EDITORIAL

Malaysian Parasitic Infections: Addressing Challenges and Shaping Future Directions Towards Becoming a Developed Nation

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INTRODUCTION

The reduction of parasitic infections in Malaysia since the early 1990s is a remarkable public health achievement that underscores the effectiveness of targeted health interventions and awareness campaigns. Prior to 1990, many local researchers published their findings on soil-transmitted helminths, malaria, and gut protozoan infections, including giardiasis and amoebiasis. There was also significant publication on ectoparasite infestations, such as scabies and pediculosis, due to the considerable public health issues they presented at that time. Nowadays, the number of articles on parasitic infection published in local journals or internationally is significantly less. We should thank the Malaysia Ministry of Health (MOH) for their dedication and hard work; we have been able to control some of the parasitic infections and achieve a state of elimination.

Most parasitic diseases belong to the Neglected Tropical Disease Group (NTD), which receives less priority than communicable diseases such as cancer, hypertension, or diabetes. These diseases are a major problem and endemic in low-income countries such as countries in the African continent, South America and many parts of Asia. The following outlines discuss the current status of parasitic infections in Malaysia. highlighting the challenges and future directions necessary for the country to achieve recognition as a developed, high-income nation.

CURRENT STATUS OF PARASITIC INFECTIONS IN MALAYSIA

As a tropical country with rich biodiversity, Malaysia is vulnerable to parasitic infections due to its climate and socioeconomic conditions. Even though Malaysia is moving towards becoming a developed nation, parasitic infections such as malaria, lymphatic filariasis, and soil-transmitted helminths (STH) remain a problem in certain populations, such as indigenous groups and those who live in poverty in rural areas.

CHALLENGES IN COMBATING PARASITIC INFECTIONS

Combating parasitic infections in Malaysia is impaired by several factors:
i. Malaysia is a tropical country that receives high rainfall throughout the year, which makes it suitable for mosquito breeding sites. These mosquitoes serve as vectors for malaria and lymphatic filariasis.

ii. Access to healthcare facilities is limited, especially in remote areas, where some parts are inaccessible by land transportation due to the absence of land roads. These areas can only be accessed using four-wheel drive vehicles, boats, or helicopters. The limited access to treatment and diagnosis led to a lack of awareness regarding the importance of personal hygiene and preventive measures against parasitic infections.

iii. Individuals living in rural areas are at risk of zoonotic diseases, primarily due to their socioeconomic activities that often involve work in forests, with residential houses located near or at the edge of the forest. One notable zoonotic disease prevalent in this population is knowlesi malaria.

EFFORTS AND PROGRESS IN MITIGATING INFECTIONS

The Malaysia Ministry of Health (MOH) has made proactive preventive measures through their activities, such as insecticide-treated nets and indoor residual spraying, to address malaria and other mosquito-borne diseases and school-based deworming activity. The implementation of these two control activities since the 1970s has led to a significant reduction in malaria cases since 2000, decreasing the incidence of soil-transmitted helminths (STH) among children and improving overall health and educational outcomes. Currently, 70% of malaria cases in Malaysia are due to zoonotic malaria, and 30% of cases of human malaria are due to imported cases. Additionally, establishing a robust surveillance

system has enabled early detection and rapid response to outbreaks, especially for emerging zoonotic diseases like *P. knowlesi*. Collaborative research initiatives between MOH, universities and NGOs through the Malaysia One Health university networking have also shed light on the epidemiology and control of parasitic infections, ensuring evidence-based interventions.

FUTURE DIRECTIONS FOR A DEVELOPED MALAYSIA

As Malaysia is working to become a developed country, curbing parasitic infections requires multiple or multidisciplinary approaches. We have to prioritise our strategies to focus on research and development in biomedical research in critical areas such as vaccines, treatments, and diagnostic technologies. Through MOH, they have access to healthcare facilities and at the same time, these populations are also exposed to medical and educational activities through the health promotion campaign on parasitic diseases and how to prevent infections in the community. With the collaboration between the MOH and the ONE Health university network, community awareness activities will enable integrated strategies to tackle zoonotic diseases and collectively address human, animal, and environmental health.

CONCLUSION

Parasitic infections remain a significant concern in Malaysia. Data from the Ministry of Health Report 20203 indicates that malaria cases, particularly zoonotic malaria and soil-transmitted helminthiasis (STH), are still prevalent among schoolchildren in rural communities. Even though much work and effort have been put in, we are still struggling to achieve our target, such as eliminating lymphatic filariasis as early as 2020. We need to restrategies and relook back our policies to position our country on the global stage as a developed nation. By proactively addressing these challenges, Malaysia can build a foundation for a healthier and more equitable future for all its citizens.

We at MJMHS believe our journal offers an excellent platform for local and regional researchers to share their high-quality research findings. This allows them to reach research communities worldwide in the current areas of study related to parasitic infections. While parasitic infections are no longer a primary concern in Malaysia, we believe that by publishing in MJMHS, we can share advanced technologies such as next-generation sequencing (NGS) and metagenomics approaches. These powerful methods may provide new insights into addressing the challenges of emerging or re-emerging infectious diseases, which we plan to highlight in our publication.

REFERENCES

1. Ministry of Health Malaysia, Health Facts 2024 (reference Data for Year 2023)