

INPLASY

Co-Infections and Their Prognostic Impact on Melioidosis Mortality

INPLASY2024120013

doi: 10.37766/inplasy2024.12.0013

Received: 3 December 2024

Published: 3 December 2024

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ADMINISTRATIVE INFORMATION

Support - No funding was received for this work.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2024120013

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 3 December 2024 and was last updated on 3 December 2024.

INTRODUCTION

Review question / Objective To study the associations between co-infections and underlying conditions with melioidosis severity, a comprehensive evaluation of their prognostic impact on mortality.

Rationale The gap in research necessitates a thorough investigation to elucidate how co-infections and other prognostic factors interact and contribute to the overall mortality risk in melioidosis patients. This systematic review and meta-analysis aim to address this knowledge gap by synthesizing data from various studies to assess the impact of co-infections and other prognostic factors on melioidosis mortality.

Condition being studied By aggregating and analyzing data on patient characteristics, co-infection status, and disease outcomes, we seek to provide a clearer understanding of the factors influencing mortality in melioidosis.

METHODS

Search strategy A literature search was conducted in PubMed, Embase, Scopus and alternative source (google scholar). The keywords included in the search are "Burkholderia pseudomallei", "B. pseudomallei", "melioidosis", "coinfection", "co-infection", "super-infection", "co-occurrence" and "clinical outcome."

Participant or population The confirmed melioidosis patients enrolled in studies will be eligible for this review with no exclusions based on ethnicity or age.

Intervention That patients were diagnosed of any microorganism(s) co-infection.

Comparator The confirmed melioidosis patients with no microorganism(s) co-infection.

Study designs to be included Case reports and case series were included if they detailed co-infections and their impact on mortality in

melioidosis patients. The cohort retrospective, and prospective observational studies were included if they examined how co-infections and other prognostic factors influenced mortality based on historical patient data.

Eligibility criteria Studies will be excluded if they did not provide substantial data, such as conference abstracts, editorials, or opinion pieces. Research lacking specific data on mortality, co-infections, or that did not directly address melioidosis was also omitted. Additionally, studies with incomplete data that could not be meaningfully analyzed will be excluded to ensure the review's accuracy and reliability.

Information sources A literature search was conducted in PubMed, Embase, Scopus and alternative source (google scholar).

Main outcome(s) Clinical outcome of infection (dead or alive).

Additional outcome(s) None.

Data management Two of reviewers (Wiyada Kwanhian Klangbud; WKK and Pakpoom Wongyikul; PW) applying eligibility criteria and selecting studies for inclusion in the systematic review. Two reviewers (WKK and PW) will independently screen records for inclusion. The disagreements between individual judgements will be resolved by third reviewer (Phichayut Phinyo; PP).

The mean of recording data: Excel spreadsheet.

Quality assessment / Risk of bias analysis The studies will evaluate using the methodological quality and synthesis criteria for case series and case reports. The assessments were based on eight items categorized into four domains: selection, ascertainment, causality, and reporting. Two of reviewers (WKK and PW) that will be involved in the quality assessment. The disagreements between individual judgements will be resolved by third reviewer (PP).

Strategy of data synthesis We will provide a narrative synthesis of the findings from the included studies, structured around the type of intervention, target population characteristics, type of outcome and intervention content. We will provide summaries of intervention effects for each study by calculating risk ratios (for dichotomous outcomes).

Subgroup analysis None plan.

Sensitivity analysis A post hoc sensitivity analysis will be conducted to evaluate the robustness of our results when relying solely on evidential support for the causal diagram and model.

Language restriction The searches will be restricted to papers written in English.

Country(ies) involved THAILAND.

Keywords Melioidosis, Burkholderia pseudomallei, Disseminated infection, Outcome, Coinfection.

Dissemination plans We plan to publish the review in international journal.

Contributions of each author

Author 1 - Wiyada Kwanhian Klangbud - conceiving the review; designing the review; coordinating the review; data collection; data management; analysis of data; interpretation data; writing the protocol or review.

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Author 2 - Pakpoom Wongyikul - data management; analysis of data; interpretation data; writing the protocol or review.

Author 3 - Phichayut Phinyo - data management; analysis of data; interpretation data; writing the protocol or review.