

Impact of seasonality on helminthic infections

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Helminthes, also called worms, cause widespread infections within the human body. These organisms have complex life cycles that require different developmental steps within and outside a human host. Their transmitting source includes eating contaminated food, walking barefoot and playing with the land. The most frequent symptoms are abdominal pain, diarrhea, vomiting and weakness. These organisms are classified into the nematode and Platyhelminthes (cestodes and trematodes) categories. As a result of their suction cups, these organisms cause anemia, which is worrisome, especially for children. However, malabsorption syndromes resulting in inadequate absorption of essential nutrients are also reported.

Understanding how weather factors and seasonal variations affect population dynamics of zoonotic parasites is critical for a better understanding of their epidemiology. Previous studies have shown that the prevalence of parasite infections is influenced by spatio-temporal and seasonal factors ensure that readers are aware of the status of these factors at the time of the study.¹ Increased pressures and risks for infection have been positively associated with cold climatic conditions¹. Temporal and spatial factors, such as temperature and humidity levels, should have been taken into account. In addition, previous studies have clearly demonstrated that the prevalence of anemia is positively associated with asymptomatic malaria and co-infection of helminths,² The authors are expected to screen for malaria and provide data for both groups, as it could also have an impact.

According to one study, Pakistan is among the 10 countries with the highest reported cases of neglected tropical diseases (NTDs). Ascariasis and other soil-borne helminthes (STH) infections top the bid.³ . Human helminthiasis can also cause genetic instability and affect cell communication, eventually resulting in tumour development.⁴ Considering that chronic helminthiasis is recognized as an important factor in the development of cancer in men and its surprising appearance in Pakistan,. it is of paramount importance for

researchers to examine and for health authorities to take action. The initiative that must be taken here is the regular deworming of schoolchildren and health education courses that teach personal hygiene and sanitation to the masses. Given that most people with helminthiasis are asymptomatic until the disease progresses to a severe degree, mass testing at specific intervals should be integrated into the Pakistani health system. A geographical analysis should be carried out to identify high-risk areas and implement strict biological control to limit spread.

References

- Burlet, P., Deplazes, P., & Hegglin, D. (2011). Age, season and spatio-temporal factors affecting the prevalence of *Echinococcus multilocularis* and *Taenia taeniaeformis* in *Arvicola terrestris*. *Parasites & vectors* , 4 , 6. <https://doi.org/10.1186/1756-3305-4-6>
- Wudneh, F., Gebeyehu, Y., & Anberbir, S. (2021). Asymptomatic Malaria and Helminths Coinfection and Its Association with Anemia among Primary School Children in Gedeo Zone, Southern Ethiopia: A Cross-Sectional Study. *Journal of tropical medicine* , 2021 , 7742960. <https://doi.org/10.1155/2021/7742960>
- Blum AJ, Majid MF, Hotez PJ (2018) Pakistan: A nation held back by NTDs. *PLoS Negl Trop Dis* 12(10): e0006751. <https://doi.org/10.1371/journal.pntd.0006751>
- Herrera, L. A., & Ostrosky-Wegman, P. (2001). Do helminths play a role in carcinogenesis?. *Trends in Parasitology* , 17 (4), 172-175.