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Prevalence of poor sleep quality among stroke survivors: a meta-analysis and systematic review

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ADMINISTRATIVE INFORMATION

Support - No.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 January 2024 and was last updated on 09 January 2024.

INTRODUCTION

Review question / Objective Participants (P): Stroke survivors diagnosed according to study-defined diagnostic criteria, such as the Guidelines for diagnosis and treatment of acute ischemic stroke in China; Intervention (I): Not applicable; Comparisons (C): Not applicable; Outcomes (O): The prevalence of poor sleep quality as measured by standardized scales, such as the PSQI; Study design (S): Epidemiological, or cross-sectional studies.

Condition being studied The participants of this study should be stroke survivors diagnosed according to study-defined diagnostic criteria, such as the Guidelines for diagnosis and treatment of acute ischemic stroke in China.

METHODS

Participant or population Stroke survivors diagnosed according to study-defined diagnostic criteria, such as the Guidelines for diagnosis and treatment of acute ischemic stroke in China.

Intervention Not applicable.

Comparator Not applicable.

Study designs to be included Cross-sectional study.

Eligibility criteria Exclusion criteria included: 1) studies published in neither English nor Chinese, 2) the criteria of poor sleep quality were not reported, 3) people with sleep related disorders (e.g. insomnia and obstructive sleep apnea) were

excluded to avoid significant selection bias and overestimates of poor sleep quality.

Information sources PubMed, Web of Science, PsycINFO, EMBASE, CNKI and WangFang.

Main outcome(s) The prevalence of poor sleep quality as measured by standardized scales, such as the PSQI.

Quality assessment / Risk of bias analysis Study quality was assessed independently by the three researchers using an eight-item scale. The measurement included: 1) Is target population clearly defined? 2) Is probability sampling or entire population surveyed used? 3) Is the response rate greater or equal to 80%? 4) Are non-responders clearly described? 5) Do the characteristic of respondents match the target population? 6) Were data collection methods standardized? 7) Were validated criteria used to diagnose poor sleep quality? 8) Are the prevalence estimates given with confidence intervals and detailed by subgroup (if applicable).

Strategy of data synthesis The data analyses were conducted with R and the package 'meta'. The pooled prevalence of poor sleep quality and sleep quality component scores with 95% confidence intervals (CIs) were calculated. Study heterogeneity was evaluated using I2 statistic, with value greater than 50% indicating high heterogeneity. A random-effects model was used.

Subgroup analysis Subgroup and meta-regression analyses were used to explore the source of potential heterogeneity. Subgroup analyses were calculated based on categorical variables (e.g. cut-off values, country, income level, patients' resource, and damage feature); meta-regression analyses were conducted based on continuous variables (e.g. mean age, male proportion, percentage of mental health problems, stroke localization, and chronic disease). Following previous research (Bai et al., 2023), subgroup analyses were conducted when there were at least two studies in each subgroup, and meta-regression were performed if there were at least 10 studies.

Sensitivity analysis Consistency of primary results were tested using sensitivity analysis; individual studies were removed by the "leave one out" method.

Country(ies) involved China.

Keywords Stroke; Stroke survivors; Sleep quality; PSQI; Meta- analysis.

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