International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Association between insomnia symptoms and chronotype — a systematic review and meta-analysis

INPLASY202510013
doi: 10.37766/inplasy2025.1.0013
Received: 5 January 2025
Published: 5 January 2025

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ADMINISTRATIVE INFORMATION

Support - This work was supported by ZJU 100 Young Professor Project (X.T.), and Rut and Arvid Wolff Memorial Foundation (X.T., 2023-02467). The funders had no role in the conduct of the study; collection, management, analysis, or interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510013

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 January 2025 and was last updated on 7 May 2026.

INTRODUCTION

Review question / Objective To explore the association between circadian manifestation and common sleep disorders such as insomnia.

Condition being studied Insomnia.

METHODS

Participant or population People with or without insomnia.

Intervention None.

Comparator None.

Study designs to be included Prospective and cross-sectional studies.

Eligibility criteria The study contained results on the relationship between chronotype and insomnia; The study applied MEQ or rMEQ to evaluate participants' chronotypes; A cross-sectional or prospective study design was used.

Information sources Pubmed and embase.

Main outcome(s) The relationship between chronotype and insomnia.

Quality assessment / Risk of bias analysis Newcastle-Ottawa Scale (NOS).

Strategy of data synthesis Two types of variables were extracted from the included studies. One was the dichotomous variables — the number of insomnia and non-insomnia participants from the three chronotypes. They were needed to calculate

OR of each study to see people of which chronotype were more prone to insomnia. The other was the continuous variables, i.e. means and standard deviations (SD) of ISI scores of the three chronotypes. Mean difference (MD) was calculated to see which chronotype tended to have a higher level of insomnia severity.

Subgroup analysis None.

Sensitivity analysis Sensitivity analysis was conducted by removing the included studies one by one to see whether the overall result could have been influenced by a single study that introduced significant heterogeneity.

Language restriction English.

Country(ies) involved China.

Keywords Chronotype; insomnia; eveningness; morningness; meta-analysis.

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