

Delirium among older people living at home: a systematic review of prevalence, incidence and risk factors

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202410044

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 January 2024 and was last updated on 11 January 2024.

INTRODUCTION

Review question / Objective Our primary research question is: What are the prevalence and incidence rates of delirium in older people living at home? Our secondary research question is: What are the risk factors of delirium in older people living at home?

Rationale The prevalence of delirium in hospitalised and institutionalised populations is high, ranging from 25% to 40% in most studies. The prevalence of delirium has been studied less often in community settings. The first published study from 1991 was performed in a general population and reported a prevalence of 1%. This finding confirmed the assumption at the time that delirium prevalence is low in older persons at home. In contrast, another study found a delirium

prevalence of 35% among community-dwelling older adults receiving home care. It is likely that this population was generally frail, which probably contributed to a higher delirium prevalence.

Delirium is often missed, affecting around half of the cases in hospitalised and institutionalised populations. Delirium may be difficult to identify in community-dwelling older people too. The phenomenology may be different, and delirium symptoms are usually less severe. Also, without informal care in the proximity or 24-hour formal care, symptoms be missed due to fluctuation. Patients may not be evidently ill and underlying somatic diseases less obvious.

As the prevalence of delirium in community-dwelling older people will increase with an ageing population, general practitioners (GPs) need insight in the prevalence of delirium. This information, i.e. the a-priori risk, is important when assessing

patients with new neuropsychiatric symptoms. Knowledge about the predisposing and precipitating risk factors of delirium can also aid the recognition of delirium in the community. The primary aim of this study was to determine the prevalence and incidence of delirium in older people living at home. The secondary aim was to examine delirium risk factors in this population.

Condition being studied Delirium is a serious geriatric syndrome that is commonly encountered in hospitalized and institutionalized persons [1]. It is caused by somatic disease or medication intoxication, which can often be treated. Following delirium, individuals are at an increased risk of long-term cognitive impairment, psychological stress, prolonged hospitalisation, functional impairment, institutionalisation, and death [2].

METHODS

Search strategy

1. CINAHL

(TI (((MH "Confusion+") OR delir* OR confus*)) OR AB (((MH "Confusion+") OR delir* OR confus*))) AND (((MM "Delirium/EP/ET") OR (MH "Incidence") OR (MH "Prevalence") OR TI (inciden* OR prevalen* OR frequenc* OR rate OR proportion OR risk factor* OR epidemiolog* OR occur*) OR AB (inciden* OR prevalen* OR frequenc* OR rate OR proportion OR risk factor* OR epidemiolog* OR occur*)) AND (((MH "Community Living+") OR (MH "Outpatients") OR (MH "Ambulatory Care Nursing") OR (MH "Ambulatory Care") OR (MH "Physicians, Family") OR (MH "Family Practice") OR (MH "Primary Health Care") OR TI (home OR house OR outpatient* OR communit* OR population-based OR ambulatory OR general population OR general-pract* OR primary-care OR (independent* AND (live OR living)) OR AB (home OR house OR outpatient* OR communit* OR population-based OR ambulatory OR general population OR general-pract* OR primary-care OR (independent* AND (live OR living))))) NOT (("Review" [pt] OR review* OR (MH "Child+") OR (MH "Adolescence+") OR (MH "Infant+") OR TI (child* OR kid* OR paediat* OR peadiat* OR pediat* OR adolesc* OR pubert* OR pubesc* OR infan* OR teen* OR youth* OR juvenil* OR minor* OR ((icu OR surg* OR hospice OR nursing-home* OR hospital* OR postoperat* OR post-operat* OR palliat* OR alcohol* OR schizophren* OR drug* OR peri-operat* OR emergen* OR intensive-care OR institution* OR inpatient* OR in-patient*) NOT (communit*

OR populat* OR general-prac* OR home OR non-hospital* OR nonhospital*)) OR AB (child* OR kid* OR paediat* OR peadiat* OR pediat* OR adolesc* OR pubert* OR pubesc* OR infan* OR teen* OR youth* OR juvenil* OR minor* OR ((icu OR surg* OR hospice OR nursing-home* OR hospital* OR postoperat* OR post-operat* OR palliat* OR alcohol* OR schizophren* OR drug* OR peri-operat* OR emergen* OR intensive-care OR institution* OR inpatient* OR in-patient*) NOT (communit* OR populat* OR general-prac* OR home OR nonhospital* OR nonhospital*))

2. Embase

('confusion'/exp OR (delir* OR confus*):ab,ti) AND ('epidemiology'/exp OR 'incidence'/exp OR 'prevalence'/exp OR (inciden* OR prevalen* OR frequenc* OR rate OR proportion OR risk factor* OR epidemiolog* OR occur*):ab,ti) AND ('independent living'/exp OR 'outpatient'/exp OR 'general practitioner'/exp OR 'general practice'/exp OR 'primary health care'/exp OR (home OR house OR outpatient* OR communit* OR 'population-based' OR ambulatory OR 'general population' OR 'generalpract*' OR 'primary-care' OR (independent* AND (live OR living))):ab,ti) NOT (review* OR 'child'/exp OR 'adolescent'/exp OR 'infant'/exp OR (child* OR kid* OR paediat* OR peadiat* OR pediat* OR adolesc* OR pubert* OR pubesc* OR infan* OR teen* OR youth* OR juvenil* OR minor* OR ((icu OR surg* OR hospice OR nursing-home* OR hospital* OR postoperat* OR post-operat* OR palliat* OR alcohol* OR schizophren* OR drug* OR peri-operat* OR emergen* OR intensive-care OR institution OR inpatient* OR inpatient*) NOT (communit* OR populat* OR general-prac* OR outpatient* OR home OR nonhospital* OR nonhospital*)):ti)

3. Google Scholar

delirium prevalence|incidence|epidemiology community|outpatients|"primary care"|"general practice"|"general population" -child -pediatric -hospital -hospice -palliative -icu -postoperative -surgery -alcohol -emergency -schizophrenic

4. PubMed

("Confusion"[Mesh] OR delir*[tiab] OR confus*[tiab]) AND

("Delirium/epidemiology"[Mesh] OR "Incidence"[Mesh] OR "Prevalence"[Mesh] OR inciden*[tiab] OR prevalen*[tiab] OR frequenc*[tiab] OR rate[tiab] OR proportion[tiab] OR "Delirium/etiology"[Mesh] OR risk factor*[tiab] OR epidemiolog*[tiab] OR occur*[tiab]) AND ("Independent Living"[Mesh] OR "Outpatients"[Mesh] OR "General Practitioners"[Mesh] OR "General Practice"[Mesh] OR "Primary Health Care"[Mesh:NoExp] OR home[tiab] OR house[ti] OR outpatient*[tiab] OR communit*[tiab] OR population-based[tiab] OR ambulatory[tiab] OR general population[tiab] OR general-pract*[tiab] OR primary-care[tiab] OR (independent*[tiab] AND (live[tiab] OR living[tiab]))) NOT ("Review"[pt] OR review*[ti] OR "Child"[Mesh] OR "Adolescent"[Mesh] OR "Infant"[Mesh] OR child*[tiab] OR pediat*[tiab] OR adolesc*[tiab] OR pubert*[tiab] OR infan*[tiab] OR ((icu[ti] OR surg*[ti] OR hospice[ti] OR nursing-home*[ti] OR hospital*[ti] OR postoperat*[ti] OR postoperat*[ti] OR palliat*[ti] OR alcohol*[ti] OR schizophren*[ti] OR peri-operat*[ti] OR emergen*[ti] OR intensive-care[ti] OR institution*[ti] OR inpatient*[ti] OR in-patient*[ti]) NOT (communit*[ti] OR populat*[ti] OR general-prac*[ti] OR outpatient*[ti] OR home[ti] OR nonhospital*[tiab] OR nonhospital*[ti]))).

Participant or population Community-dwelling persons aged 65 years or older.

Intervention Not applicable.

Comparator Not applicable.

Study designs to be included Articles that reported prevalence, incidence of risk factors of delirium in community-dwelling older people. Diagnoses of delirium have been made in the community. We excluded studies about alcohol or drug induced delirium (recreational), hospitalized or institutionalized study populations, including studies in emergency departments, and studies in the general population with delirium diagnoses made solely in hospital.

Eligibility criteria Not applicable.

Information sources The search was made in the following databases: CINAHL, PubMed, Google Scholar, Embase, forward citation, backward citation, contact with authors.

Main outcome(s) Reported point and period prevalence, and incidence rates of delirium in community-dwelling older people. Reported risk factors of delirium in community-dwelling older people.

Additional outcome(s) Not applicable.

Data management Two reviewers independently screened articles by title and abstract. References were managed with EndNote 20. Two of three reviewers subsequently extracted data from the studies. Extracted data was registered using Excel.

Quality assessment / Risk of bias analysis Two of three reviewers independently determined the methodological quality of the selected studies using the JBI critical appraisal checklist for prevalence studies. The reviewers compared and discussed the extracted data and risk of bias assessment. If they could not resolve a discrepancy through discussion, the third reviewer was consulted.

Strategy of data synthesis We formed forest plots for the point prevalence for three subpopulations: general community-dwelling older population, frail older persons with home care or primary care, and older persons in outpatient psychogeriatric care. We combined one-year period prevalence and one-year incidence in another forest plot for the same settings, because they are likely to be similar due to the temporary nature of delirium. We computed the one-year period prevalence or incidence if a period of less or more than one year was studied, assuming a stable frequency over the year. If the prevalence or incidence was not stated, but the necessary data was given, we calculated the rate for our target population.

We assessed the clinical heterogeneity of the studies based on study population (setting, age group, dementia, and additional health issues affecting the overall population) and the applied diagnostic or screening method. We used Stata SE version 17.0 for our analyses.

Finally, we decided post-hoc to categorize the investigated risk factors in domains to take into account that several studies examined very similar risk factors but used different wordings. We report which risk factors were found to be associated with the prevalence or incidence of delirium, or not. We do not report the exact risk, because of varying populations methodologies, study quality and risk measures in the included studies.

Subgroup analysis Not applicable.

Sensitivity analysis We assessed the clinical heterogeneity of the studies based on study population (setting, age group, dementia, and additional health issues affecting the overall population) and the applied diagnostic or screening method.

Language restriction Not applicable.

Country(ies) involved The Netherlands.

Other relevant information Not applicable.

Keywords delirium; older people; community; community-dwelling; epidemiology; prevalence; incidence; risk factor; systematic review; outpatient; psychogeriatric; home care; general practitioner; ambulatory.

Dissemination plans Publication, presentations.

Contributions of each author

Author 1 - Karin van Os - Author 1 designed and coordinated the study; undertook the literature search; made revisions for the initial protocol and database building; screened and selected studies; extracted data and assessed risk of bias; coded the statistical analysis, figures and appendix, analyzed and interpreted data and wrote the first drafts of the manuscript.

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Author 2 - Marike Schokker - Author 2 designed and coordinated the study; undertook the literature research; gave crucial intellectual input and provided critical feedback; extracted data and assessed risk of bias; gave supervision and feedback on the manuscript; approved the final version of the manuscript.

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Author 3 - Hendrika Luijendijk - Author 3 conceived the idea for the review; designed and coordinated the study; gave crucial intellectual input and provided critical feedback; extracted data and assessed risk of bias; gave supervision and feedback on the manuscript; approved the final version of the manuscript; obtained funding; is the guarantor.

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Author 4 - Sytse Zuidema - Author 4 gave crucial feedback on the revised report; approved the final version of the manuscript.

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