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To What Extent Do People in Malaria-Endemic Countries Know Asymptomatic Malaria Infections? A Systematic Review

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We use this protocol and it's working

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Abstract

In the fight against malaria, control measures mainly focus on symptomatic infections with available diagnostic tools such as rapid diagnostic tests and microscopy in urban and remote areas. Individuals having malaria symptoms are likely to be aware of their condition and seek treatment at healthcare facilities. Furthermore, many studies have assessed community's knowledge of malaria. These studies often focus on people's awareness of the disease's symptoms, their attitude in seeking treatment and protective measures they use. On the other hand, asymptomatic malaria, which is defined as malaria infection with *Plasmodium* parasites of any density without symptoms related to the disease, constitutes one of the challenges to malaria elimination, and awareness of this asymptomatic *Plasmodium* infection remains relatively understudied among the affected communities. Moreover, not only asymptomatic individuals do not necessarily seek treatment, but they also constitute the disease reservoir that contributes to malaria relapses and transmission through mosquito bites. To present, few studies reported community knowledge of asymptomatic malaria. Hence, it is crucial to explore and raise awareness on asymptomatic malaria as this knowledge may determine community level of engagement in malaria control interventions. Therefore, this systematic review aims to determine the proportion of people who have knowledge of asymptomatic malaria in endemic countries and describe their perceptions and beliefs about malaria control.

Troubleshooting



Review Start Date

1 March 2024

Anticipated Completion Date

2 December 2024

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Review Question

- 10 To what extent do people in malaria-endemic countries know asymptomatic malaria infections?

Searches

- 11 The search will be in English language with a strategy that includes both subject headings and text words relating to or describing the topic (community, knowledge, asymptomatic malaria).
- 12 Search terms: "community" and "awareness" or "knowledge" or perception or "attitude" and "asymptomatic" or "symptomless" or "afebrile" and "malaria".
- 13 Databases: PubMed (MEDLINE), Google Scholar and Web of Science.
- 14 References and citations for the articles included in the review will be searched for additional relevant studies.

Inclusion and Exclusion Criteria

- 15 Inclusion criteria:
 - 15.1 Peer-reviewed and Published articles on knowledge, perceptions, or awareness of asymptomatic malaria
 - 15.2 Date of publication: January 1st, 2010 to May 2024
 - 15.3 Quantitative studies: Cross-sectional, cohort, case-control and intervention studies
 - 15.4 Qualitative studies: In-depth interviews, focus group interviews, focus group discussions.
- 16 Exclusion criteria:



16.1 Articles on simian malaria other than *P. knowlesi*

16.2 Case reports, opinion papers, editorials

The Condition or Domain Being Studied

17 Asymptomatic malaria and community knowledge and awareness

Participants/Population

18 Individuals or communities residing in malaria-endemic countries.

Intervention/Exposure

19 N/A

Comparator/Control

20 N/A

Context

21 Asymptomatic malaria in malaria-endemic countries

Main Outcome

22 Proportion of the Population who know about asymptomatic malaria.

Additional Outcome

23 Awareness, perceptions, or beliefs about asymptomatic malaria

Data Extraction (Selection and Coding)

24 To identify studies that potentially meet the inclusion criteria, two authors will independently screen titles and abstracts of studies retrieved using the search strategy as well as those from additional sources. The full text of these eligible studies will be retrieved and independently assessed by two review team members. Disagreements between them regarding the eligibility of particular studies will be resolved through discussion with a third author.

25 A standard form will be used to extract the following information: the year when the study was conducted, year of study publication, study sites, study population and age groups, and baseline characteristics, study design, outcomes, information for risk of bias assessment. Data will be extracted independently by two authors. When necessary, a third author will be consulted to resolve discrepancies.

Quality Assessment

26 For the quality assessment of included studies, the Joanna Briggs Institute (JBI) critical appraisal tool will be used. For cross-sectional studies, a critical appraisal tool checklist with 8 criteria will be applied (Example: 1. Were the criteria for inclusion in the sample clearly defined? 2. Were confounding factors identified? 3. Were the outcomes measured in a valid and reliable way? 4. Was appropriate statistical analysis used?), while for cohort studies, a checklist tool with 11 criteria will be applied (Example: 1. Were the two groups similar and recruited from the same population? 2. Were the groups/participants free of the outcome at the start of the study?), and for qualitative studies, a checklist with 10 criteria will be used (Example: 1. Is there congruity between the research methodology and the research question or objectives? 2. Is there congruity between the research methodology and the interpretation of results? 3. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?).

Strategy for Data Synthesis

27 For quantitative studies, the proportions of participants aware of asymptomatic malaria and confidence intervals from the included studies will be pooled. Due to heterogeneity among included studies (i.e. various study designs, and geographical areas), the summary of the effect size will be conducted using a meta-analysis random-effects model. Statistical heterogeneity will be assessed using I² Statistic and if necessary, a sub-group analysis will be conducted to explore heterogeneity among and between studies for a better explanation of the observed differences. For qualitative studies, we

will descriptively summarize findings on Awareness, perceptions or beliefs about asymptomatic malaria and provide a narrative synthesis.

Conflicts of Interest

28 No conflict of interest to declare.