Loneliness and Health Services Utilisation in Older Adults: A Narrative Review of Portuguese Evidence

Solidão e Utilização dos Serviços de Saúde em Adultos Mais Velhos: Uma Revisão Narrativa da Evidência Portuguesa

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Abstract:

Loneliness is an increasing problem in Portugal. We aim to characterise the impact of loneliness on health services utilisation among older adults in Portugal, exploring how loneliness functions as a hidden determinant of healthcare demand.

This narrative review synthesises evidence from original observational studies conducted in Portugal that investigated the association between loneliness or social isolation and healthcare utilisation in individuals aged 65 and older. Studies were identified through national and international databases and included if they reported loneliness and healthcare outcomes (primary care visits, emergency department use, hospital admissions, or medication consumption). Findings were analysed to identify patterns and implications for clinical practice and health system organisation.

Four cross-sectional studies were included, totalling 1272 participants. Loneliness was consistently associated with increased healthcare services utilisation, including frequent primary care consultations, emergency department visits, medication consumption, and functional decline. Institutionalised older adults and those with greater functional dependence reported higher levels of loneliness. The evidence suggests health services often act as social surrogates, absorbing unmet relational needs, with risk of diagnostic inflation and overtreatment. Loneliness is measurable, prevalent, and linked to increased healthcare demand in Portugal. Recognising it as a social diagnosis supports proactive, person-centred strategies, such as brief routine screening, stronger relational continuity in primary care, and linkage to community resources (e.g., social prescribing, intergenerational programs). Such approaches align with healthy-ageing frameworks and may reduce avoidable utilisation while improving well-being.

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Resumo:

A solidão é um problema crescente em Portugal. Pretendemos caracterizar o impacto da solidão na utilização dos serviços de saúde entre adultos idosos em Portugal, explorando como a solidão pode atuar como um determinante oculto da procura de cuidados.

Esta revisão narrativa sintetiza a evidência proveniente de estudos observacionais originais realizados em Portugal que investigaram a associação entre solidão ou isolamento social e a utilização dos cuidados de saúde em indivíduos com 65 ou mais anos. Os estudos foram identificados em bases de dados nacionais e internacionais e incluídos se reportassem solidão e resultados de utilização de cuidados (consultas em cuidados de saúde primários, recurso ao serviço de urgência, internamentos hospitalares ou consumo de medicação). Os resultados foram analisados para identificar padrões de utilização e impacto na prática clínica e na organização do sistema de saúde.

Foram incluídos quatro estudos transversais, totalizando 1272 participantes. A solidão esteve consistentemente associada a maior utilização de serviços de saúde, incluindo consultas frequentes nos cuidados de saúde primários, idas ao serviço de urgência, consumo de medicação e declínio funcional. Os idosos institucionalizados e aqueles com maior dependência funcional apresentaram níveis mais elevados de solidão. A evidência sugere que os serviços de saúde frequentemente atuam como substitutos sociais, absorvendo necessidades relacionais não satisfeitas, com risco de sobrediagnóstico e sobremedicação.

A solidão é mensurável, prevalente e está associada à maior procura de cuidados em Portugal. Reconhecê-la como um diagnóstico social sustenta estratégias proativas e centradas na pessoa como o rastreio por rotina, o reforço da continuidade relacional nos cuidados de saúde primários e o encaminhamento para recursos comunitários (por exemplo, prescrição social ou programas intergeracionais). Estas abordagens alinham-se com os quadros de envelhecimento saudável e podem reduzir a utilização evitável, melhorando o bem-estar.

Palavras-chave: Idoso; Isolamento Social; Serviços de Saúde; Solidão.

Introduction

Loneliness, defined as the subjective perception of a gap between desired and actual social relationships, has emerged as one of the most pressing and underestimated public health challenges of the 21st century. It is distinct from social isolation, which refers to an objective lack of social contact.[1-3] While the number of interactions or relationships can measure isolation, loneliness is an emotionally distressing experience that may occur even in the presence of others.[1,4-6]

Among older adults, loneliness is consistently associated with depression, cognitive decline, functional deterioration, multimorbidity, and premature mortality.[2,7,8] The magnitude of these effects is comparable to well-established risk factors such as obesity, tobacco use, and substance misuse.[9,10] As societies age and family structures weaken, social networks shrink and the prevalence of loneliness increases, particularly among individuals who live alone, are widowed, or experience illness and dependency.

In Portugal, recent studies have highlighted the growing burden of loneliness among older adults. A cross-sectional study conducted in Vila Nova de Gaia found that 36% of elderly patients reported moderate to severe loneliness, with strong associations to family dysfunction, income dissatisfaction, and living alone.[11] Another study in the *Baixo Alentejo* region revealed that 14.8% of older adults experienced severe loneliness, linked to isolation and family dysfunction, and lowered by a good neighbourhood network.[12] Similarly, Rodrigues found an increasing prevalence with age and vulnerability.[13] These findings underscore the relevance of loneliness as a measurable determinant of healthcare use in ageing populations.

Despite its prevalence and impact, loneliness remains poorly recognised in clinical practice and underrepresented in health policy. A recent review identified loneliness and social isolation among community-dwelling older adults as complex issues with profound implications for physical, mental, and social well-being, although poorly understood in terms of the long-term impacts and effectiveness of interventions to mitigate them.[14] One crucial consequence of loneliness is its influence on care-seeking patterns. Lonely individuals often turn to health services not solely for medical reasons, but to fulfil unmet emotional and social needs. This phenomenon is visible across all health services, but especially in those that serve as the entry point into the health system, such as primary care or emergency services, where older adults may present with vague or somatic complaints that mask more profound psychosocial distress. In such cases, the emergency room becomes a surrogate for human connection, a place where someone will listen, respond, and provide care, even if the underlying issue is not strictly biomedical.[15,16]

This dynamic has implications in healthcare. It contributes to increased visits to both primary care and emergency departments, diagnostic inflation, increased medication consumption, and the risk of overtreatment. It also places additional strain on already overstretched acute care, while failing to address the root causes of the patient's suffering. Understanding this pattern is essential for designing more effective, compassionate, and sustainable healthcare responses.

This article aims to characterise the impact of loneliness on health services utilisation among older adults in Portugal, exploring how loneliness functions as a hidden determinant of healthcare demand. It also intends to highlight the implications for clinical practice and health system organisation, and to propose strategies to address loneliness as a public health priority.

Methods

We performed a narrative review of the literature examining the relationship between loneliness and healthcare utilisation among older adults in Portugal, synthesising national evidence and placing it within the international context.

The review was conducted by identifying and analysing studies that met the following criteria: (1) they addressed loneliness or social isolation as a primary or secondary variable; (2) they focused on individuals aged 65 years or older; (3) they reported outcomes related to healthcare utilisation, including primary care visits, emergency department use, hospital admissions, or medication consumption; and (4) they were conducted in Portugal or included Portuguese data relevant to the topic.

Sources included peer-reviewed journal articles, academic theses, and institutional reports retrieved from international databases such as PubMed and Scopus, as well as national repositories including RCAAP, *Repositório Aberto da Universidade do Porto*, and SciELO Portugal, published between 2010 and 2025. The search strategy employed combinations of keywords such as "loneliness," "social isolation," "aged," "primary care," and "healthcare utilisation." Manual searches of the reference lists of key studies were also conducted to identify additional relevant literature.

Given the small number of eligible Portuguese studies and the substantial heterogeneity across designs (all observational, predominantly cross-sectional), populations (community vs. institutional settings), exposures (different loneliness instruments and thresholds), and outcomes (primary care attendance, emergency department use, hospitalisation, medication consumption, functional status), a formal meta-analytic synthesis would not have been methodologically sound. Pooling such non-commensurable measures would risk aggregation bias and over-interpretation of sparse data. We therefore adopted a narrative synthesis defined a priori to integrate the available evidence, identify recurrent themes and patterns, and interpret determinants within the Portuguese service context. Particular attention was given to studies addressing the emotional and social dimensions of healthcare-seeking, especially in emergency settings where older adults may present with non-specific or somatic complaints that mask underlying psychosocial distress. This approach allowed us to connect quantitative

findings with practice and organisational implications, which was the central objective of the review.

The review also considered contextual factors unique to Portugal, such as regional disparities in ageing, socioeconomic vulnerability, and the structure of primary care services. Studies from both urban and rural settings were included to capture the heterogeneity of experiences among older adults. The analysis sought to understand not only the prevalence of loneliness but also its role as a driver of healthcare demand, and the extent to which it contributes to diagnostic inflation, medication consumption, and potential overtreatment.

This narrative approach enabled a comprehensive, context-sensitive exploration of the topic, integrating quantitative findings with qualitative insights and policy implications. The synthesis provides a foundation for discussing how loneliness functions as a hidden determinant of health and a challenge for the sustainability and responsiveness of healthcare systems in ageing societies.

Results

This narrative review identified and included four original observational studies conducted in Portugal that examined the relationship between loneliness or social isolation and healthcare utilisation among older adults. All studies employed cross-sectional designs and used validated instruments to assess loneliness, most commonly the University of California – Los Angeles (UCLA) Loneliness Scale, adapted for the Portuguese population. The studies were conducted in both urban and rural settings, and included both community-dwelling and institutionalised older adults.

The total sample across studies comprised 1272 participants, with individual sample sizes ranging from 30 to 669. All studies focused on individuals aged 65 years and older, with a predominance of female participants. The studies varied in their healthcare-related outcomes, including primary care visits, emergency department utilisation, medication consumption, functional dependence, and depressive symptoms.

Three studies were conducted in community settings, while one also included institutionalised populations, allowing for comparative insights into how living arrangements influence loneliness and its health consequences.

These findings suggest that loneliness not only correlates with mental health deterioration but also acts as a driver of healthcare utilisation, particularly in the form of frequent consultations, emergency visits, and medication use. The studies also highlight the importance of social context, with institutionalisation and lack of family support emerging as key risk factors.

All included studies were observational (predominantly cross-sectional). Overall risk of bias was low–to–moderate: exposure and outcome measures were generally adequate, but sampling/representativeness and confounding control were limited. No studies were excluded; quality judgments informed the interpretation of findings in the narrative synthesis.

LONELINESS AS A "SOCIAL DIAGNOSIS"

The high prevalence of loneliness among older adults in Portugal underscores its significance as a social diagnosis. Although not of biomedical origin, this condition has profound implications for health and healthcare utilisation.[17] The concept of loneliness as a social diagnosis invites a shift in clinical reasoning: from viewing loneliness as a background psychosocial factor to recognising it as a primary driver of health-seeking behaviour, particularly in older populations.

In this review, we found rates of moderate to severe loneliness ranging from 14.8% to 36%, with even higher levels observed among institutionalised individuals and those with functional dependence. These results are similar to those from Surkalim (2022) in eastern Europe[19] and higher than the 14.9% found by Yang in 2011.[18]

A systematic review by Courtin and Knapp (2017) found that loneliness is associated with increased morbidity and mortality in older adults.[4] Similarly, Sirois and Owens (2021) demonstrated, through a meta-analysis, that loneliness significantly increases the frequency of primary care visits.[19] In Portugal, the study by Mira *et al* (2025) confirmed that loneliness is not only prevalent but also measurable, and should be routinely addressed in clinical practice.[12] This is further supported by a systematic review conducted by Mota (2022), which analysed 18 studies and concluded that loneliness and social isolation are consistently associated with increased visits to general practitioners, emergency departments, and specialists, as well as prolonged hospital stays.[20] The review emphasised that these psychosocial factors should be considered key determinants of health and integrated into routine clinical assessment and public health planning.

Framing loneliness as a social diagnosis is crucial for designing responsive healthcare systems and implementing interventions such as social prescribing, community engagement, and integrated care pathways. This approach would not only reduce unnecessary healthcare utilisation but would also improve the quality of life and promote equity in ageing populations.

HEALTH SERVICES AS SOCIAL SURROGATES

The evidence indicates that older adults frequently use health services to meet unmet emotional or relational needs. Mira et al showed that those with severe loneliness were significantly more likely to seek care, even after adjusting for comorbidities.[12] This aligns with international literature showing that social network erosion predicts longer hospital stays and increased readmissions.[21] In the Portuguese context, diminished intergenerational cohabitation and weakened community structures appear to heighten this reliance on healthcare as a source of human connection.

Emergency departments and primary care are not designed to address persistent emotional isolation, yet they often become the default settings for individuals experiencing distress. This dynamic contributes to diagnostic inflation,

unwarranted prescribing, and avoidable utilisation. For example, Rocha Vieira et al found that loneliness was associated with increased medication use, particularly among individuals living alone or experiencing family dysfunction.[11] Recognising these patterns is essential to reforming care models in ways that are clinically appropriate and socially responsive.

BROADER HEALTH SYSTEM IMPLICATIONS

The healthcare consequences of loneliness extend beyond individual encounters. Increased emergency attendance, repeated primary care consultations, and inappropriate medication use place considerable pressure on an already overstretched health system. International reviews confirm that poor social relationships are associated with greater hospital use and longer stays.[22] Portuguese studies reinforce this, showing that loneliness correlates with multimorbidity, functional decline, and high service utilisation.[12,20]

Given these patterns, loneliness must be regarded as a key determinant of preventive care. Identifying loneliness early enables more personalised, relationally oriented care planning. This aligns with the WHO healthy ageing framework, which underscores the importance of functional ability, social participation, and integrated care models.[23] Interventions such as social prescribing, community engagement, and stronger relational continuity in primary care can help mitigate avoidable utilisation.

STRENGTHENING CLINICAL, PREVENTIVE, AND CONCEPTUAL PRACTICE

Internal medicine and primary care clinicians frequently manage older adults with multimorbidity and polypharmacy, where psychosocial factors such as loneliness can destabilise clinical trajectories and precipitate avoidable healthcare utilisation. Incorporating routine, brief loneliness screening into clinical encounters enables earlier identification of vulnerable patients and supports more personalised, relationally informed care planning.

Recognising loneliness as a preventable driver of health-seeking behaviour highlights the need to intervene before emotional distress is converted into medical demand. Strengthening relational continuity in primary care, improving access to meaningful social connections, and integrating community-based resources, such as social prescribing, group activities, or intergenerational programmes, can mitigate the escalation to urgent or repeated healthcare use.[22-24] Investing in health literacy, digital inclusion, and community support structures further reinforces this preventive stance by empowering older adults to navigate health and social systems with greater autonomy.

Conceptualising loneliness as a social diagnosis adds practical value: it explains why biomedical responses alone are insufficient and why emotional and relational contexts must be part of routine clinical reasoning. This perspective supports a shift from reactive care to proactive, person-centred strategies that reduce unnecessary utilisation while improving well-being and equity in ageing populations.

LIMITATIONS

This review opted to include all original studies available on the topic within the Portuguese context, which is a strength in terms of comprehensiveness and relevance. However, the number of eligible studies was limited, and most had small sample sizes and were geographically concentrated, which reduced their generalizability. Additionally, all included studies employed observational cross-sectional designs, which preclude causal inference and are subject to confounding factors. The heterogeneity in loneliness measurement tools and healthcare utilisation outcomes also limits comparability across studies. Despite these constraints, this review offers a valuable and novel perspective on a widely felt but underexplored issue in Portugal, highlighting the need for further research and policy attention.

RECOMMENDATIONS FOR THE FUTURE

Addressing loneliness among older adults requires more than clinical recognition. It demands a systemic response that integrates emotional, relational, and structural dimensions of care. The solution is not to restrict access to emergency or other health services, but to create viable alternatives that meet the emotional and social needs of older adults.

Firstly, it is crucial to reinforce access to primary care, which fosters continuity and relational depth, key ingredients for building trust and emotional support. Primary care providers are uniquely positioned to identify loneliness early and intervene before it escalates into avoidable healthcare utilisation.[25] This requires investment in lifelong health promotion and health literacy, enabling older adults to navigate health and social systems more effectively and assertively.

Secondly, intersectoral collaboration must be prioritised. More than a purely medical issue, loneliness intersects with social, educational, and civic domains. Referral pathways should be redesigned to leverage the potential of the digital world, moving beyond digitised paper structures toward interoperable systems that facilitate real-time coordination.[26] This also includes social prescribing, where clinicians refer patients to community-based activities, volunteer programs, and peer support networks that promote meaningful engagement and reduce isolation.

Thirdly, the integration of care across sectors must be operationalised through the unique electronic clinical file (ECF). The ECF enables the systematic documentation of psychosocial determinants, including loneliness, using standardised coding systems such as the International Classification of Diseases (ICD-11) or the International Classification of Primary Care (ICPC-2).[27,28] These codes enable providers to document emotional and social factors alongside biomedical diagnoses, thereby facilitating continuity of care and supporting population-level analysis for informed policy planning. Embedding referral mechanisms within the ECF, such as links to social prescribing or community resources, can transform clinical workflows into gateways for relational care. This approach aligns

Table 1: Characteristics of the Portuguese studies included in the review.

First Author, Year	Title	Study design and sampling	Patients	Outcome of Interest	Loneliness Measure	Healthcare Use Measure	Key Findings
Rocha-Vieira, 2019[11]	Impact of loneliness in older people in health care: a cross-sectional study in an urban region of Portugal	Cross-sectional; Primary care patients	n=150 Age ≥65 Mean age 74.7; 61.3% female	Association between loneliness and polypharmacy	UCLA Loneliness Scale (Portuguese version)	Number of chronic medications prescribed	36% had moderate to severe loneliness, associated with family dysfunction, income dissatisfaction, living alone, and increased medication use.
Gonçalves, 2022[17]	Loneliness in older people: perceptions and experiences in institutional and non-institutional contexts	Cross-sectional; Institutionalised and non-institutionalised older adults	n=30 Age ≥65 Mean age not reported; 50% institutionalised	Comparison of loneliness and depressive symptoms by living context	UCLA Loneliness Scale (Portuguese version)	Not directly measured; inferred from depressive symptoms and context	Institutionalised elders showed higher loneliness and depression than non-institutionalised peers.
Rodrigues, 2023[13]	Loneliness, depression, and communication and information technologies (CIT) use in Portuguese elderly	Cross-sectional; Community-dwelling older adults	n= 669 Age ≥60 Mean age 72.4; 57.1% female	Association between loneliness, depressive symptoms, and CIT use	UCLA Loneliness Scale (Portuguese version)	Self-reported CIT use and depressive symptoms (GDS-15)	Loneliness is associated with higher depressive symptoms; CIT use is linked to lower depression and perceived isolation.
Mira, 2025[12]	Loneliness as a determinant of healthcare utilisation in older adults: a cross-sectional study in a Portuguese rural region	Cross-sectional; Community-dwelling older adults	n=318 Age ≥65 Mean age 75.5; 58.8% female	Association between loneliness and primary care/ emergency visits and polypharmacy	UCLA Loneliness Scale (Portuguese version)	Self-reported primary care visits, ED visits, and the number of medications	14.8% had severe loneliness; significantly associated with increased primary care visits (OR=6.8), ED use (OR=5.8), and polypharmacy (OR=2.0).

CIT: communication and information technologies; ED: emergency department; GDS-15: Geriatric Depression Scale – 15; OR: odds ratio; UCLA Loneliness Scale: University of California, Los Angeles (UCLA) Loneliness Scale

with the WHO's framework for healthy ageing, which emphasises functional ability, social participation, and integrated care.[23]

Finally, governance and policy must reflect the cross-sectoral nature of loneliness. Investments should support intergenerational initiatives, digital inclusion, and community infrastructure that foster social connectedness. Health systems must evolve from reactive models to proactive, person-centred strategies that integrate emotional and relational dimensions into routine care.

By recognising loneliness as a public health priority and embedding its management into clinical, digital, and policy frameworks, Portugal can promote healthy ageing, improve quality of life, and ensure the sustainability of its healthcare system amid demographic change.

Conclusion

Loneliness is a measurable and clinically relevant social determinant of health that contributes to increased healthcare utilisation among older adults, particularly in emergency settings. While constrained by the scarcity and observational nature of available Portuguese studies, this review suggests that emergency departments often absorb unmet emotional and relational needs, highlighting gaps in community and primary care responses. Addressing loneliness requires routine clinical attention and person-centred strategies that integrate emotional and social dimensions of ageing. Strengthening primary care, improving health literacy, and linking patients to community resources, such as social prescribing and intergenerational initiatives, may reduce avoidable utilisation and support healthier ageing. Recognising loneliness as a public health priority is essential to improving quality of life and ensuring a more sustainable and equitable healthcare system in an ageing society. ■

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PS – Conceptualization. Funding acquisition. Resources. Writing – original draft.

PS, AM, IN, LS - Data curation. Formal analysis. Investigation. Methodology. Project administration. Validation. Visualization. Writing – review & editing.

All authors approved the final version to be published.

Declaração de Contribuição

PS – Conceptualização. Aquisição de Financiamento. Administração do Projeto. Recursos. Redação – elaboração da versão original do manuscrito

PS, AM, IN, LS – Curadoria de Dados. Análise formal. Investigação. Metodologia. Validação. Visualização. Redação – revisão e edição do manuscrito

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REFERENCES

1. Hawkley LC, Cacioppo JT. Loneliness matters: a theoretical and empirical review of consequences and mechanisms. Ann Behav Med. 2010;40:218-27. doi: 10.1007/s12160-010-9210-8.
2. Steptoe A, Shankar A, Demakakos P, Wardle J. Social isolation, loneliness, and all-cause mortality in older men and women. Proc Natl Acad Sci U S A. 2013;110:5797-801. doi: 10.1073/pnas.1219686110.
3. Lennartsson C, Rehnberg J, Dahlberg L. The association between loneliness, social isolation and all-cause mortality in a nationally representative sample of older women and men. Aging Mental Health. 2022;26:1821-8. doi: 10.1080/13607863.2021.1976723.
4. Courtin E, Knapp M. Social isolation, loneliness and health in old age: a scoping review. Health Social Care Community. 2017;25:799-812. doi: 10.1111/hsc.12311.
5. Gomes AM. Solidão: uma abordagem interdisciplinar pela ótica da teologia bíblica reformada. Fides Reformata 2001:10; VI.
6. Fernandes P. A Depressão no Idoso. Coimbra: Quarteto Editora; 2000.
7. Gerst-Emerson K, Jayawardhana J. Loneliness as a public health issue: the impact of loneliness on health care utilization among older adults. Am J Public Health. 2015;105:1013-9. doi: 10.2105/AJPH.2014.302427.
8. Cacioppo JT, Hawkley LC, Thisted RA. Perceived social isolation makes me sad: 5-year cross-lagged analyses of loneliness and depressive symptomatology in the Chicago Health, Aging, and Social Relations Study. Psychol Aging. 2010;25:453-63. doi: 10.1037/a0017216.
9. Gyasi RM, Mariwah S, Boateng S, Adjei Mensah C, Kwabena-Adade J, Dramani A, et al. 'The new geriatric giants': how do loneliness and social isolation contribute to probable depression in older adults? J Biosoc Sci. 2025:1-13. doi: 10.1017/S0021932025100400.
10. Freedman A, Nicolle J. Social isolation and loneliness: the new geriatric giants: Approach for primary care. Can Fam Physician. 2020;66(3):176-82.
11. Rocha-Vieira C, Oliveira G, Couto L, Santos P. Impact of loneliness in the elderly in health care: a cross-sectional study in an urban region of Portugal. Fam Med Prim Care Rev. 2019;21:138-43. doi: 10.5114/fmpcr.2019.84550.
12. Mira Â, Galvão C, Santos P. Loneliness as a determinant of healthcare utilisation in older adults: a cross-sectional study in a Portuguese rural region. Eur Geriatr Med. 2025. doi: 10.1007/s41999-025-01307-8.
13. Rodrigues AP, Duarte J, Oliveira S, Costa JJ, Matos AP. Solidão, depressão e utilização das TIC em idosos portugueses. Rev Port Enferm Saúde Mental. 2023:63-74. doi: 10.19131/rpesm.363.
14. Puyané M, Chabrera C, Camón E, Cabrera E. Uncovering the impact of loneliness in ageing populations: a comprehensive scoping review. BMC Geriatrics. 2025;25. doi: 10.1186/s12877-025-05846-4.
15. Victor CR, Yang K. The prevalence of loneliness among adults: a case study of the United Kingdom. Journal Psychol. 2012;146:85-104. doi: doi :10.1080/00223980.2011.613875.
16. Leukel PJ, Piette JD, Lee AA. Impact of Loneliness and Social Support on Acute Health Service Use and Symptom Exacerbation Among Adults with Asthma and COPD. J Clin Psychol Med Settings. 2025;32:375-84. doi: 10.1007/s10880-024-10046-0.
17. Gonçalves GJ. Solidão na pessoa idosa: perceções e vivências nos contextos institucional e não institucional [dissertação]: Instituto Politécnico de Coimbra; 2022. [accessed Jan 2025] Available from: https://comum.rcaap.pt/bitstream/10400.26/42538/1/GABRIEL_GONCALVES.pdf.
18. Yang K, Victor C. Age and loneliness in 25 European nations. Ageing Soc. 2011;31:1368-88. doi: 10.1017/s0144686x1000139x.
19. Sirois FM, Owens J. A meta-analysis of loneliness and use of primary health care. Health Psychol Rev. 2023;17:193-210. doi: 10.1080/17437199.2021.1986417.
20. Mota MJGd. The role of loneliness and social isolation among older adults in the use of health care services - A systematic review [Dissertação]. Porto: Universidade do Porto; 2022. [accessed Dec 2025] Available from: https://hdl.handle.net/10216/143738.
21. Victor C, Scambler S, Bond J, Bowling A. Being alone in later life: loneliness, social isolation and living alone. Rev Clin Gerontol. 2001;10:407-17. doi: 10.1017/s0959259800104101.
22. Valtorta NK, Moore DC, Barron L, Stow D, Hanratty B. Older Adults' Social Relationships and Health Care Utilization: A Systematic Review. Am J Public Health. 2018;108:e1-e10. doi: 10.2105/AJPH.2017.304256.
23. World Health Organization. World report on ageing and health. Geneva, Switzerland: World Health Organization; 2015.
24. Holt-Lunstad J. Loneliness and Social Isolation as Risk Factors: The Power of Social Connection in Prevention. Am J Lifestyle Med. 2021;15(5):567-73.doi: 10.1177/15598276211009454.
25. Santos P, Santiago L, Hespanhol A. Prólogo: Medicina Geral e Familiar. In: Santos P, Santiago L, Hespanhol A, editors. Medicina Geral e Familiar: Almedina; 2021. p. 17-24.
26. Santos P, Nazaré I. The doctor and patient of tomorrow: exploring the intersection of artificial intelligence, preventive medicine, and ethical challenges in future healthcare. Front Digital Health. 2025;7. doi: 10.3389/fdgth.2025.1588479.
27. World Health Organization. International Classification of Diseases, Eleventh Revision (ICD-11). Geneve: World Health Organization; 2025. [accessed Dec 2025] Available from: https://icd.who.int/browse11/lm/en.
28. World Organization of National Colleges Academies and Academic Associations of General Practitioners/Family Physicians. ICPC-2-R : international classification of primary care. Rev. 2nd ed. New York: Oxford University Press; 2005.