INPLASY PROTOCOL

To cite: Chen et al. Prevalence of poor sleep quality among the general population in China: a meta-analysis of epidemiological studies. Inplasy protocol 202340055. doi: 10.37766/inplasy2023.4.0055

Received: 17 April 2023

Published: 17 April 2023

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Support: **No.**

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

Conflicts of interest:
None declared.

Prevalence of poor sleep quality among the general population in China: a meta-analysis of epidemiological studies

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Review question / Objective: **This study aims to examine the pooled prevalence of PSQ among the Chinese general population (i.e. community-dwelling residents) and explore its associated factors.**
Condition being studied: **Knowing the prevalence of PSQ is critical for health professionals and policymakers to understand its impact on the general population and further formulate reasonable allocation of health resources, and develop appropriate prevention and intervention strategies to improve sleep-related health problems.**
Information sources: **PubMed, PsycINFO, Web of Science, EMBASE, Wanfang database and China National Knowledge Infrastructure (CNKI) database.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 April 2023 and was last updated on 17 April 2023 (registration number INPLASY202340055).

INTRODUCTION

Review question / Objective: **This study aims to examine the pooled prevalence of PSQ among the Chinese general population (i.e. community-dwelling residents) and explore its associated factors.**

Rationale: **The high prevalence of PSQ among the general population reported in previous systematic reviews and meta-analyses has attracted attention, such as 53% in Ethiopian (Manzar et al., 2020) and 32.8% in a set of low and middle-income countries (Simonelli et al., 2018). Age, gender, geographical locations, and methodology could account for such variance in prevalence (Manzar et al., 2020; Simonelli et al., 2018). In China, lots of population-based studies have been conducted and the prevalence of PSQ**

varies greatly across studies, ranging from 6.6% to 43.6% (Gu et al., 2015; Wang et al., 2016; Wang et al., 2022a). In addition, existed reviews in China have conducted among patients with hypertension (52.5%) (Li et al., 2020) and medical students (25%) (Chen et al., 2020). However, to date, no systematic review or meta-analysis examining the prevalence of PSQ among the Chinese general population has been published.

Condition being studied: Knowing the prevalence of PSQ is critical for health professionals and policymakers to understand its impact on the general population and further formulate reasonable allocation of health resources, and develop appropriate prevention and intervention strategies to improve sleep-related health problems.

METHODS

Search strategy: ("Sleep Quality" OR "Qualities, Sleep" OR "Quality, Sleep" OR "Sleep Qualities" OR "quality of sleeping" OR "sleeping quality" AND "Pittsburgh sleep quality index" OR PSQI AND ("China" OR "Chinese") AND ("prevalence" OR "epidemiology" OR "rate").

Participant or population: Participants (P): the general population in China (i.e. community-dwelling residents).

Intervention: Not applicable.

Comparator: Not applicable.

Study designs to be included: Cross-sectional studies and/or cohort studies (only baseline data were extracted).

Eligibility criteria: The inclusion criteria were made based on the PICOS acronym, as follows: Participants (P): the general population in China (i.e. community-dwelling residents); Intervention (I): not applicable; Comparison (C): not applicable; Outcome (O): the prevalence of poor sleep quality (PSQ) or data that could generate prevalence of PSQ as measured with standard scales such as the PSQI; Study design (S): cross-sectional studies and/or cohort studies (only baseline data were extracted) with accessible data published in peer-reviewed journals. Reviews, systematic reviews, meta-analyses, case studies and commentaries were excluded. Studies conducted in specific population, such as the elderly, students and children, were excluded. Considering the obvious effects of the COVID-19 pandemic on sleep quality (Kocevska et al., 2020; Targa et al., 2021), studies conducted during the COVID-19 pandemic were excluded. If multiple studies with data from the same dataset were published, only the one with the largest sample size was included.

Information sources: PubMed, PsycINFO, Web of Science, EMBASE, Wanfang database and China National Knowledge Infrastructure (CNKI) database.

Main outcome(s): Outcome (O): the prevalence of poor sleep quality (PSQ) or data that could generate prevalence of PSQ as measured with standard scales such as the PSQI.

Quality assessment / Risk of bias analysis: The quality of included studies will be assessed with an 8-item instrument for epidemiological studies (Boyle, 1998; Loney et al., 1998), including: (1) Target population was defined clearly; (2) Probability sampling or entire population surveyed; (3) Response rate was equal or greater than 80%; (4) Non-responders were clearly described; (5) Sample was representative of the target population; (6) Data collection methods was standardized; (7) Validated criteria were used to diagnose poor sleep quality, and (8) Prevalence estimates were given with confidence intervals and detailed by subgroups (if applicable).

Strategy of data synthesis: Considering the heterogeneity from different demographic data and methodology (e.g., sampling method and study areas) between studies, the pooled prevalence of PSQ and corresponding 95% confidence intervals (CIs) were calculated using a random-effects model (Harris et al., 2008).

Subgroup analysis: Subgroup analyses for categorical variables and meta-regression analysis for continuous variables will be performed to explore the potential sources of heterogeneity.

Sensitivity analysis: To assess the stability of the results, a sensitivity analysis will be performed by removing studies one by one.

Country(ies) involved: China.

Keywords: Prevalence, poor sleep quality, general population, China, meta-analysis.

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