



A Ray of Hope: Bangladesh's Battle Against Kala-Azar Conquered

Shriyansh Srivastava^{1,2}, Safayet Jamil ³, Rachana Mehta⁴, Krati Agrawal⁵, Ranjana Rohilla⁶, Aroop Mohanty⁷ and Ranjit Sah^{8,9,10,*}

¹Delhi Pharmaceutical Sciences and Research University, Delhi, India

²School of Medical and Allied Sciences, Galgotias University, Greater Noida, India

³Department of Public Health, Daffodil International University, Dhaka 1216, Bangladesh

⁴Department of Medical Laboratories Techniques, Al-Mustaqbal University, 51001 Hillah, Babil, Iraq

⁵Department of Clinical Microbiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh

⁶Department of Microbiology, Shri Guru Ram Rai Institute of Medical & Health Sciences, Dehradun, Uttarakhand

⁷Department of Clinical Microbiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh, India

⁸Green City Hospital, Kathmandu, Nepal

⁹Department of Microbiology, Hospital and Research Centre, Dr. D. Y. Patil Medical College, Dr. D. Y. Patil Vidyapeeth, Pune 411018, Maharashtra, India

¹⁰Department of Public Health Dentistry, Dr. D. Y. Patil Dental College and Hospital, Dr. D. Y. Patil Vidyapeeth, Pune, Maharashtra, India

*Corresponding author: Department of Microbiology, Hospital and Research Centre, Dr. D. Y. Patil Medical College, Dr. D. Y. Patil Vidyapeeth, Pune 411018, Maharashtra, India.
Email: ranjitsah@iom.edu.np

Received 2023 December 02; Accepted 2023 December 08.

Keywords: PKDL, Bangladesh, Kala-azar

Dear Editor,

I am writing to draw your attention to the remarkable progress Bangladesh has made in the battle against kala-azar, also known as visceral leishmaniasis. Kala-azar, a deadly disease that primarily affects the poorest communities in Bangladesh, India, and Nepal, poses a significant public health challenge. It is transmitted through sandflies and is characterized by symptoms such as fever, weight loss, and enlargement of the spleen and liver (1).

Bangladesh, one of the countries most severely affected by kala-azar, initiated the National Kala-azar Elimination Program (NKEP) in 2005, with the ambitious aim of eradicating the disease by 2020. The NKEP's implementation of various strategies, including indoor residual spraying, insecticide-treated bed nets, and active case detection, has been instrumental in reducing the prevalence of kala-azar. However, challenges persist in terms of early diagnosis and treatment, particularly in remote areas. The complexity of managing the disease has further increased with the emergence of post-kala-azar dermal leishmaniasis (PKDL), a cutaneous complication of visceral leishmaniasis. Data from 2018 indicated that PKDL cases were concentrated in six countries, including Bangladesh, with vulnerable populations, especially young individuals, bearing the brunt of the disease (2).

The success of Bangladesh's fight against kala-azar

can be attributed to several factors. A key factor is the cooperation of various parties, including the World Health Organization (WHO), the International Center for diarrhoeal disease research, Bangladesh, the United Kingdom, Gilead Sciences, Inc., the Bill & Melinda Gates Foundation, the Special Program for Research and Training in Tropical Diseases (TDR), the Government of Bangladesh, and others in the WHO Southeast Asia Region (3). Through the Regional Kala-azar Elimination Initiative, Bangladesh, India, and Nepal launched a coordinated effort in 2005, focusing on social mobilization, operational research, integrated vector control, early diagnosis, comprehensive case management, and efficient disease surveillance (4).

Thanks to these collaborative efforts, Bangladesh has historically become the first country worldwide to eliminate visceral leishmaniasis as a public health concern. Additionally, Bangladesh achieved another remarkable feat by becoming the first country to eliminate two neglected tropical diseases in the same year, following the validation of lymphatic filariasis elimination in May 2023. The remarkable results achieved over the last decade testify to the power of collective action (4). With the NKEP targeting zero transmission of kala-azar by 2025, vector control has become a central strategy. Bangladesh has been implementing vector control activities since 2012, and comprehensive guidelines have been developed and aligned with national guidelines (5).

This achievement is globally significant because kala-azar affects millions of people worldwide, particularly in impoverished regions. Bangladesh's accomplishments demonstrate that with dedicated efforts, strategic planning, and international collaboration, even the most challenging public health problems can be conquered (4). The successful elimination of kala-azar in Bangladesh represents a significant milestone in the fight against neglected tropical diseases. This underscores the importance of international cooperation, research, and targeted strategies. However, it is essential to remain vigilant in maintaining this achievement, particularly in regions facing last-mile challenges. Strong political commitments, effective drugs, improved insecticides, and rigorous monitoring and evaluation are vital for sustaining kala-azar elimination. We hope that this success story from Bangladesh will inspire and inform the ongoing efforts of the global community to combat kala-azar and other neglected tropical diseases.

Footnotes

Authors' Contribution: SS and SJ work on the original draft. RM, KA, RR, AM and RS review the literature and edit the manuscript. All authors approve for the final manuscript.

Conflict of Interests: Authors declared no conflict of interests.

Funding/Support: No funding received.

References

1. Maruf S, Sagar SK, Rashid MMU, Nath P, Islam MS, Ghosh P, et al. Revisiting the diagnosis and treatment of Para Kala-azar Dermal Leishmaniasis in the endemic foci of Bangladesh. *PLoS One*. 2023;**18**(1). e0280747. [PubMed ID: 36662825]. [PubMed Central ID: PMC9858030]. <https://doi.org/10.1371/journal.pone.0280747>.
2. Ghosh P, Roy P, Chaudhuri SJ, Das NK. Epidemiology of Post-Kala-azar Dermal Leishmaniasis. *Indian J Dermatol*. 2021;**66**(1):12–23. [PubMed ID: 33911289]. [PubMed Central ID: PMC8061485]. <https://doi.org/10.4103/ijid.IJD.651.20>.
3. Ahmed B, Nabi SG, Rahman M, Selim S, Bashar A, Rashid MM, et al. Kala-azar (Visceral Leishmaniasis) Elimination in Bangladesh: Successes and Challenges. *Curr Tropical Med Rep*. 2014;**1**(3):163–9. <https://doi.org/10.1007/s40475-014-0027-6>.
4. World Health Organization. *Bangladesh achieves historic milestone by eliminating kala-azar as a public health problem*. Geneva, Switzerland: World Health Organization; 2023, [cited 2023]. Available from: <https://www.who.int/news/item/31-10-2023-bangladesh-achieves-historic-milestone-by-eliminating-kala-azar-as-a-public-health-problem>.
5. World Health Organization. *Training on National Kala-azar Vector Control Guideline for Entomologists and Ento-technicians*. Geneva, Switzerland: World Health Organization; 2023, [cited 2023]. Available from: <https://www.who.int/bangladesh/news/detail/03-08-2022-training-on-national-kala-azar-vector-control-guideline-for-entomologists-and-ento-technicians>.