



Silent Burden of Helminthic Diseases in Under-Resourced Settings

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DESCRIPTION

Helminthic diseases remain a persistent public health concern across many low-income regions, where environmental, social, and economic conditions enable continuous transmission. These infections are caused by parasitic worms such as nematodes, cestodes, and trematodes, which colonize the human body and interfere with normal physiological processes. Their presence is often linked with inadequate sanitation, limited access to clean water, and insufficient health education, all of which contribute to sustained cycles of infection within communities.

Individuals affected by helminthic diseases may experience a wide range of symptoms depending on the species involved and the intensity of infection. In many cases, the early stages produce mild or nonspecific effects such as fatigue, abdominal discomfort, or reduced appetite. However, prolonged infection can lead to more serious consequences including anemia, impaired growth in children, intestinal obstruction, and damage to vital organs. These conditions can reduce physical capacity and cognitive performance, affecting educational outcomes and economic productivity in already disadvantaged populations.

Transmission typically occurs through contact with contaminated soil, water, or food. Soil-transmitted helminths, for example, spread when eggs present in human feces contaminate the environment and later enter the body through ingestion or skin penetration. In areas lacking proper sanitation infrastructure, open defecation and poor waste management create ideal conditions for these parasites to thrive. Water-associated helminths, on the other hand, rely on intermediate hosts such as snails, allowing them to infect humans who come into contact with infested water sources.

The persistence of helminthic diseases is closely tied to social determinants of health. Limited healthcare access delays diagnosis and treatment, while financial constraints prevent individuals from seeking medical assistance. In many rural communities, awareness about parasitic infections remains low, leading to misconceptions and neglect of preventive practices.

Cultural habits, including barefoot walking or consumption of undercooked food, may further increase exposure risk. These factors collectively contribute to the ongoing burden of disease in vulnerable populations.

Diagnosis of helminthic infections often relies on laboratory examination of stool, blood, or tissue samples to detect eggs, larvae, or adult worms. Advances in molecular methods have improved detection accuracy, but such technologies are not always available in resource-limited settings. As a result, many infections remain undiagnosed or are identified only after complications arise. This delay can worsen health outcomes and increase the difficulty of treatment.

Prevention plays a central role in reducing the spread of helminthic diseases. Improvements in sanitation, access to safe drinking water, and promotion of hygiene practices such as handwashing can significantly lower transmission rates. Wearing protective footwear, properly cooking food, and avoiding contact with contaminated water sources are additional measures that help minimize exposure. Community-based education initiatives can empower individuals to adopt healthier behaviors and recognize early signs of infection.

CONCLUSION

Helminthic infections may not always receive the same level of attention as other diseases, yet their impact on human health and development is significant. Continued efforts to raise awareness, improve living conditions, and expand access to healthcare services can lead to meaningful progress. Reducing the prevalence of these infections not only benefits individual health but also contributes to the overall advancement of communities facing persistent challenges. Efforts to address helminthic diseases must also consider broader structural issues. Investments in infrastructure, including sewage systems and clean water supply, are essential for long-term control. Strengthening healthcare systems ensures timely diagnosis and treatment, while research into new therapeutic approaches may offer additional tools for managing infections.

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