

The association between neighborhood walkability and cardiovascular diseases in older adults: a systematic review

SUPPLEMENTAL DATA

Appendix 1 – Search string PubMed

Appendix 2 – Risk of bias assessment cohort studies

Appendix 3 – Risk of bias assessment cross-sectional study

Appendix 1 – Search string PubMed

#1	<p>("walkability"[Title/Abstract] OR "walk ability"[Title/Abstract] OR "walkable"[Title/Abstract] OR "walkscore"[Title/Abstract] OR "walking trail*" [Title/Abstract] OR "hiking trail*" [Title/Abstract])</p>
#2	<p>("population density"[MeSH Terms] OR "population densit*" [Title/Abstract] OR "residential densit*" [Title/Abstract] OR "urbanization"[MeSH Terms] OR "urbanization"[Title/Abstract] OR "urbanisation"[Title/Abstract] OR "retail densit*" [Title/Abstract] OR "service densit*" [Title/Abstract] OR "land-use mix"[Title/Abstract] OR "land use mix"[Title/Abstract] OR "street connectivit*" [Title/Abstract] OR "green space*" [Title/Abstract] OR "greenspace" OR "greenness"[Title/Abstract] OR "greenery"[Title/Abstract] OR "sidewalk densit*" [Title/Abstract] OR "public transport"[Title/Abstract])</p>
#3	<p>#1 OR #2</p>
#4	<p>("cardiovascular diseases"[MeSH Terms] OR "cardiovascular disease*" [Title/Abstract] OR "vascular disease*" [Title/Abstract] OR "cardiometabolic disease*" [Title/Abstract] OR "heart disease*" [Title/Abstract] OR "infarction*" [Title/Abstract] OR "ischemic heart disease*" [Title/Abstract] OR "transient ischemic attack*" [Title/Abstract] OR "coronary artery disease*" [Title/Abstract] OR "coronary occlusion*" [Title/Abstract] OR "coronary disease*" [Title/Abstract] OR "heart failure*" [Title/Abstract] OR "stroke*" [Title/Abstract] OR "cerebrovascular disease*" [Title/Abstract] OR "cerebrovascular accident*" [Title/Abstract] OR "cerebrovascular event*" [Title/Abstract] OR "aortic disease*" [Title/Abstract] OR "aortic aneurysm" [Title/Abstract] OR "arrhythmia*" [Title/Abstract] OR "angina pectoris*" [Title/Abstract] OR "rheumatic heart disease*" [Title/Abstract] OR</p>

	"pulmonary heart disease*" [Title/Abstract] OR "heart attack*" [Title/Abstract] OR "heart arrest*" [Title/Abstract]
#5	("mortality" [MeSH Terms] OR "mortal*" [Title/Abstract] OR "death*" [Title/Abstract] OR "fatal" [Title/Abstract])
#6	#3 AND (#4 OR (#4 AND #5))
#7	#6 NOT (("adolescent" [MeSH Terms] OR "child" [MeSH Terms] OR "infant" [MeSH Terms] OR "adolescen*" [Title/Abstract] OR "child*" [Title/Abstract] OR "schoolchild*" [Title/Abstract] OR "infant*" [Title/Abstract] OR "girl*" [Title/Abstract] OR "boy" [Title/Abstract] OR "boys" [Title/Abstract] OR "teen*" [Title/Abstract] OR "teenager*" [Title/Abstract] OR "youth*" [Title/Abstract] OR "pediatr*" [Title/Abstract] OR "paediatr*" [Title/Abstract] OR "puber*" [Title/Abstract]) NOT ("aged" [MeSH Terms] OR "elder*" [Title/Abstract] OR "older adults" [Title/Abstract] OR "older people" [Title/Abstract] OR "senior*" [Title/Abstract]))

Appendix 2 – Risk of bias assessment cohort studies

First author and year	Selection				Comparability		Outcome			Total score	Quality assessment
	Representativeness of the exposed cohort 1. Representative* 2. Somewhat Representative* 3. Not representative 4. No description	Selection of the non-exposed cohort 1. Same community* 2. Different community 3. No description	Ascertainment of exposure 1. Secure record* 2. Structured interview* 3. Self-report 4. No description	Outcome of interest not present at start of study? 1. Yes* 2. No	Study controls for age and sex 1. Yes* 2. No	Study controls for socioeconomic status individual (education/income) 1. Yes* 2. No	Assessment of outcome 1. Blind assessment* 2. Record linkage* 3. Self-report 4. No description	Follow-up long enough? 1. ≥5 years* 2. <5 years	Loss-to follow-up 1. Complete follow-up/unlikely to introduce bias 3. Loss-to follow-up likely to introduce bias 4. No description		
Griffin et al., 2013 ²⁷	2*	1*	1*	2	1*	1*	2*	1*	1*	8	Good
Lang et al., 2022 ²⁸	1*	1*	1*	1*	1* (adjusting for sex not necessary due to the stratification by sex)	1*	2*	1*	1*	9	Good
Mah et al., 2020 ³⁰	1*	1*	1*	1*	1* (adjusting for sex not necessary because the study consists of only women)	1*	2*	2	1*	8	Poor
Yang et al., 2022 ³¹	1*	1*	1*	1*		1*	2*	2	1*	8	Good

Appendix 3 – Risk of bias assessment cross-sectional study

First author and year	Selection				Comparability	Outcome		Total score	Quality assessment
	Representativeness of the exposed cohort	Sample size	Non-respondents	Ascertainment of exposure	Study controls for age, sex, and for socioeconomic status individual (education/income)	Assessment of outcome	Statistical test		
Liao et al., 2022 ²⁹	1. Representative* 2. Somewhat Representative* 3. Not representative 4. No description	1. Justified and satisfactory* 2. Not justified 3. No description	1. Satisfactory recruitment rate* 2. Unsatisfactory recruitment rate 3. No description	1. Records only** 2. Records and personal recall* 3. Personal recall only	1. Yes** 2. No	1. Blind assessment with objective validated methods** 2. Unblinded assessment with objective validated methods** 3. Non-standard/non-validated method with gold standard 4. No description or non-standard method	1. Statistical test appropriate* 2. Statistical test not appropriate	6	Fair

