitation, limited access to clean water, and overcrowding are prevalent, parasitic diseases can spread rapidly and cause widespread epidemics [2].

Diseases like malaria, dengue fever, and schistosomiasis are commonly associated with tropical regions and can lead to high morbidity and mortality rates [3]. Effective control strategies involve vector control, improved sanitation, and access to clean water sources. Additionally, early diagnosis, treatment, and public health education are crucial in containing and preventing the spread of parasitic infections in epidemic settings. International collaboration and resource allocation are essential to address the complex challenges posed by parasitic infections in tropical health epidemics.

Epidemic control of parasitic infections in tropical health requires a multidimensional approach. International collaboration and resource allocation are essential to support endemic countries in implementing comprehensive strategies [4]. This includes strengthening healthcare systems, improving sanitation infrastructure, and developing effective vaccines and treatments. Furthermore, research efforts should be directed towards understanding the dynamics of parasitic infections and their transmission patterns to inform targeted interventions.

Burden of parasitic infections

Parasitic infections also known as parasitoses encompass a wide range of diseases caused by parasites such as protozoa, helminths (worms), and ectoparasites. These infections affect both humans and animals, but their impact on human health cannot be underestimated.

Protozoal infections: Protozoal infections are caused by single-celled parasites, and they include diseases like malaria, amoebiasis, giardiasis, and sleeping sickness [5]. Malaria, caused by *Plasmodium* parasites and transmitted through the bite of infected mosquitoes, is one of the most devastating parasitic infections globally, causing hundreds of thousands of deaths each year. Amoebiasis, caused by the protozoan *Entamoeba histolytica*, leads to gastrointestinal symptoms and can result in severe complications.

Helminthic infections: Helminthic infections are caused by various species of parasitic worms. Soil-transmitted helminthiasis, including infections with roundworms, whipworms, and hookworms, affects over a billion people worldwide, primarily in impoverished communities with poor sanitation and hygiene. Other helminthic infections include schistosomiasis, lymphatic filariasis, and onchocerciasis [6]. These diseases can cause chronic disabilities, such as organ damage, blindness, and severe swelling of limbs.

Ectoparasitic infections: Ectoparasites are external parasites that infest the skin and feed on blood or tissue. Scabies, caused by infestation with the itch mite, leads to intense itching and skin rashes [7]. Pediculosis, caused by head lice or body lice, is a common problem, particularly in overcrowded and unsanitary conditions.

Modes of transmission

Parasitic infections are transmitted through various routes, including:

Vector-borne transmission: Many parasitic infections rely on vectors, such as mosquitoes, flies, ticks, and snails, for transmission. These vectors play a crucial role in the life cycles of parasites, facilitating their development and transmission to humans.

Fecal-oral transmission: Some parasites, particularly protozoa and helminths, are transmitted through the ingestion of contaminated food or water. Poor sanitation and hygiene practices contribute to the spread of these infections [8].

Direct contact: Ectoparasitic infections are often transmitted

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Received: 02-May-2023, Manuscript No. TPMS-23-21522; **Editor assigned:** 05-May-2023, PreQC No. TPMS-23-21522 (PQ); **Reviewed:** 19-May-2023, QC No. TPMS-23-21522; **Revised:** 26-May-2023, Manuscript No. TPMS-23-21522 (R); **Published:** 02-Jun-2023, DOI: 10.35248/2329-9088.23.11:304

Citation: Kelly M (2023) Parasitic Infections: A Silent Epidemic in Tropical Health. Trop Med Surg.11:304.

through direct contact with an infested individual or contaminated object such as bedding, clothing, or combs [9].

Prevention and control strategies

Addressing parasitic infections requires a multi-faceted approach. Here are some essential strategies for prevention and control:

Health education and behavioral change: Raising awareness about the risk factors, transmission routes, and preventive measures [10]. Community-based health education programs empower individuals to adopt hygienic practices, such as proper handwashing, safe food preparation, and maintaining clean living environments.

Vector control: Insecticide-treated bed nets, indoor residual spraying, and environmental management play a vital role in reducing vector populations and interrupting disease transmission. Integrated vector management strategies target specific vectors and their breeding sites to effectively control parasitic diseases.

REFERENCES

1. Vaca HR, Celentano AM, Macchiaroli N, Kamenetzky L, Camicia F, Rosenzvit MC. Histone deacetylase enzymes as potential drug targets of Neglected Tropical Diseases caused by cestodes. Int J Parasitol-Drug. 2019;9:120-132.
2. Nafari A, Cheraghipour K, Sepahvand M, Shahrokhi G, Gabal E, Mahmoudvand H. Nanoparticles: New agents toward treatment of leishmaniasis. Parasite Epidemiology Control.. 2020;10:e00156.
3. Serafim TD, Coutinho-Abreu IV, Dey R, Kissinger R, Valenzuela JG, Oliveira F, et al. Leishmaniasis: the act of transmission. Trends Parasitol. 2021;37(11):976-87.
4. Guarner J. Chagas disease as example of a reemerging parasite. Semin. Diagn. Pathol . 2019;36(3):164-169.
5. Büscher P, Bart JM, Boelaert M, Bucheton B, Cecchi G, Chitnis N, et al. Do cryptic reservoirs threaten gambiense-sleeping sickness elimination?. Trends Parasitol. 2018;34(3):197-207.
6. Pollastri MP. Fexinidazole: A new drug for African sleeping sickness on the horizon. Trends Parasitol. 2018;34(3):178-179.
7. Barabadi H, Alizadeh Z, Rahimi MT, Barac A, Maraolo AE, Robertson LJ, et al. Nanobiotechnology as an emerging approach to combat malaria: a systematic review. Nanomedicine. 2019;18:221-233.
8. Ferreira LL, de Moraes J, Andricopulo AD. Approaches to advance drug discovery for neglected tropical diseases. Drug Discov. Today 2022;27(8):2278-2287.
9. Ferreira LG, Oliva G, Andricopulo AD. From medicinal chemistry to human health: current approaches to drug discovery for cancer and neglected tropical diseases. An Acad Bras Cienc. 2018;90:645-661.
10. Denny PW, Steel PG. Yeast as a potential vehicle for neglected tropical disease drug discovery. J Biomol Screen. 2015;20(1):56-63.