INPLASY PROTOCOL

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None declared.

Global prevalence of mild cognitive impairment among older adults living in nursing homes: a meta-analysis and systematic review of epidemiological surveys

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Review question / Objective: **To explore the prevalence of mild cognitive impairment among older adults living in nursing homes. among older adults living in nursing homes.**
Eligibility criteria: **The inclusion criteria were defined based on the PICOS acronym: Participants (P): Older adults living in nursing homes and were screened for mild cognitive impairment (MCI); Intervention (I): not applicable; Comparison (C): not applicable; Outcome (O): prevalence of MCI or the data can calculate the prevalence of MCI; Study design (S): cohort studies with reporting baseline data, case-control, cross-sectional, and studies with accessible data published in a peer-reviewed journal. Exclusion criteria included samples from mixed resources (e.g. nursing homes and communities), reviews, systematic reviews, meta-analyses, case studies, or commentaries were excluded. When the samples in more than one published paper from the same dataset, only the one with the largest sample was included.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 May 2022 and was last updated on 15 May 2022 (registration number INPLASY202250098).

INTRODUCTION

Review question / Objective: **To explore the prevalence of mild cognitive impairment among older adults living in nursing homes. among older adults living in nursing homes.**

Condition being studied: **This meta-analysis was conducted based on the guidelines of Meta-Analysis Of Observational Studies in Epidemiology (MOOSE) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). A comprehensive literature search was conducted by two**

researchers (PC and HC) independently in five online databases, including PubMed, Web of Science, Embase, PsycINFO, and CINAHL.

METHODS

Search strategy: Databeases: PubMed, Web of Science, Embase, PsycINFO, and CINAHL Search terms: ("Cognitive Dysfunctions" OR "Dysfunction, Cognitive" OR "Dysfunctions, Cognitive" OR "Cognitive Impairments" OR "Cognitive Impairment" OR "Impairment, Cognitive" OR "Impairments, Cognitive" OR "Mild Cognitive Impairment" OR "Cognitive Impairment, Mild" OR "Cognitive Impairments, Mild" OR "Impairment, Mild Cognitive" OR "Impairments, Mild Cognitive" OR "Mild Cognitive Impairments" OR "Mild Neurocognitive Disorder" OR "Disorder, Mild Neurocognitive" OR "Disorders, Mild Neurocognitive" OR "Mild Neurocognitive Disorders" OR "Neurocognitive Disorder, Mild" OR "Neurocognitive Disorders, Mild" OR "Cognitive Decline" OR "Cognitive Declines" OR "Decline, Cognitive" OR "Declines, Cognitive" OR "Mental Deterioration" OR "Deterioration, Mental" OR "Deteriorations, Mental" OR "Mental Deteriorations" OR "mild cognitive impairment" OR "MCI") AND ("Nursing Homes" OR "Nursing Home" OR "Intermediate Care Facilities" OR "Intermediate Care Facility" OR "Skilled Nursing Facilities" OR "Skilled Nursing Facility" OR "Extended Care Facilities" OR "Extended Care Facility" OR "convalescence home" OR "convalescence hospital" OR "long-term care" OR "old age homes" OR "residential homes" OR "nursing home*" OR "residential care" OR "institutionalization*" OR "nursing home placement*" OR "nursing home admission*" OR "Homes, Nursing") AND ("aged" OR "old age" OR "elderly" OR "late-life" OR "geriatric*" OR "older adult" OR "elder*") AND ("prevalence" OR "epidemiology" OR "rate").

Participant or population: Older adults living in nursing homes and were screened for mild cognitive impairment (MCI).

Intervention: No.

Comparator: No.

Study designs to be included: cohort studies with reporting baseline data, case-control, cross-sectional studies.

Eligibility criteria: The inclusion criteria were defined based on the PICOS acronym: Participants (P): Older adults living in nursing homes and were screened for mild cognitive impairment (MCI); Intervention (I): not applicable; Comparison (C): not applicable; Outcome (O): prevalence of MCI or the data can calculate the prevalence of MCI; Study design (S): cohort studies with reporting baseline data, case-control, cross-sectional, and studies with accessible data published in a peer-reviewed journal. Exclusion criteria included samples from mixed resources (e.g. nursing homes and communities), reviews, systematic reviews, meta-analyses, case studies, or commentaries were excluded. When the samples in more than one published paper from the same dataset, only the one with the largest sample was included.

Information sources: Five online databases: PubMed, Web of Science, Embase, PsycINFO, and CINAHL.

Main outcome(s): Outcome (O): prevalence of MCI or the data can calculate the prevalence of MCI.

Additional outcome(s): Data were extracted by the two investigators (PC and HC) independently, including the study characteristics (first author, publication year, survey time, countries, study design, sampling methods, screening tool of MCI) and sample characteristics (sample size, mean age, the proportion of males, and the number of participants with MCI).

Quality assessment / Risk of bias analysis: The quality of included studies was assessed with instrument for epidemiological studies with the following eight 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 diagnose MDD, and (8) Prevalence estimates were given with confidence intervals and detailed by subgroups (if applicable). The total score of study quality assessment ranges from 0 to 8. Studies with a total score of "7-8" were considered "high quality", "4-6" as "moderate quality" and "0-3" as "low quality".

Strategy of data synthesis: This meta-analysis was performed by Stata version 15 software. The pooled prevalence of MCI and 95% confidence intervals (CIs) among older adults living in nursing homes were calculated using a random-effect model (Harris et al., 2008). Cochran's Q test and I2 statistics were used to test and quantify the heterogeneity across studies. If the P50%, considering the significantly high heterogeneity (Higgins et al., 2003).

Subgroup analysis: The subgroup analysis for categorical variables (study regions, countries by income, study design, sampling methods, screening scales, age groups and survey starting year) and meta regression analysis for continuous variables (mean age, male proportion and quality assessment score) were used to explore the potential heterogeneity sources.

Sensitivity analysis: Sensitivity analysis was performed by the influence analysis in the metaninf program to evaluate the stability of results by omitting each study in turn.

Country(ies) involved: China.

Keywords: mild cognitive inpairment; nursing homes; prevalence; elderly; meta-analysis.

Contributions of each author:
Author 1 - Pan Chen.
Author 2 - Hong Cai.
Author 3 - Yu-Tao Xiang.