INPLASY PROTOCOL

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Conflicts of interest: None declared.

Global prevalence of depressive symptoms in older adults: a systematic review and meta-analysis

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Review question / Objective: Investigate the prevelance of depressive symptoms in older adults population.

Condition being studied: The prevelance of depressvie symptoms was very high. GDS is a depression scale specially created for the elderly and standardized in the elderly. It has a higher coincidence rate than other depression scales in the clinical assessment of the elderly. Therefore, this meta-analysis will investigate the prevelance of depressive symptoms of older adults by using GDS.

Information sources: Two investigators (YJ and RL) independently searched the literature in PubMed, PsycINFO, Web of Science and EMBASE from their commencement date until 8 May 2020. The search terms were as follows: (epidemiology OR prevalence) AND ((Geriatric Depression Scale) OR GDS). Two investigators (YJ and RL) independently screened the titles and abstracts, and the full texts of eligible studies were then identified. Moreover, we manually checked the relevant reviews to identify the studies that might be missed in the first literature search. If there have any uncertainty about study identification was resolved by a discussion with a third investigator (YTX).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 May 2022 and was last updated on 10 May 2022 (registration number INPLASY202250058).

INTRODUCTION

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METHODS

Search strategy: Two investigators (YJ and RL) independently searched the literature in PubMed, PsycINFO, Web of Science and EMBASE from their commencement date until 8 May 2020. The search terms were as follows: (epidemiology OR prevalence) AND ((Geriatric Depression Scale) OR GDS). Two investigators (YJ and RL) independently screened the titles and abstracts, and the full texts of eligible studies were then identified.

Participant or population: Older adults.

Intervention: NA.

Comparator: NA.

Study designs to be included: Cross-sectional study.

Eligibility criteria: Two investigators (YJ and RL) independently assessed the eligible studies for inclusion and exclusion. The inclusion criteria according to the PICOS acronym were as follows: Participants (P): older adults LGBT. Intervention (I): not applicable. Comparison (C): not applicable; Outcomes (O): prevalence of depression assessed by GDS and Study design (S): cross-sectional study. When more than one published paper used the same data, only the paper with the largest sample was included.

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Main outcome(s): Prevalence of depression assessed by GDS.

Quality assessment / Risk of bias analysis: The quality of included studies was assessed with instrument for epidemiological studies (Boyle, 1998; Loney et al., 1998) with the following 8 items: (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 was used to assess depressive symptoms, and (8) Prevalence estimates were given with confidence intervals and detailed by subgroups (if applicable). The total score ranges from 0 to 8. Studies with a total score of "7-8" were considered as "high quality", "4-6" as "moderate quality" and "0-3" as "low quality" (Yang, 2016). Studies with a total score 7-8 were considered as 'high quality', 4-6 as 'moderate quality' and 0-3 as 'low quality' (Yang et al., 2016).

Strategy of data synthesis: This meta-analysis was conducted with STATA 16. The random effect model calculated the pooled prevalence of depressive symptoms and its 95% confidence interval (95% CI). The heterogeneity across studies was assessed with I2 statistic and when I2 > 50% was defined as high heterogeneity (Higgins et al., 2003). We performed subgroup analyses for categorical variables (sampling methods and type of GDS scale), meta-regression for continuous variable (quality evaluation score, survey time, mean age, percentage of male, percentage of rural residence, percentage of married, percentage of chronic disease, percentage of living alone and percentage of smoking) and sensitivity analyses to explore the possible sources of heterogeneity across studies. Publication bias of the included studies was estimated with funnel plots

and Eegg's test. A p < 0.05 was considered as statistically significant (two sided).

Subgroup analysis: We performed subgroup analyses for categorical variables (sampling methods and type of GDS scale), meta-regression for continuous variable (quality evaluation score, survey time, mean age, percentage of male, percentage of rural residence, percentage of married, percentage of chronic disease, percentage of living alone and percentage of smoking).

Sensitivity analysis: Sensitivity analyses to explore the possible sources of heterogeneity across studies. Publication bias of the included studies was estimated with funnel plots and Eegg's test. A p < 0.05 was considered as statistically significant (two sided).

Country(ies) involved: Macau.

Keywords: depressive symptoms, older adults, meta-analysis.

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