

Effective Control of Parasitic Diseases through Local Narratives: Lessons from Thailand and Laos

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In recent decades, technological advancements and scientific progress have significantly improved disease control strategies. However, the exclusive focus on these aspects often overlooks the crucial role of social and cultural factors. Local narratives, reflecting community traditions and beliefs, offer valuable insights that can influence the success of public health interventions. Case studies, such as fascioliasis control in Thailand and *Schistosoma mekongi* infection in Laos, demonstrate the importance of integrating local stories into health programs. These examples highlight the effectiveness of a holistic approach that considers biological, ecological, social, and cultural dynamics, aligned with the “One Health” framework. Incorporating local knowledge into disease control interventions is essential for sustainability and long-term success.

Keywords: one health; disease control; cultural narratives; fascioliasis; *Schistosoma mekongi*

Local stories understood as narratives that reflect the beliefs, traditions, and everyday practices of communities, are an important source of knowledge that can directly influence the success or failure of public health initiatives. These stories are not just passive narratives but represent a form of practical wisdom that guides people’s everyday decisions, including those related to health and well-being. Understanding and valuing these narratives is essential to developing interventions that are culturally sensitive and find real buy-in in target communities. A recent study [1] found that health programs that do not consider local perceptions and experiences often fail to achieve their goals because they fail to create a sense of ownership and involvement in local communities. This is especially true in rural and marginalized settings, where cultural traditions can profoundly impact residents’ health behaviors that influence the spread of parasitic infections.

The case of fascioliasis in Thailand is a prime example of how integrating local histories and ecological knowledge can transform the effectiveness of health interventions. Despite decades of control efforts grounded in traditional approaches, the prevalence of fascioliasis remained high, especially in rural regions where local dietary habits, such as eating raw fish, continued to support disease transmission. The “Lawa Model”, an integrated approach to fascioliasis control, has dramatically changed the landscape. This model was not limited to technical measures, such as

drug administration and vector control, but also actively involved local communities through health education programs and initiatives to change cultural practices that may play a role in parasitic disease transmission. A key element of this approach has been the direct involvement of schools, where curricula have been adapted to include information on fascioliasis prevention. In addition, door-to-door campaigns have been organized to educate families about the risks of eating raw fish and the importance of hygiene practices [2]. The integrated approach of the “Lawa Model” not only leads to a significant reduction in the prevalence of fascioliasis but also promotes greater awareness and accountability within communities, creating a more favorable environment for the long-term success of disease control initiatives.

Another significant example of how local histories can influence the effectiveness of health interventions is the case of controlling *Schistosoma mekongi* infection in Laos. Despite initial efforts to control the spread of this disease, including the construction of latrines and the distribution of anthelmintic drugs, the results have been disappointing due to the failure to change local behaviors. A study conducted in Laos revealed that while sanitation infrastructure had been improved, the population continued to maintain risky practices, such as eating raw fish and poor latrine adoption, due to entrenched cultural traditions [3]. This example underscores the importance of address-

ing not only the technical aspects of disease control but also the behavioral and cultural factors that may hinder the success of interventions. Over time, Laos has adopted a more participatory and cultural approach to infection control, involving community leaders and using targeted communication techniques to promote behavioral change. The Eco-Health/One-Health approach, which combines community involvement with traditional methods like mass drug administration, has proven particularly effective. This strategy led to a significant decline in the prevalence of *S. mekongi*, from 29.1% to 1.8% [4] on the Khong islands in the Lao People's Democratic Republic, where an integrated approach was implemented to reduce helminth infections, through health education, improved sanitation facilities, and targeted treatment measures, collectively contributing to the marked reduction in infection rates among the local population. Aligning health strategies with community values and practices can enhance intervention effectiveness, demonstrating that integrating local stories can be a powerful tool for improving the effectiveness of health interventions.

Several studies highlight the integration of local knowledge in parasitic disease control efforts across sub-Saharan Africa. For instance, research on lymphatic filariasis in Ghana and Kenya demonstrated the effectiveness of Community-Directed Treatment (ComDT), where communities themselves organize the distribution of medications [5]. This approach, in contrast to traditional health system delivery, achieves higher treatment coverage, which is crucial for the elimination of the disease [5]. Similarly, in the context of onchocerciasis (river blindness), a study conducted in Ghana's Ashanti region emphasized the importance of community participation and acceptability. Mass Drug Administration (MDA) programs that involved local communities, such as through community drug distributors and local health campaigns, obtained wider acceptance and achieved higher compliance [6]. These findings indicate that framing health interventions within local spiritual and social contexts leads to better outcomes in controlling parasitic diseases.

In light of these examples, it becomes clear that an integrated approach, taking into account the interconnections between human, animal, and environmental health, is essential to addressing global health challenges. The concept of "One Health", which promotes interdisciplinary collaboration among physicians, veterinarians, ecologists, and anthropologists, recognizes the importance of considering ecological, social, and cultural factors in the design of health interventions [7]. To ensure the effectiveness and sustainability of parasitic disease control interventions, it is essential to listen to and understand local stories, integrating this knowledge with scientific evidence. The integration of local narratives in parasitic disease control strategies offers a promising pathway to enhance the effectiveness and sustainability of public health interventions; how-

ever, to truly leverage this approach, a systematic process of knowledge acquisition, dissemination, and action implementation is crucial. Gaining knowledge involves thorough research that combines scientific understanding of disease transmission with local cultural practices, requiring collaborative efforts between epidemiologists, anthropologists, and community members to create a comprehensive picture of disease spread within specific cultural contexts. Knowledge translation is vital, necessitating the development of effective methods to convey this integrated knowledge for public understanding through culturally appropriate educational materials and trained health educators. Facilitating implementation is equally important, as communities need support to carry out preventive actions, such as organizing workshops, providing necessary resources, and collaborating with local leaders to modify cultural practices without compromising traditions. Establishing sustainable prevention pathways is crucial for lasting change, which may include integrating disease prevention education into school curricula, training community health workers, and developing community-led monitoring systems.

By following this comprehensive approach—from gaining knowledge to implementing actions—we can create a solid foundation for preventing parasitic disease outbreaks. This strategy not only respects local cultural contexts but also empowers communities to take ownership of their health outcomes. As demonstrated by the success stories in Thailand and Laos, when local narratives are integrated with scientific knowledge and translated into practical, community-led actions, significant strides can be made in controlling parasitic diseases and improving public health.

Author Contributions

FB and KPA contributed to the conceptualization, supervision and validation of the manuscript, ensuring its overall coherence and scientific integrity. SP and GC contributed to the investigation and analysis, providing significant insights to further the work. All authors participated in the drafting and critical revision of the manuscript. All authors read and approved the final manuscript. All authors participated sufficiently in the work and agreed to be responsible for all aspects of the work.

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Conflict of Interest

The authors declare no conflict of interest.

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