

INPLASY

Association between polypharmacy and depression in older adults: a systematic review

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ADMINISTRATIVE INFORMATION

Support - Own resources.

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

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202650089

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 May 2026 and was last updated on 28 May 2026.

INTRODUCTION

Review question / Objective “What is the association between polypharmacy and depression among older adults?”

Condition being studied We will conduct a subgroup based on depression to show if there is an increased risk of polypharmacy in elderly individuals affected by this condition.

METHODS

Search strategy The search strategy was initially developed in PubMed based on the research question, using controlled vocabulary terms from the MeSH thesaurus, free-text terms, and the Boolean operators AND and OR to combine the concepts of interest. Subsequently, the strategy was translated and adapted to the controlled vocabularies, search fields, and specific syntaxes of each database, considering the indexing characteristics of each platform.

MEDLINE/PubMed (via National Library of Medicine)
("Aged"[Mesh] OR "Aged, 80 and over"[Mesh] OR elderly[tiab] OR "older adults"[tiab] OR "oldest old"[tiab])
AND
("Depression"[Mesh] OR "Depressive Disorder"[Mesh] OR depression[tiab] OR depressive disorder*[tiab] OR depressive symptom*[tiab] OR depressive syndrome*[tiab] OR melancholia[tiab] OR "unipolar depression"[tiab] OR "emotional depression"[tiab] OR "endogenous depression"[tiab] OR "neurotic depression"[tiab])
AND
("Polypharmacy"[Mesh] OR polypharmacy[tiab] OR polymedication[tiab])
Embase
('aged'/exp OR 'very elderly'/exp OR elderly:ti,ab OR 'older adult*':ti,ab OR 'older people':ti,ab OR 'older person*':ti,ab OR 'aged patient*':ti,ab OR 'senior citizen*':ti,ab OR 'oldest old':ti,ab OR centenarian*':ti,ab OR nonagenarian*':ti,ab OR octogenarian*':ti,ab OR 'very old':ti,ab OR 'very elderly':ti,ab)

AND

('depression'/exp OR depression:ti,ab OR 'depressive disorder*':ti,ab OR 'depressive episode*':ti,ab OR 'depressive illness*':ti,ab OR 'depressive symptom*':ti,ab OR 'depressive syndrome*':ti,ab OR melancholia:ti,ab OR 'unipolar depression':ti,ab)

AND

('polypharmacy'/exp OR polypharmacy:ti,ab OR polymedication:ti,ab OR 'poly-medication':ti,ab OR polypharmacotherapy:ti,ab OR 'polypharmacotherapy':ti,ab OR 'multiple drug therapy':ti,ab OR 'multiple drug treatment':ti,ab OR 'multiple pharmacotherapy':ti,ab OR multidrug therapy:ti,ab OR 'multi-drug therapy':ti,ab OR multimedication:ti,ab OR 'multi-medication':ti,ab OR multipharmacotherapy:ti,ab OR 'multi-pharmacotherapy':ti,ab OR polypragmasia:ti,ab OR polypragmasy:ti,ab)

Scopus

TITLE-ABS-KEY(elderly OR "older adults" OR "oldest old" OR aged OR "very elderly" OR octogenarian* OR nonagenarian* OR centenarian*) AND TITLE-ABS-KEY(depression OR "depressive disorder*" OR "depressive symptom*" OR "depressive syndrome*" OR melancholia OR "unipolar depression" OR "emotional depression" OR "endogenous depression" OR "neurotic depression") AND TITLE-ABS-KEY(polypharmacy OR polymedication)

Web of Science - Core Collection (Clarivate)

Busca em pesquisa avançada -> criador de consultas -> Visualização de busca:

(((((ALL=(elderly)) OR ALL=(older adults)) OR ALL=(oldest old)) OR ALL=(aged)) AND ALL=(depression)) OR ALL=(depressive disorder)) OR ALL=(depressive symptom)) OR ALL=(depressive syndrome)) AND ALL=(polypharmacy) OR ALL=(polymedication)

Biblioteca Virtual em Saúde – Coleção Lilacs plus ((mh:(Aged) OR mh:("Aged, 80 and over") OR elderly OR "older adults" OR "oldest old" OR aged OR "very elderly" OR octogenarian\$ OR nonagenarian\$ OR centenarian\$)) AND ((mh:(Depression) OR mh:("Depressive Disorder") OR depression OR "depressive disorder\$" OR "depressive symptom\$" OR "depressive syndrome\$" OR melancholia OR "unipolar depression" OR "emotional depression" OR "endogenous depression" OR "neurotic depression")) AND ((mh:(Polypharmacy) OR polypharmacy OR polymedication))

Participant or population Older adults aged 60 years or older exposed to polypharmacy and presenting depression.

Intervention Not applicable (NA).

Comparator Older adults exposed and not exposed to polypharmacy.

Study designs to be included The inclusion criteria for study selection were observational studies.

Eligibility criteria Studies including older adults aged 60 years or older, regardless of nationality, language, or publication date, will be eligible. Studies assessing depression through clinical diagnosis or validated instruments will be included. Polypharmacy will be defined according to the criteria adopted by each included study, commonly referring to the concomitant use of five or more medications.

Exclusion criteria: duplicate studies in more than one database, case reports, letters to the editor, abstracts in conference proceedings, dissertations, theses, and monographs. The authors opted not to include grey literature due to the risk of compromising the validity and reproducibility of the results, since this material does not undergo peer review.

Information sources Searches will be conducted in PubMed, Embase, Web of Science Core Collection (Clarivate), Scopus, and Virtual Health Library – LILACS Plus Collection, in order to increase search sensitivity and minimize the loss of relevant studies.

Main outcome(s) To evaluate the association between polypharmacy and depression among older adults.

Additional outcome(s) The instruments used to assess depression in older adults will be listed in the spreadsheet.

Data management Rayyan software will be used to identify and remove duplicate references and to support the study selection process.

Quality assessment / Risk of bias analysis Methodological quality and risk of bias will be assessed using the Newcastle–Ottawa Scale.

Strategy of data synthesis Information includes authors, age, country, types of participants and the percentage of women, depression criteria, and polypharmacy. Data will be independently extracted by two reviewers.

Subgroup analysis Subgroup analyses will be conducted according to:

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- methods used to assess depression and the definitions of polypharmacy, in order to evaluate whether different levels
 - definitions of polypharmacy.

These analyses will evaluate whether different definitions or levels of polypharmacy are associated with an increased risk of depression among older adults.

Sensitivity analysis Sensitivity analyses will be performed to evaluate the robustness of the pooled effect estimates and determine whether the overall results are substantially influenced by individual studies.

Language restriction Not applicable (NA).

Country(ies) involved Brazil.

Keywords Polypharmacy, Aged, Depression.

Contributions of each author

Author 1 - Naime Gimenes Abdala de Santis- Study concept and design, data analysis and interpretation, Statistical analysis, Drafting the manuscript, Critical review of the manuscript as to its relevant intellectual content.

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