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Cardiovascular Implications of Loneliness and Social Isolation: Evidence from a Systematic Review

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Introduction

Loneliness and social isolation are recognized risk factors for both mental and physical health conditions, including cardiovascular diseases[1] (CVD) through behavioral, psychological, and physiological pathways.[2] This systematic review examines the association of loneliness and social isolation with CVD as part of the EU-Horizon 2020 project RECETAS.[3,4]

Methods

We conducted a systematic literature search according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[5] The three databases PubMed/MEDLINE, PsycINFO, and Web of Science were searched for peer-reviewed primary research studies. Eligible studies employed a longitudinal design on loneliness/social isolation and CVD, included participants aged older than 18 years, and were published in English or German after 2003. Two reviewers independently screened articles, extracted data, and assessed the study quality using the Newcastle-Ottawa Scale (NOS).[6]

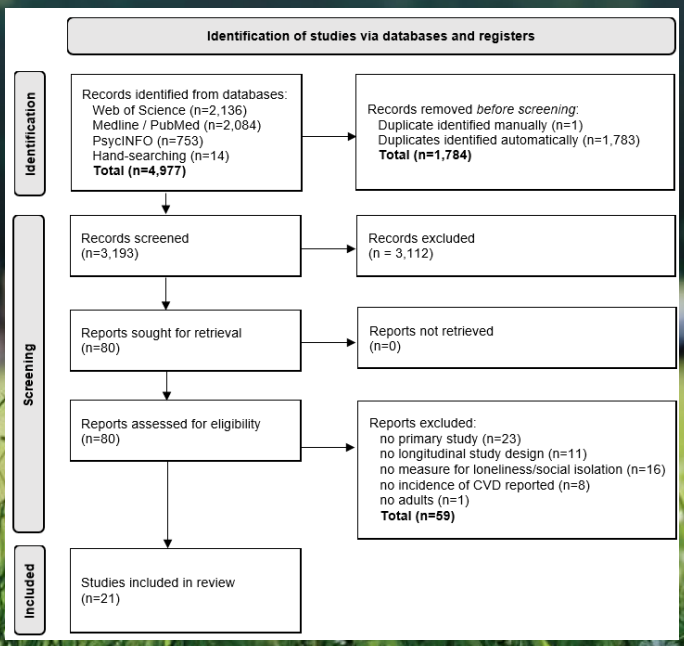

Fig. 1. PRISMA 2020 flowchart[5]

Results

Studies included: n=21 (Fig. 1)

Sample Size: 2,616–938,588

Loneliness (L): n=3
Social Isolation (SI): n=9
Both: n=9

Prevalence L: 4.8-34.7%
Prevalence SI: 2-43.5%

Mean age: 43-79 years

Gender:
Proportion of women: 40.7%-58.0%
Women only: n=3

UCLA three-item Loneliness Scale
Berkman-Syme Social Network Index
Lubben Social Network Scale
Non-validated tools

UK* Biobank: n=6
Women Health Study: n=2
CHARLS*: n=2
English LSA*: n=2
Various national and trial datasets

UK*: n=8
USA: n=6
China: n=2
Australia: n=2
Japan: n=1
Denmark: n=1
Multinational: n=1

Cox-proportional hazard models: n=18
Logistic regression: n=1
GEE*: n=1
Discrete-time survival analysis: n=1

Loneliness:
Stat. sig. effect: n=9
No stat. sig. effect: n=2

Social Isolation:
Stat. sig. effect: n=10
No stat. sig. effect: n=8

NOS: good quality

Conclusion

Our review provides evidence that loneliness, but also to some extent social isolation are associated with an increased risk of developing CVD. Given the substantial burden of CVD on healthcare systems, greater emphasis should be placed on targeted interventions to reduce and alleviate loneliness and social isolation.

*Abbreviations: CHARLS: China Health and Retirement Longitudinal Study; GEE: Generalized estimating equations; LSA: Longitudinal Study of Ageing; UK: United Kingdom

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