Int Marit Health
2024; 75, 3: 205–206
10.5603/imh.102355
www.intmarhealth.pl

ISSN 1641-9251
eISSN 2081-3252

VIA MEDICA

Response to the comment on „Prevalence of malaria in Arusha Region in the northern Tanzania”

Krzysztof Korzeniewski[1]*, Heriel Zacharia Ammi[2]

[1]Department of Epidemiology and Tropical Medicine, Military Institute of Medicine — National Research Institute, Warsaw, Poland
[2]Karatu Lutheran Hospital, Karatu District, Arusha Region, Tanzania

Dear Editor,

We would like to thank the authors of the comment on the article titled “Prevalence of malaria in Arusha Region in the northern Tanzania” [1] for their interest in our work. Commentators pointed out that the small sample size of only 101 participants could not be a reliable indicator of the prevalence of malaria in the Karatu District as a whole. The study on a sample of 101 participants was in fact only a preliminary study. The following year (2023) we conducted similar screening in the same medical center (Karatu Lutheran Hospital, Karatu District, Arusha Region), and in the same month (July, a peak season for international tourist arrivals to Tanzania’s national parks), but on a significantly larger sample (n = 449). The results, based on the same methodology (mRDT + PCR) are currently being processed but do not differ significantly from the results obtained in 2022 in terms of the proportion of infected individuals and the distribution of *Plasmodium* species. The mRDT detected *Plasmodium* infections (1.1% of positive results) are shown in Table 1 [2].

The main aim of the study was to assess whether or not it is necessary to use antimalarial chemoprophylaxis in hundreds of thousands of foreign tourists visiting national parks in northern Tanzania. The assessment of the prevalence of malaria in the local community was a tool to answer the question: should tourists visiting northern Tanzania take drugs for malaria prophylaxis or not? Obviously, the title of the article could have been formulated differently, with an emphasis on the chemoprophylaxis for foreign tourists, instead of the assessment of malaria prevalence in the region, but the main point was clearly made in the conclusions: ‘The results of the present study confirm the occurrence of malaria cases in national park areas in northern Tanzania and justify the adoption of antimalarial chemoprophylaxis by international travelers visiting tourist destinations’.

Commentators suggest that more advanced diagnostic instruments should be applied to precisely identify cases of malaria. Molecular biology tests (PCR), which were used as one of the testing methods in our study, are an advanced diagnostic instrument and were introduced to more precisely assess the occurrence of malaria cases. Molecular tests were performed in Poland due to the lack of diagnostic equipment in the Karatu District. The use of FTA micro cards

Table 1. mRDT detected *Plasmodium* infections in patients treated at the Karatu Lutheran Hospital, Tanzania, July 2023 (n = 449)

Sex	Age	Temperature [°C]	Hb [g/dL]	mRDT
M	52	36.2	6.6	Pan (P.o./P.m.)
F	60	36.1	11.2	Pan (P.o./P.m.)
F	27	37.0	9.4	P.f.
F	22	37.5	12.7	P.f.
F	26	36.5	11.0	P.f. + Pan (P.o./P.m.)

F – female; M – male; Hb – hemoglobin; mRDT – malaria rapid diagnostic test, P.f. – *Plasmodium falciparum*; Pan – *Plasmodium ovale/Plasmodium malariae*; P.o. – *Plasmodium ovale*; P.m. – *Plasmodium malariae*

*prof. Krzysztof Korzeniewski MD, PhD, Military Institute of Medicine – National Research Institute Department of Epidemiology and Tropical Medicine, 128 Szaserów St., 04–141 Warsaw, Poland, e-mail: kkorzeniewski@wim.mil.pl

Received: 30.08.2024 Accepted: 16.09.2024

for storing dry blood spots is justified as it facilitates the transportation of biological material and makes it possible to detect multiple pathogens from the same sample.

An important conclusion of the study is the confirmation of the occurrence of different *Plasmodium* species in Tanzania, which is consistent with the data from the CDC reports but contrary to WHO reports, according to which *P. falciparum* is responsible for all malaria cases in Sub-Saharan Africa.

The commentators have rightly pointed out that ‚longitudinal studies could be carried out to monitor the dynamics of malaria transmission in the area over time and evaluate the impact of interventions like insecticide-treated bed nets and mass medicine administration on the disease burden. Furthermore, working together with community stakeholders and local health authorities could support the implementation of focused community-based malaria prevention and control initiatives'. However, conducting longitudinal studies would require huge financial outlays and our participation in an international grant project. Of course, we are considering the possibility of undertaking such research. The authors appreciate your valuable comments and suggestions.

ARTICLE INFORMATION AND DECLARATIONS

Acknowledgments: None.
Conflict of interest: None.
Funding: No funding.
Supplementary material: None.

REFERENCE

1. Kołodziej D, Ammi HZ, Richert W, et al. Prevalence of malaria in Arusha Region in the northern Tanzania. Int Marit Health. 2024; 75(2): 103–108, doi: 10.5603/imh.100440, indexed in Pubmed: 38949218.
2. Korzeniewski K, Ammi HZ. Malaria cases and Plasmodium species in Karatu District in the northern Tanzania: unpublished data, July 2023.