

INPLASY

The Risk of Metabolic Dysfunction-Associated Steatotic Liver Disease in Moderate-to-Severe Psoriasis: A systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Piloting of the study selection process.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510068

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 January 2025 and was last updated on 19 January 2025.

INTRODUCTION

Review question / Objective The purpose of this meta-analysis is to examine the risk of metabolic dysfunction-associated steatotic liver disease in moderate-to-severe psoriasis patients.

Rationale Psoriasis is a chronic systemic inflammatory skin disease, which also links to several comorbidities, such as metabolic dysfunction-associated steatotic liver disease, diabetes mellitus, and obesity. Therefore, the purpose of this meta-analysis is to examine the risk of metabolic dysfunction-associated steatotic liver disease in moderate-to-severe psoriasis patients.

Condition being studied Psoriasis, metabolic dysfunction-associated steatotic liver disease.

METHODS

Search strategy Twelve authors will search published articles from two databases, MEDLINE and EMBASE, from their inception until March 2024.

Participant or population Moderate-to-severe psoriasis patients who evolved metabolic dysfunction-associated steatotic liver disease.

Intervention Moderate-to-severe psoriasis patients.

Comparator Patients with mild psoriasis and those without psoriasis.

Study designs to be included We will incorporate five study designs, encompassing cross-sectional, case-control, and prospective or retrospective cohort studies.

Eligibility criteria The potential articles that follow these criteria will be included, comprising cross-sectional, case-control, and prospective or retrospective cohort studies, that reported metabolic dysfunction-associated steatotic liver disease risk in moderate-to-severe psoriasis patients compared with mild psoriasis and those without psoriasis. Only English articles will be assessed.

Information sources MEDLINE and EMBASE.

Main outcome(s) – The risk of metabolic dysfunction-associated steatotic liver disease in moderate-to-severe psoriasis patients compared with mild psoriasis and without psoriasis patients.

Additional outcome(s) None.

Data management Two rounds of screening will be independently assessed through twelve investigators via Covidence. The title and abstract screening will be conducted. After that, we will assess the full text from the potential articles. We will extract the data from the eligible articles. All of the conflicts will be discussed through authors.

Quality assessment / Risk of bias analysis We will use the Newcastle-Ottawa Scale (NOS) for the quality assessment.

Strategy of data synthesis We will use the random effect model due to possible dissimilarity of participants. I2 statistics will be used to assess heterogeneity from our analysis.

Subgroup analysis None.

Sensitivity analysis None.

Language restriction English.

Country(ies) involved Thailand.

Keywords Psoriasis; meta-analysis; liver disease; metabolic dysfunction-associated steatotic liver disease.

Contributions of each author

Author 1 - Suvijak Untaaveesup - conceptualization, methodology, validation, resources, data curation, visualization, project administration, writing-original draft.

Author 2 - Piyawat Kantagowit - conceptualization, methodology, validation, resources, data curation, visualization, writing-original draft.

Author 3 - Patompong Ungprasert - conceptualization, methodology, validation, project

administration, visualization, formal analysis, investigation, supervision, project administration, writing-review & editing.

Author 4 - Nitchanan Kitlertbanchong - conceptualization, methodology, validation, resources, data curation, visualization.

Author 5 - Tanyatorn Vajiraviroj - conceptualization, methodology, validation, resources, data curation, visualization.

Author 6 - Tanpichcha Sutithavinkul - conceptualization, methodology, validation, resources, data curation, visualization.

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Author 10 - Thanaboon Chaemsupaphan - conceptualization, methodology, validation, project administration, visualization, supervision, project administration, writing-review & editing.

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