

PREVALENCE, RISK FACTORS AND HEALTH IMPACTS OF LONELINESS AMONG ELDERLY ASIAN: SCOPING REVIEW

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Abstract. Loneliness has emerged as a growing public health concern among ageing populations, significantly influencing mental, physical, and social well-being. Older adults are particularly vulnerable due to rapid demographic transitions, changing family structures, and health challenges. Understanding the prevalence, risk factors, and health outcomes associated with loneliness is crucial for guiding geriatric care and policy interventions. This scoping review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines. A comprehensive search was performed on 5 November 2023 using ProQuest, PubMed, Scopus, and ScienceDirect databases for studies published between 2009 and October 2023. Eligible studies included quantitative, qualitative, or mixed-methods research conducted among elderly populations in Asian countries. Studies that met the inclusion criteria were analyzed for prevalence, risk factors, and health outcomes of loneliness. A total of nine peer-reviewed studies fulfilled the eligibility criteria from eight Asian countries: Malaysia, Indonesia, Singapore, Myanmar, Thailand, Korea, Japan, and China. Reported prevalence of loneliness ranged from 21.7% to 64.0%, with the highest in Indonesia and the lowest in Thailand. Commonly identified risk factors included female gender, widowhood, low income, poor physical health, depression, limited social activities, and reduced emotional support. Loneliness was strongly associated with adverse outcomes such as depression, cognitive decline, frailty, and reduced quality of life. Loneliness among the elderly is a prevalent issue across Asia, exerting significant effects on mental and physical health. Addressing loneliness requires multilevel interventions involving individuals, communities, and policy frameworks to promote healthy ageing.

Keywords: *loneliness, elderly, geriatric, depression, Asia, ageing population*

Introduction

The ageing of the population is positioned to emerge as a highly consequential social phenomenon in the twenty-first century. The rapid ageing of the world's populations provides an unprecedented convergence of concerns, including shifting disease burdens, rising health and long-term care expenditures, labour-force shortages, and income security (Bloom et al., 2015). Global life expectancy has risen, as has the number of elderly patients. The elderly population has unique requirements due to much comorbidity (Ghimire and Dahal, 2023). Emerging issues in the elderly include physical health challenges, mental health, malnutrition, financial insecurity, inadequate infrastructure, limited professional and social supports, housing arrangements, socio-cultural barriers, and various emotional and psychological needs. On the other hand, falls, delirium, loneliness, social isolation, and cognitive impairment are all common medical symptoms of ageing (Meriam Syed Akil and Abdullah, 2014; La Rue and McCreary, 1991). Loneliness has emerged as a rising public health and societal issues in recent years due to its influence on health and welfare, particularly in ageing populations across the world (Awang et al., 2022). Besides that, loneliness and social isolation are more common among older persons due to causes such as living alone, loss of family or friends, chronic illness, and hearing loss, putting them at risk for dementia

and other serious medical disorders. Loneliness can be defined as an overwhelming feeling of being alone, regardless how much social contact one has (CDCP, 2023). According to United Nations, elderly is considered those individuals age 65 and above (DOS, 2022) although some other literatures use the definition for those who are 60 years old and above following World Assembly of Ageing in Vienna in 1982 (Jaafar et al., 2022; Kamaruddin, 2015). Malaysia, a developing and rapidly progressing nation with an estimated population of 32.7 million in 2022 (DOS, 2022), officially attained ageing-nation status in 2020 according to the United Nations definition, as the proportion of individuals aged 65 years and above surpassed the 7% threshold (Khalid and Tan, 2023). The latest projection by the Department of Statistics Malaysia indicates that in 2023, this age group constituted 7.4% of the total population equivalent to approximately 2.5 million people, signifying a continuing demographic shift towards an ageing society (DOS, 2022).

Social isolation and loneliness among the elderly are major public health and policy problems that have been exacerbated by the COVID-19 epidemic. For example, in China, Europe, Latin America, and the United States of America, 20-34% of elderly persons are lonely, with certain nations stating that up to one in three older individuals are lonely. Loneliness and social isolation are both damaging as they shorten the lives of the elderly and harm their mental and physical health as well as their quality of life. Loneliness was more common among older persons in low- and middle-income nations, with 33.8% in India, 9.9% in South Africa, 10% in Indonesia, 32.5% in Malaysia, 12.3% in Mexico, 31.7% in Myanmar and in Thailand, it has been reported by 24% of older people, according to local surveys (Pengpid and Peltzer, 2023). Although loneliness can occur at any stage of life, it is more prevalent and severe among older adults, posing a significant threat to their cognitive functioning, physical health, psychosocial well-being, and overall quality of life. With increasing life expectancy, older adults often experience major life transitions such as relocation, widowhood, and physical disability, which heighten their vulnerability to loneliness and contribute to its rising prevalence thereby amplifying both the burden and the overall impact of loneliness on their well-being (Awang et al., 2022). There are various factors that contribute to the elderly feeling lonely, including health issues, a lack of family relationships, a lack of communication, and cognitive aspects such as memory and perception (Amzat and Jayawardena, 2016). Previous researches discovered that age, gender, marital status, education, income, poor self-reported health, religion, activities of daily living (ADL), number of children, instrumental activities of daily living (IADL), living status, oral health, teeth problems, visual problems, employment status, hearing problems, chronic disease, leisure activities, social support, depression, and cognitive function were all significantly related to loneliness in the elderly (Susanty et al., 2022).

In addition, loneliness is also associated with a variety of negative consequences. Longitudinal studies revealed that loneliness was related to depressive symptoms, sleeping difficulties, increased blood pressure, autonomic nervous system dysregulation, cognitive deterioration, and even mortality (Schroyen et al., 2023). Geriatric care for loneliness and depression requires a multifaceted approach that addresses the complex and unique needs of older adults. A clearer understanding of the prevalence and determinants of both incident and persistent loneliness is essential for identifying and managing modifiable risk factors among the elderly population. Therefore, this scoping

review aims to examine the prevalence and associated factors of loneliness and its impact on health outcomes among older adults in Asian countries.

Materials and Methods

Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist was used to conduct the review (Tricco et al., 2018).

Search strategy and eligibility criteria

A comprehensive search was performed in ProQuest, PubMed, Scopus and ScienceDirect databases on 5th November 2023 in which the search was restricted to studies and articles published from 2009 to 17th October 2023, in English. The search keywords were tailored to each database and included the following: “Elderly” AND “Loneliness” AND “Geriatric” AND “Health” AND “Outcome” AND “Asia” AND “Countries”. For eligibility criteria, it can be describe in *Table 1*.

Table 1. Inclusion criteria.

Study design	Quantitative, qualitative, or mixed-methods research
Study population	Elderly/Senior citizens are defined as individuals aged 60 years and above
Geographic scope	Asia countries
Language	English
Document type	Peer-reviewed journal articles, reports
Outcomes	Description of prevalence and risk factors of loneliness among elderly in Asia Countries

Study selection

The selection process followed the PRISMA-ScR framework (Tricco et al., 2018), including stages of identification, screening, eligibility, and inclusion. Titles and abstracts were screened for relevance, and full-text reviews were conducted to determine eligibility according to the predefined criteria.

Data extraction and synthesis

The database search results were transferred to Microsoft Excel for screening and data extraction. During the compilation of search results, duplicates were removed. The titles and abstracts of all papers were examined in accordance with the inclusion criteria. The titles and abstracts of all relevant studies were kept. The complete text of possibly relevant papers was examined. The information on authors, publication year, research sites, and subjects was then retrieved. Duplicates were removed from the electronic search results after they were exported to Microsoft Excel. The primary reviewer determined which studies should be included. One reviewer extracted data from full-text reviews, with another independently evaluating 20% of these papers to determine eligibility and consistency. Any disagreements about study inclusion were settled with the help of a third reviewer.

Results and Discussion

In total, 1948 studies were identified through electronic databases. ProQuest resulted in 523 studies, ScienceDirect produced 1249 studies, while PubMed produced 166

studies and Scopus resulted in 10 studies. After applying restrictions based on full-text availability (Studies not open assess or open achieve resulted in 1166 studies) and duplicate (12 studies), 770 studies were retrieved from the three databases. Then, 198 studies were further selected out of the total after removing those lacking topical relevance. 18 studies were assessed for eligibility of which 9 were excluded because the contents of the articles only focused outside of the Asian region. Finally, 9 reviews that fulfilled the eligibility criteria were included based on title and abstract screening for this review (Table 2, Table 3 and Figure 1). A total of peer-reviewed articles conducted in 8 countries in Asian were included in this review, namely Malaysia (n = 2), Myanmar (n = 1), Singapore (n = 2) Indonesia (n = 1), China (n = 1), Korea (n = 1), Japan (n = 1) and Thailand (n = 1) . Research findings regarding prevalence and risk factors of prevalence of loneliness on health outcomes among elderly in Asia Countries were reported and as shown in Table 1 and 2. University of California, Los Angeles’ (UCLA) was the most used tool for identifying the loneliness (4 studies out of 9) and Geriatric Depression Scale-15 (GDS-15) were mainly used to screening for the depression in the elderly.

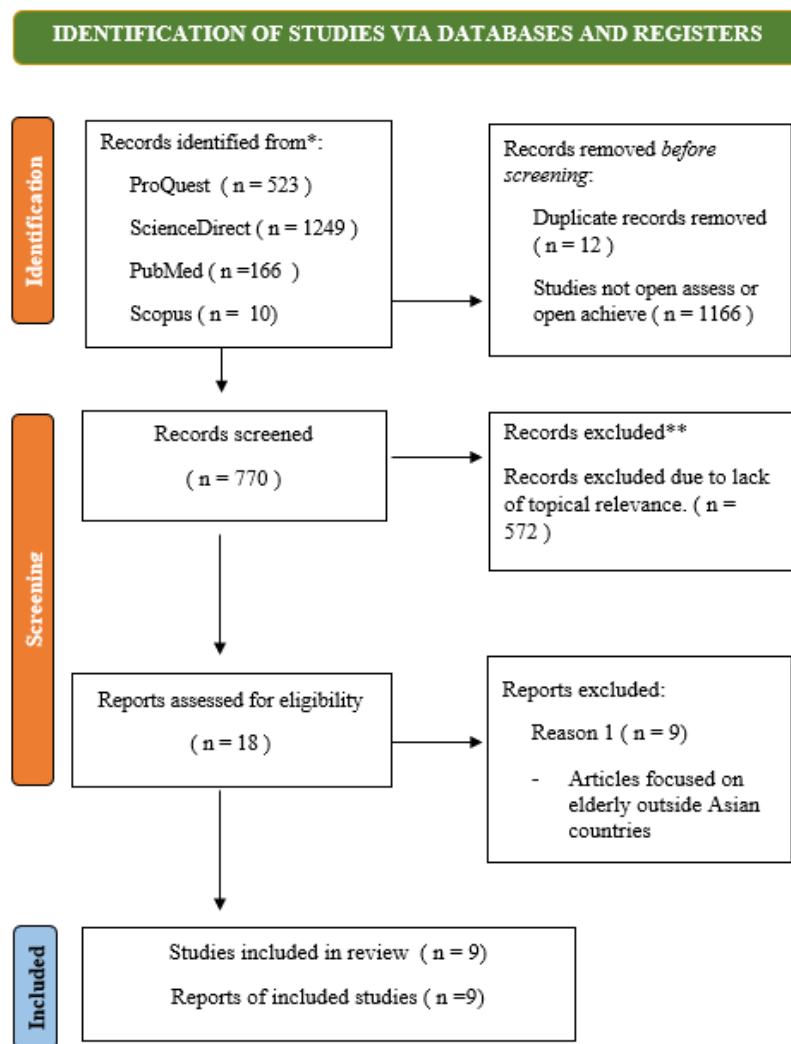


Figure 1. Flowchart of study selection using PRISMA-ScR.

Table 2. Summary of articles included for this scoping review.

Country	Author	Year	Journal	Study design	Sample size	Main objective
Malaysia	Hussein et al. (2021)	2021	Makara Journal Of Health Research	Cross-sectional	380	To identify the prevalence of loneliness and its influencing factors among the elderly in the Pontian district
Malaysia	Teh et al. (2014)	2014	The Scientific World Journal	Cross-sectional	1791	To investigate factors affecting older persons' state of loneliness in multiethnic Malaysia
Indonesia	Susanty et al. (2022)	2022	International Journal Of Environmental Research And Public Health	Cross-sectional, descriptive, and correlational research design	1360	To understand the prevalence of loneliness and its associated factors among community-dwelling older adults in Indonesia.
Singapore	Wee et al. (2019)	2019	International Journal Of Environmental Research And Public Health	Cross-sectional	800	To identify factors that are associated with loneliness among elderly residents of public rental housing in Singapore
Singapore	Chew et al. (2022)	2022	Archives Of Gerontology And Geriatrics	Cross-sectional mixed methods study	100	To obtain an indicative prevalence of loneliness among nursing home residents in Singapore, explore associations of loneliness with different variables, and better understand their loneliness experience
Myanmar	Akhter-Khan et al. (2022)	2022	Journal Of Cross-Cultural Gerontology	Mixed-methods study	4,080	To investigate the effect of socio-demographic factors, health, social integration, and religion on loneliness among older people in Myanmar using a national population-based sample; and (ii) to further explore potential underlying mechanisms through qualitative interviews with older adults from southern Myanmar
Thailand	Pengpid and Peltzer (2023)	2023	Bmc Psychology	Cohort study	3696	The aim of the study was to assess the prevalence and associated factors of incident and persistent loneliness in a prospective cohort study in Thailand.
Korea	Kim et al. (2009)	2009	Asian Nursing Research	Cross-sectional	81	To describe loneliness, depression, and health status in Korean and Japanese institutionalized elderly
Japan	Kim et al. (2009)	2009	Asian Nursing Research	Cross-sectional	103	To describe loneliness, depression, and health status in Korean and Japanese institutionalized elderly
China	Zhao et al. (2018)		Psychiatry Research	Cross-sectional survey	323	To assess the prevalence of depressive symptoms, explore whether resilience mediated the association between loneliness and depressive symptoms, and investigate whether social support moderated the indirect or direct effect of mediation model.

Table 3. Prevalence and risk factors of loneliness and its health outcomes.

Country	Author	Instruments	Prevalence loneliness	Risk factors	Health outcomes
Malaysia	Hussein et al. (2021)	1. Social and Emotional Loneliness Scale for Adults (SELSA-S) 2. Geriatric Depression Scale-15 (GDS-15)	32.6% had social loneliness, 39.9% had emotional loneliness, and 9.2% had family loneliness	Associated with chronic illness.	Social loneliness was experienced by 62.2% of the respondents with depression. Reduce individuals' physiological defenses and thus make them vulnerable to health problems.
Malaysia	Teh et al. (2014)	Nationally representative Malaysian	Sometimes Lonely 32.5	The oldest were most susceptible	The changes in the psychosocial behavior

		Population and Family Survey (MPFS-4)	%, Always lonely 20.9%.	to loneliness, because many were widowed, absence of spouse and had few surviving friends. Associated with marital status, education level, sources of income, health status, and physical limitations.	
Indonesia	Susanty et al. (2022)	Short Portable Mental Status Questionnaire (SPMSQ), Multidimensional Scale of Perceived Social Support (MSPSS), Geriatric Depression Scale Short Form (GDS-SF), and a single-item loneliness question.	64.0%	Older adults who were female, lived with family, had fewer children, had a poor health status, had a poor oral status, had more chronic diseases, had poor cognitive function, and had depression had a higher chance of feeling lonely.	Depression
Singapore	Wee et al. (2019)	Charlson's Comorbidity Index (CCMI), Functional status in basic activities of daily living (bADL) was also quantified using the Katz Index, social isolation was quantified using the Lubben's Social Network Score-6 (LSNS 6) [20]. Health-related quality-of-life (HRQoL) was quantified using the EQ5D	24.5 %	Staying in a rental flat population.	-
Singapore	Chew et al. (2022)	University of California, Los Angeles' (UCLA) three-item loneliness scale and Five-item FRAIL scale (Frailty Score)	59.6%	Amplified by deficiencies, autonomy curtailment and negative perspectives; mediated activities which reminisce or anticipate, by assertion of autonomy, and adopting neutral-positive perspectives of circumstances.	Depression and dementia, and is associated with poorer cognitive functions, increased mortality and lower quality of life
Myanmar	Akhter-Khan et al. (2022)	Loneliness was examined using a single-item self-reported scale: "How often did you feel lonely in the past month?", with the scores of 1 (not at all), 2 (some of the time), and 3 (often)	26.3% felt lonely some of the time, and 5.4% felt lonely often.	Associated with being older, being female, not married, widowed, having fewer household members, not having children, having lower household income, participating in fewer social activities, receiving less emotional support, having more ADL limitations, and having higher multimorbidity	-
Thailand	Pengpid and Peltzer (2023)	Center for Epidemiologic Studies Depression (CES-D-10) scale.	21.7%	Lower economic status, lower education, living in the central region, poor self-rated physical	Risk of developing dementia and Alzheimer's disease

Korea	Kim et al. (2009)	Loneliness measured by the Revised UCLA Loneliness Scale. <i>Depression</i> of the subjects was assessed by the Geriatric Depression Scale-15.	48.79 %	health, depressive symptoms, hypertension, and a higher number of chronic diseases Do not have as many friendly relationships, less physical function, and perceived their general health to be poor	Depression, 66.7% of Korean elderly
Japan	Kim et al. (2009)	Loneliness measured by the Revised UCLA Loneliness Scale. <i>Depression</i> of the subjects was assessed by the Geriatric Depression Scale-15.	36.35 %	Low-income elderly, poor health status	41.7% of Japanese elderly were depressed in this study.
China	Zhao et al. (2018)	Mini-mental State Examination (MMSE) was used to measure the cognitive function. Depressive symptoms was evaluated by using the 7-item Hospital Depression Scale (HDS). Loneliness was assessed by using a Chinese version of the UCLA Loneliness Scale.	38.62%	The elderly in nursing homes, in a new environment away from their own homes and families, showed decreased social connection and more obvious loneliness. Low level of social support and resilience	Depressive symptoms

Loneliness is a subjective condition arising from an individual's emotional appraisal of the quantity and quality of social interactions required in relation to what is currently being experienced (Fakoya et al., 2020). This scoping review synthesizes the evidence on the prevalence of loneliness, its risk factors and the health outcomes among elderly in Asian countries. Reported prevalence ranged from 21.7% in Thailand (Pengpid and Peltzer, 2023) and 26.3% in Myanmar (Akhter-Khan et al., 2022) to 59.6% in Singapore (Chew et al., 2022) and 64.0% in Indonesia (Susanty et al., 2022); additional estimates include 24.5% among public-rental-housing residents in Singapore (Wee et al., 2019) 48.79% in Korea and 36.35% in Japan (Kim et al., 2009), and 38.62% in China (Zhao et al., 2018). In Malaysia the reported prevalence was found to be 32.6% among elderly with social loneliness, 39.9% with emotional loneliness, and 9.2% with family loneliness (Hussein et al., 2021) Across these point estimates, the unweighted mean prevalence is around 40%, indicating that roughly two in five older adults experience loneliness in the settings studied.

Studies identified multiple determinants that were associated with loneliness among elderly in Asia. The risk factors from the included studies can be further classified into three overarching themes: (1) Demographic–socioeconomic status such as older age, female sex, widowhood/not partnered, lower education and income, smaller households/fewer children, central geographical area, and rental housing (Pengpid and Peltzer, 2023; Akhter-Khan et al., 2022; Wee et al., 2019; Teh et al., 2014; Kim et al., 2009); (2) Health, functional, and neuropsychological status such as multimorbidity/chronic disease including hypertension, poor self-rated health, frailty, oral health problems, ADL limitations, depressive symptoms, low resilience, and cognitive impairment/dementia risk (Pengpid and Peltzer, 2023; Susanty et al., 2022; Hussein et al., 2021; Zhao et al., 2018; Kim et al., 2009); and (3) Social connectedness and living context such as low social support, fewer social activities/friends, institutional residence, and disruptive environmental transitions (Akhter-Khan et al., 2022; Susanty et al., 2022; Wee et al., 2019; Zhao et al., 2018). These themes concisely capture the multilevel determinants of loneliness observed across the Asian settings.

Consistence with prior studies, loneliness was a significant stressor linked to depressive symptoms among the older adults population. Seven out of nine studies in this review found an association between loneliness and additional depressed symptoms, or an even worse course of depression (Chew et al., 2022; Susanty et al., 2022; Zhao et al., 2018; Teh et al., 2014; Kim et al., 2009). Loneliness could have major health repercussions and it was one of the three primary causes of depression and a major cause of suicide as well as suicidal attempts in elderly. The existence of loneliness significantly influenced the effect of depressive disorders on mortality. Sadness was profoundly connected with mortality only when emotions of loneliness are present in the elderly. Depression was an issue that frequently coexists with loneliness. In some cases, signs of depression such as withdrawal symptoms, anxiety, lack of desire, and sorrow resemble and disguise loneliness perceptions (Singh and Misra, 2009). Furthermore, loneliness brought about negative impacts on older persons, including the development of despair, anxiety, and isolation, which can lead to major complications such as functional decline, disability, and even higher mortality (Alhalaseh et al., 2022).

Strategies and recommendation

A wide range of face-to-face and digital interventions has been introduced to alleviate social isolation and loneliness among older adults including social skills training, community and support groups, befriending, and cognitive behavioural therapy. Building age-friendly communities by improving public transit and digital inclusion helps mitigate social isolation and loneliness, while anti-marginalization and anti-discrimination policies promote healthier social interaction. Within the framework of the United Nations Decade of Healthy Ageing (2021-2030), WHO is collaborating with partners to address this issue as a major public health and policy challenges by creating guidelines for implementing and scaling up effective therapies to combat social isolation and loneliness, improving researches, strengthening evidence-based programmes, and creating a global alliance to make this issue among elderly people a higher political priority (WHO, 2021). Interventions and strategies to reduce social isolation and loneliness among elderly can be divided into three levels. Firstly, individual/relationship-level approaches which utilize one-to-one, in groups or digital and face-to face modalities, such as social skills training, psychoeducation, befriending, social prescribing, cognitive behavioural therapy and mindfulness. Secondly, community-level strategies which focus on improving infrastructure including transport, digital inclusion and elderly-friendly neighbourhood to facilitate their participation in a built and inclusive environment for. On the other hand, societal-level action entails laws and policies that highlights discrimination and marginalisation against this population by addressing socio-economic inequality; digital divide; social cohesion; intergenerational solidarity; and social norms of this ageing community.

Given the increased burden of loneliness and its negative influence on health and well-being, there's a growing recognition of loneliness as a determinant of health which has expanded academic literature, public, and policy interest regarding the issue of loneliness and social isolation throughout the world. Hence, advocacy, increasing awareness and health promotion are central key strategies to reduce loneliness in later life. The Campaign to End Loneliness launched in the United Kingdom (UK) in 2010 with the goal of connecting elderly people is one robust example of national programme through research, policy and campaigning. While in Denmark, a campaign called 'Danmark spiser sammen,' which translates to 'Denmark eats together,' was launched in 2015 as a popular anti-loneliness programme. The Australian Coalition to End Loneliness (ACEL) was founded in 2016 with the goal of increasing awareness of, and addressing, loneliness and physical social isolation via evidence-based treatments and activism (Fakoya et al., 2020). Besides that, regular physical activity has been found to be beneficial in reducing depression among the elderly as evidence by previous studies (Granet et al., 2023). Small incentives to walk have been demonstrated to be helpful in promoting fitness and mental health in non-elderly groups, but it is unclear if they would be acceptable in a population with limited mobility. Group activities such as exercise classes including through online sessions can enhance socialisation and may increase both adherence and time spent being physically active. These approaches appear promising for older adults in low- and middle-income settings and warrant further evaluation (Banerjee et al., 2023).

A global coalition is essential to elevate social isolation and loneliness on the political agenda and ensure that financial, technological, and human resources are mobilized at a scale commensurate with the problem. Partnership with multiple stakeholder and multi-sectoral enterprises, including elderly themselves, can strengthen coordination across international, regional, national, and local levels. To improve data

and research, priorities include harmonized, cross-culturally validated global instruments for assessing both social isolation and loneliness. Although numerous measures exist, no widely adopted, universally valid tool is currently available, leaving key evidence gaps and limiting comparability across settings.

Limitation

Findings should be interpreted cautiously. First, the review was restricted to English-language publications and four databases (ProQuest, PubMed, Scopus, ScienceDirect); some relevant studies particularly from other Asian countries may have been missed. Second, the evidence base was largely by cross-sectional designs with small, non-representative or convenience samples which may introduce selection bias and limit causal inference and generalizability. Third, heterogeneity in loneliness measures (scales, dimensionality, cut-offs) and other instruments alongside contextual differences in country settings introduce selection and measurement bias, contributing to between-study variability and limit interpretability of pooled findings. Nonetheless, the synthesis offers a useful bird-eye overview of the burden of loneliness and its association with depression among older adults in Asia to inform geriatric care planning in the region.

Conclusion

Loneliness among elderly is a significant public health and social issue negatively affecting overall well-being, physical and mental health. Addressing this issue requires a multifaceted approach that engages policymakers, clinicians, families, and communities through upstream, strategic policies and community-level initiatives that strengthen social connectedness, alongside routine screening in primary care and social-prescribing pathways that link older adults to befriending services, peer groups, and community assets. Future research should elucidate pathways at the interface of health and social practice to better inform policy decisions for ageing populations. The resulting evidence can guide the design and implementation of interventions that reduce loneliness and social isolation and enhance older adults' well-being.

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Conflict of interest

The authors have no conflicts of interest to declare.

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