The Profile of the Older Adult Residing in a Long-Term Care Facility in Sabugal
Loneliness and Perceived Social Support

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Mariana de Paiva Peixoto

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Resumo

Introdução

O fenómeno do envelhecimento, visível mundialmente, é notório em Portugal, trazendo novos desafios para as políticas de saúde e para a prestação de cuidados geriátricos (1,2). Esses desafios são atribuíveis à velhice ser uma etapa desafiante, com mudanças na dimensão física, psicológica e social do indivíduo. São proeminentes as patologias crônicas, a fragilidade e dependência acrescidas, as limitações na mobilidade e, com o reconhecimento da complexidade desta fase, as famílias recorrem, crescentemente, a ajuda na prestação de cuidados (3). Deste modo, muitos idosos optam pela transição do domicílio para Estruturas Residenciais para Pessoas Idosas (ERPIs) tendo o número de idosos residentes nestas instituições vindo a aumentar. Entende-se esta transição como um processo complexo, o idoso deve adaptar-se a um novo e estranho ambiente onde, por um lado, recebe apoio, podendo aliviar a carga de responsabilidades pessoais, financeiras, domésticas, onde pode formar novas conexões com outros residentes, cuidadores formais e técnicos da ERPI. Por outro lado, esta transição acompanha-se de afastamento da sua comunidade e família, de perda de independência e autonomia, podendo trazer sentimentos negativos, como a inutilidade, o abandono ou a solidão (3,4).
A solidão é uma experiência universal, que se entende por insatisfação com a discrepância entre as relações sociais desejadas e as obtidas, ou seja, deriva da experiência subjetiva da conexão humana (5–7). Embora seja um sentimento comum e em crescimento no mundo (8), quem a experiencia cronicamente sujeita-se a efeitos danosos para a saúde, estando a solidão associada ao aumento das taxas de morbilidade e mortalidade, à manifestação de sintomas depressivos, ao declínio cognitivo e ao risco de demência (9,10). Os efeitos negativos associados à solidão são, de um certo modo, expectáveis dada a natureza humana e a sua inerente necessidade de conexão.
As relações estabelecidas por um indivíduo formam uma rede que, em conjunto com o seu papel na vida de um indivíduo, são a base do suporte social. O suporte social divide-se em duas componentes, o suporte social recebido e o suporte social percebido (11), sendo este último um fator protetor de solidão: indivíduos com melhor suporte social percebido tem menos probabilidade de manifestarem sintomas negativos de solidão (6,12,13). Uma vez que estudos demonstram níveis mais elevados de solidão e inferior suporte social percebido entre idosos residentes em ERPIs, comparativamente com aqueles que residem na comunidade, é crucial focarmo-nos nesta população (14,15).

Objetivos

O presente trabalho propõe-se a avaliar residentes em ERPIs do Sabugal, o município português com o 7º maior índice de envelhecimento e um total de 968 vagas em estruturas residenciais para idosos (2,16). O estudo avalia e analisa a prevalência de solidão, o suporte social percebido, e as suas relações com o processo de adaptação à instituição, com a auto perceção de saúde, com as suas interações sociais e dados demográficos.

Materiais e métodos

Este estudo é do tipo observacional, descritivo e correlacional, integrado no projeto "O Perfil do Idoso Institucionalizado em Portugal" conduzido em ERPIs no município do Sabugal (n=21), com uma amostra randomizada de 350 adultos idosos. A investigação foi realizada por uma equipa de estudantes do MIM sob supervisão académica. Neste estudo, participaram apenas 119 idosos devido à necessidade dos idosos serem cognitivamente íntegros. Deste modo, todos os participantes tinham idade igual ou superior a 65 anos, residiam há mais de 3 meses na instituição, assinaram o formulário de consentimento e não tinham indícios de défice cognitivo, segundo os resultados do Mini Exame do Estado Mental de Folstein. Os participantes foram inquiridos sobre os seus dados demográficos, sobre o processo de institucionalização, sobre o seu status em saúde, o seu status funcional e social e foram aplicadas escalas de avaliação geriátrica, nomeadamente a Escala Multidimensional de Suporte Social Percebido (EMSSP) e a Escala de Solidão da UCLA. A análise estatística fez-se com recurso ao software SPSS *(Statistical Package for the Social Sciences),* a modelos de regressões logísticas para explicar sentimentos de solidão baseados nos níveis de suporte social, ajustados para o género e estado marital, aos teste de qui-quadrado e teste exato de Fisher para análise de associações estatisticamente significativas entre duas variáveis categóricas foram utilizados, a correlações de Spearman para medir associações estatisticamente significativas entre variáveis ordinais ou dicotômicas e valor de $p < 0,05$ como critério de significância estatística.

Resultados

A população em estudo, com uma média de idades de 87.0 anos, constituía-se, na sua maioria, por indivíduos do sexo feminino e viúvos. A decisão de institucionalização foi, maioritariamente, realizada pelo próprio ou por familiares. 63.0% reportou o processo de institucionalização como fácil. Desde o início do ano, a maioria recebeu visitas e

estabeleceu contactos telefónicos, frequentemente. A auto perceção de saúde dos participantes distribuiu-se entre as três categorias: boa, razoável e má auto perceção de saúde. Uma porção significativa dos idosos obteve resultados indicativos de sentimentos negativos de solidão (37.0%, n=44). A maioria apresentou alto suporte social percebido da família (FamPSS), do outro significativo (SoPSS), alto suporte social total (tPSS) e suporte social médio dos amigos (FriPSS). Ter suporte social percebido baixo ou médio, nas diferentes subescalas, associou-se a probabilidades significativas de experienciar solidão (SoPSS, $p<0.001$, $p=0.002$; FriPSS, $p<0.001$, $p=0.016$; tPSS, $p=0.004$, $p<0.001$), excetuando na subescala da família, em que apenas suporte social percebido médio se associou à solidão ($p=0.018$). O processo de adaptação associou-se à perceção de solidão ($p<0.001$): 50% dos indivíduos com sentimentos negativos de solidão reportaram difícil adaptação à ERPI. O suporte social percebido associou-se positivamente a receber visitas (FamPSS, $p=0.002$; tPSS, $p=0.006$), a estabelecer contactos telefónicos (SoPSS, $p=0.015$; FamPSS, $p=0.024$, tPSS, $p=0.006$) e à sua frequência (SoPSS, $p=0.028$; FamPSS, $p<0.001$; FriPSS, $p=0.038$; tPSS, $p=0.002$). A solidão apenas se associou com a frequência dos contactos telefónicos ($p=0.007$).

Discussão

O estudo pretende avaliar idosos residentes em ERPIs quanto às suas características demográficas, solidão e suporte social percebido. A população, com idade média de 87.0 anos, predominantemente do sexo feminino, composta por viúvos e indivíduos com baixa literacia, assemelha-se às descritas em estudos análogos (15,17). A maioria dos participantes tinha filhos e netos, recebendo visitas e estabelecendo contactos telefónicos, frequentemente. Tendencialmente, os participantes referiram uma boa relação familiar previamente à institucionalização. A adaptação à ERPI foi globalmente descrita como fácil. A literatura sugere que a decisão partilhada quanto ao processo de institucionalização e o suporte social adequados, são fatores cruciais para uma adaptação bem-sucedida ao lar (18,19). Uma parte significativa dos participantes decidiu por si quanto à transição para a ERPI, estando inerentemente envolvido no processo. Adicionado à equação o elevado suporte social percebido dos idosos, compreende-se que a adaptação ao lar tenha sigo, globalmente, percebida como fácil.

Quanto à perceção de solidão, a sua prevalência de 37.0% mostrou ser inferior comparativamente a outros estudos conduzidos tanto em Portugal. como na Europa (17,20). Contudo, a exata prevalência de solidão, particularmente entre os idosos residentes em ERPIs, permanece desconhecida. Gardiner *et al.* (2020) observaram uma variação significativa na prevalência de solidão nesta população, por todo o mundo, com uma variação de 31% a 100% para a solidão moderada e de 9% a 81% para solidão severa

(21). Os resultados obtidos pela escala Multidimensional de Suporte Social Percebido evidenciam bom suporte social percebido pelos idosos, especialmente o suporte prestado pela família. Concordantemente com evidência anterior (3,22) e corroborando a hipótese de estudo, encontraram-se associações positivas entre suporte social percebido e solidão. O suporte social dos amigos e de outros significativos demonstraram acrescida significância, comparativamente com o suporte familiar. Esta descoberta assemelha-se aos resultados da meta-análise realizada por Zhang *et al. (*2012) (12). O valor atribuído aos diferentes tipos de relações pessoais, familiares, amistosas, amorosas, depende de fatores intrínsecos e extrínsecos. A idade e fase de vida em que um indivíduo se encontra parecem influenciar esta perceção. Sugere-se acrescida importância das amizades, e de outras relações que não as familiares, na velhice, uma vez que são relações com potencial de trazer mais satisfação e bem-estar emocional (23), por serem relações voluntárias, por os amigos tendencialmente partilharem mais interesses e experiências e especialmente pelo desejo dos idosos de manter a sua independência e autonomia, não querendo ser sentidos como um fardo para os seus familiares (24).

Não se encontraram correlações entre solidão, gênero e estado marital, apesar da evidência apontar para o sexo masculino e viuvez como fatores de risco para a solidão (25). Um estudo conduzido em Espanha (2011), com idosos residentes na comunidade e idosos residentes em ERPIs, mostrou que as mulheres eram 56% menos prováveis de se sentirem sozinhas, e não ter um parceiro duplicava o risco de solidão, no entanto, estes resultados apenas se verificaram para os idosos na comunidade e não para os residentes de ERPIs (26). É plausível que pelo pequeno tamanho e homogeneidade da amostra, e pelo ambiente institucional, estas associações, no presente estudo, não se tenham verificado.

À semelhança dos resultados de Prieto-Flores *et al.* (2011), esperava-se que uma boa auto perceção de saúde se associasse a sentimentos diminuídos de solidão, no entanto, essa associação não foi encontrada neste estudo. A literatura propõe que indivíduos com má, muito má, ou mesmo com razoável auto perceção de saúde, tenham mais probabilidades de referir solidão (26–28). Por exemplo, Sol *et al.* (2023) observou que indivíduos com pior auto perceção em saúde reportaram níveis mais elevados de solidão em observações posteriores. Por sua vez, o estudo longitudinal de Nummela *et al.* (2011) encontrou evidência de que estas variáveis se influenciam mutuamente, em ambas as direções, isto é, tal como má auto perceção em saúde leva a sentimentos negativos de solidão, sentir-se só condiciona um indivíduo a interpretar o seu estado de saúde como pior. Reforça-se, assim, a necessidade de, para além de investigar as correlações entre estas duas variáveis, a necessidade de entender as direções destas associações.

Neste estudo estabeleceu-se uma associação entre a solidão e o processo de adaptação à instituição; indivíduos que referiram difícil adaptação mostraram-se mais propensos a experienciar solidão. De facto, 50% dos participantes com sentimentos negativos de solidão reportaram uma adaptação difícil à ERPI. O estudo de Sarah A. Wilson (1997), que descreve o processo de adaptação em três fases; fase de sobrecarga, fase de ajuste e fase de aceitação, concluiu que durante a fase inicial (de sobrecarga) os idosos referiram, comumente, sentimentos de solidão. Adicionalmente, uma transição não planeada para o lar resultava em períodos mais longos para alcançar a fase de aceitação (18). Da mesma forma, outros estudos propõem que a participação no processo de decisão, conjuntamente com personalidade resiliente, satisfação com a instituição e melhor suporte social percebido são fatores contribuintes para uma fácil adaptação (19,29). Portanto, é crucial compreender os facilitadores e agravantes da transição para uma ERPI para mitigar os sentimentos de solidão.

A hipótese de que visitas aumentam o apoio social percebido confirmou-se; receber visitas desde o início do ano mostrou-se positivamente associado à perceção de apoio social familiar, enquanto a ausência de visitas associou-se a baixo apoio social percebido familiar. As normas e expectativas da sociedade, frequentemente, dão prioridade às relações familiares no contexto da velhice, resultando em visitas regulares de membros da família que cumprem com as suas obrigações sociais e prestam apoio aos seus entes queridos. Embora não conste dos dados de estudo, os participantes foram inquiridos sobre de quem recebiam visitas, tendo a maioria indicado receber visitas de familiares ou, em alguns casos, de familiares e de outras pessoas. A natureza das visitas poderá explicar a relação desta variável somente com o suporte social percebido familiar e não com as outras dimensões. Por outro lado, a frequência das visitas não mostrou qualquer associação com os níveis de suporte social, reforçando a ideia de que qualidade das visitas se sobrepõe à sua quantidade. Tanto a realização de contactos telefónicos como a sua frequência se correlacionaram positivamente com o apoio social percebido, alinhando-se com dois estudos de intervenção realizados por Tsai *et al.* (2010, 2011), em que o suporte social percebido de idosos residentes em ERPIs melhorou após um programa de implementação de videoconferências com familiares (30,31). No presente estudo, a ausência de contactos telefónicos associou-se a baixo suporte social percebido familiar e do outro significativo, bem como a uma menor perceção global de apoio social. Enquanto visitar um conhecido a uma instituição é de difícil gestão devido a questões logísticas, como a deslocação e a coordenação de horários, os contactos telefónicos podem ser feitos a partir de qualquer lugar e a qualquer momento. Esta comodidade permite que amigos e pessoas próximas, sem a oportunidade de visitar, mantenham os seus laços. Deste modo, surge uma explicação para o facto dos contactos telefónicos se correlacionarem

com o apoio social percebido do outro significativo e as visitas não. Infelizmente, os estudos encontrados integrados no tema, apenas fazem referência a contactos por videoconferência, não explorando outras formas de contacto telefónico, como as chamadas convencionais ou o envio de mensagens.

A correlação entre solidão e visitas aos idosos não se verificou, embora o isolamento social se associe a maior prevalência de solidão (26,32). Num estudo realizado por Prieto-Flores *et al.* (2011), os idosos que apenas se reuniam uma a duas vezes por mês com a família, amigos ou vizinhos, apresentaram significativamente maiores probabilidades de sentir solidão. Drageset *et al.* (2004) também reportaram associações entre o contacto com amigos e a solidão social. Complementarmente, estudos conduzidos durante a pandemia COVID-19, período marcado por uma diminuição acentuada das interações sociais, a prevalência de solidão aumentou tanto na população geral, como nos idosos residentes em ERPIs (33,34).

Apenas a frequência dos contactos telefónicos mostrou associação com a solidão, isto é, entre os idosos que estabelecem contactos telefónicos, aqueles que o fazem menos frequentemente, têm risco aumentado de experienciar solidão. Por outro lado, não estabelecer contactos telefónicos não mostrou a associação com a perceção de solidão. Estudos que analisam e investigam estas duas variáveis são escassos, no entanto, a associação positiva entre contactos telefónicos e diminuição de solidão já foi demonstrada, como por exemplo, no estudo de Drageset *et al.* (2004). Adicionalmente, os estudos de intervenção com programas de videoconferência, previamente mencionados, também demonstraram que este tipo de interações melhoram os sentimentos de solidão ao longo do tempo (30,31).

Quanto às potencialidades do estudo, este beneficiou da sua localização em meio rural e do facto de todas as instituições do concelho terem sido integradas no estudo, no entanto, algumas limitações foram identificadas; o pequeno tamanho da amostra; a sua tipologia observacional, que não permite investigar a direção das correlações; e a extensão dos inquéritos aplicados, que acabaram por ser cansativos para os participantes. O decorrer da investigação durante o Verão também poderá ter influenciado alguns dos resultados obtidos. Nesta época em que é comum tirar férias, os familiares dos idosos residentes das ERPIs poderão estar mais presentes conduzindo a perceções mais favoráveis dos níveis de solidão e do suporte social.

Conclusão

Os resultados revelam que, embora os idosos em ERPIs no Sabugal geralmente apresentem elevado suporte social percebido, especialmente por parte dos seus familiares, e mantenham os seus laços sociais através de visitas e contactos telefónicos

frequentes, uma porção notável apresenta sentimentos negativos de solidão. Reforça-se, assim, a noção de que a solidão é prevalente nesta população, contribuindo o estudo para a compreensão da prevalência de solidão nos idosos em ERPIs do Sabugal.

Sublinha-se a necessidade de investigação adicional para determinar a prevalência aproximada de solidão entre os idosos residentes em ERPIs a nível nacional. Da mesma forma, dada a etiologia multifatorial da solidão, é crucial continuar a investigar e identificar os fatores de risco associados à solidão, uma vez que este estudo não estabelece nenhuma causalidade. Reconhecendo os efeitos prejudiciais da solidão na saúde dos idosos, esta deverá ser tratada como um fator de risco modificável para a saúde.

Neste contexto, o papel e a importância dos profissionais de saúde, especialmente dos médicos, tornam-se críticos. Reconhecendo a importância da saúde mental, da solidão e das interações humanas para melhores resultados em saúde, a profissão médica dá um passo vital em direção a um novo paradigma. Embora a gestão de múltiplas patologias e da polifarmácia sejam inerentemente difíceis e demoradas, os médicos distinguem-se por tratarem as pessoas de forma holística e devem procurar tempo para o fazer. No contexto das ERPIs, os médicos desempenham um papel fundamental na promoção de um ambiente em que se prioriza a saúde mental. Na prática, podem avaliar e monitorizar, identificando sinais precoces de solidão, envolver as famílias e promover interações sociais. Pelo impacto da palavra e do conselho médico, podem colaborar com os trabalhadores das ERPIs, incentivado a que estes reconheçam a importância do apoio social e da solidão na saúde do idoso e, por último, podem advogar por políticas e práticas que integrem o apoio social como uma parte essencial dos cuidados geriátricos. Para além disto, o estudo reforça a importância das amizades e de outros laços socias que não os familiares para o bem-estar na velhice, e evidencia a associação entre o processo de adaptação à instituição e a solidão. Devem ser envidados esforços para promover este tipo de relações, sendo o uso do telefone/telemóvel uma medida prática e facilmente aplicável para atenuar a solidão, bem como o desenvolvimento de intervenções que simplifiquem e facilitem a transição ao lar.

Finalmente, a expansão desta investigação a outros municípios, é essencial para uma compreensão abrangente das necessidades e desafios enfrentados pelos idosos residentes em ERPIs, em Portugal. Assim, facilitar-se-á o desenvolvimento de estratégias adequadas para a promoção do bem-estar desta população, ajudando a criar um ambiente harmonioso e menos solitário para os nossos idosos institucionalizados.

Palavras-chave

Adulto Idoso;Institucionalização;Solidão;Suporte Social Percebido;Estrutura Residencial para Pessoas Idosas

Abstract

Objectives: Loneliness has been increasingly recognized as a major health concern, that parallels established health risk factors and perceived social support (PSS) emerges as a crucial protective factor against it. The challenges of old age frequently demand for relocation of older adults to long-term care facilities which can associate with external isolation and decreased interactions. The study aims to better understand the prevalence of loneliness among institutionalized older adults and the role of perceived social support to mitigate these feelings.

Methods: This is a descriptive cross-sectional study conducted in long-term care facilities in Sabugal (n=21), with a sample size of 119 participants. The sample was inquired about sociodemographic data, the institutionalization process, their health, functional and social status and geriatric assessment scales were applied.

Results: Prevalence of loneliness was 37.0%, n=44. Low PSS from significant others ($p<0.001$) and friends ($p<0.001$) associated with significantly higher odds of experiencing loneliness and medium PSS from family was also associated ($p=0.018$). Perceiving the process of institutionalization as difficult associated with loneliness ($p=0.001$). Receiving visits and establishing phone contacts were positively associated with PSS. Establishing phone contacts frequently was associated with higher levels of PSS and with decreased risk of loneliness.

Conclusion: A significant portion of older adults in long-term care facilities in Sabugal experience loneliness. The study corroborates the positive associations between perceived social support, especially from friends, and loneliness, and highlights the contribution of a difficult institutionalization process to loneliness. Fostering friendships in older age and supporting the transition from home to care facilities could benefit well-being and reduce loneliness in this population.

Keywords

Loneliness;Perceived Social Support;Older Adults;Nursing Homes;Institutionalization

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Acronyms

DALYs	Disability-adjusted Life Years
EMSSP	Escala Multidimensional de Suporte Social Percebido
ERPI	Estrutura Residencial para Pessoas Idosas
EU	European Union
FamPSS	Family Subscale of Perceived Social Support
FriPSS	Friends Subscale of Perceived Social Support
LTCF	Long-Term Care Facility
MMSE	Mini Mental State Examination
MSPSS	Multidimensional Scale of Perceived Social Support
PSS	Perceived Social Support
SOPSS	Significant Other Subscale of Perceived Social Support
SPSS	Statistical Package for the Social Sciences
UCLA	University of California, Los Angeles
UBI	Universidade da Beira Interior
tPSS	Total Perceived Social Support
YLDs	Years of Healthy Life Life Lost due to Disability

Introduction

World Aging and The Challenges of Institutionalization

Global aging is an outstanding phenomenon that is transforming the demographics of the entire world. With remarkable progress in science, reductions in child mortality, healthier lifestyles, better living and working conditions, longevity has improved significantly. These factors, in conjunction with the long-term falling female fertility are resulting in a prominent aging of the population (35), to such an extent that people aged 65 years old or more have already outnumbered the number of children under 5 years old (36). Such a shift in the age distribution of a population brings challenges to the world with implications for individuals, families, and society.

Every country in the world is experiencing this growth in both size and proportion of older adults (36). Likewise, the rest of the world, Portugal is no exception, with the number of older adults having increased significantly in the last 20 years. Portugal is the fifth most aged country in Europe and will be, in 2050, the most aged country in the EU (35). which does not come as a surprise with approximately 24% of its population, currently, being aged 65 years old or more (1,2). Although it is factual that individuals are enjoying longer lives in contemporary times, people's late years are often marked by health challenges, such as living with chronic disease and their consequent limitations in the everyday life. Between 1970 and 2020, life expectancy at birth in Portugal increased from 67,1 years old to 80,7 years old, however, healthy life expectancy at 65 years old did not increase greatly. In fact, in Portugal, healthy life expectancy at 65 years old was below the EU average in 2014. Additionally, the vast majority (>50%) of both disability-adjusted life years (DALYs) and years of healthy life lost due to disability (YLDs) are attributable to chronic pathologies (1). In the light of this, a challenge for society arises with a growing need to care for older individuals who may be physically and/or mentally impaired, facing multiple health issues. The aging phenomenon varies across regions in Portugal, as evidenced by differences in aging indexes. The aging index is given by the number of old adults, aged 65 or more, per 100 people aged less than 15 years old. Sabugal, a municipality in the district of Guarda, stands out nationally, by having the 7th highest aging index between Portuguese municipalities and the 9th highest longevity index (2). Both these indexes are remarkable tools to evaluate the population of a determined region and likewise to determine the type of response needed in the area.

Caring for individuals with multiple health-conditions entails substantial responsibility and the twenty-first century fast-paced life makes it challenging for many families to offer adequate care in such circumstances. For this reason, increasingly, we see families resorting to various sources of extra help and support, such as institutions (37). With the growing of the number of debilitated older adults, the demand for institutions, such as nursing homes or residential homes, is evident, whether due families are unable to assume the caregiver role or for other reasons. In 2020, Portugal operated a total of 2,526 nursing homes, offering a combined capacity of 101,919 places, with 99,234 currently occupied. Notoriously, 968 of these vacancies within nursing homes are in Sabugal (16,38).

As it's expected, living in an institution presents a very different experience compared to living in a personal residence. The process of nursing home placement presents itself as a challenge on its own, involving a complex process of adaptation. Institutionalized older adults might get distanced from their community; they ought to adapt to a complete new environment; they often suffer a partial loss of autonomy, with a loss of control on their daily routine habits, such as eating habits, sleeping habits and others. Additionally, the admission to a nursing home is, for many, heavily conditioned by factors beyond their control and is often associated with concepts of “abandonment, death, separation and suffering” (4). Therefore, institutionalization is accompanied by negative feelings and negative connotation in the eyes of many older adults.
Beyond the subjective experience of the admission to a nursing home, it is factual that institutionalization often comes with external isolation and a lack of internal interaction, due to absence of visits of relatives, disconnection from friends and the inability to have and form meaningful connections inside the institution (37).

Loneliness in Older Adults

Loneliness is a common and universal experience, as a matter of fact, almost everyone has, or will eventually, experience feelings of loneliness throughout their lifetime (5). It is a subjective, emotional state, with different attributed definitions throughout the available literature. It has been often described as dissatisfaction with the discrepancy between desired and actual social relationships (7,12,39) It is important to emphasize that loneliness differs from solitude or being alone, because it derives from how one experiences and perceives actual social isolation (5). Overall, it correlates with how an individual perceives its social connections and whether they are, or they are not, satisfactory (5,7,12,39).

Loneliness is undeniably a rising epidemic in today's world (8), however and despite being a common and expectable emotion, it is linked to various detrimental effects, especially on individuals that experience it chronically (5). Loneliness has been linked to negative physical and mental health outcomes, comparable with outcomes from well-established risk factors, such as obesity and smoking (9,12). Poorer health results associated with loneliness include higher rates of morbidity and mortality, higher risk of premature mortality, cardiovascular health risks, expression of depressive symptoms, cognitive decline, dementia, and many others (5,10,12,14,39). Due to these health impacts and their relevance, it's fundamental no to neglect and to assess and evaluate this variable.

Received Social Support and Perceived Social Support

Human relationships are an innate aspect of human existence, deeply ingrained in our species' history. Since ancient times, humans have organized societal structures, driven by a fundamental need for connection and for the sense of belonging. Highlighting the significance of human interaction, being ostracized is and has been viewed negatively throughout human history. This is and has been an observable phenomenon, with ancient practices like being outcast from society to today's solitary confinement in prisons being used as forms of punishment (40).

The connections that individuals establish can be viewed as a network and, in conjunction with the role they play in one's life, provide a framework for understanding the concept of social support. This is inherently a complex and multidimensional concept, challenging to encapsulate in a single definition. However, it can generally be categorized into two types: received social support and perceived social support (11,13). Perceived social support encompasses an individual's subjective evaluation of the support being provided and whether they believe it will or has already helped them in their life. Concisely, it revolves around a personal judgment of the support's helpfulness, regardless of its actual impact. On the other hand, received social support refers to the tangible actions and behaviours offered to the individual, irrespective of their subjective assessment (11,13,41). This type of support can be evaluated through concrete measures such as the frequency of visits, phone contacts, or size of one's network. The distinction between perceived and received social support lies in the subjective evaluation versus the objective demonstration of support, highlighting the multifaceted nature of interpersonal relationships and their influence on one's well-being. Moreover, perceived social support is linked to three distinct elements: support from family, friends, and significant others, each exerting different impacts on people's lives. Perceived social support is the type of social support that has constantly been associated with better

health outcomes, especially, those related to mental health (11). Inadequate levels of perceived social support are often associated with more obvious feelings of loneliness, while high perceived social support has demonstrated significant correlations with well-being, with higher life satisfaction, reduced depressive symptoms, and decreased feelings of loneliness, especially among older adults (11,41,42).

The Relationship Between Loneliness and Perceived Social Support

Loneliness and Perceived Social Support are two intertwined variables that seem to establish a complex relationship. Perceived social support plays a crucial role in mitigating feelings of loneliness; individuals who perceive higher levels of social support tend to experience lower levels of loneliness, as they feel more connected and supported by their social network. Conversely, individuals who perceive lower levels of social support or lack a strong support system are more likely to experience heightened feelings of loneliness (12,39). This highlights the importance of perceived social support as a protective factor against loneliness, emphasizing the significant role that interpersonal relationships play in shaping individuals' emotional well-being.

Loneliness and Perceived Social Support in Old Age

As people age, there is a tendency for their social network size to reduce across all dimensions and, however, loneliness affects all age groups, a significant risk for loneliness in old age has been reported. It might be attributable to various factors, for example, to the likeness of older adults living alone or in residential homes, away from their families; to being, in general, less socially engaged; to having functional problems, like hearing loss, poor vision and low mobility; to experiencing the death of relatives, especially the death of spouses; to suffering changes in family structure, or due to other reasons (9,10). Additionally, differences between institutionalized older adults and older adults living in community, regarding loneliness and social support evaluation have been observed and reported. Institutionalized older adults have presented lower scores of social support than those in the community (14). For these reasons, and because social connections are needed for physical and emotional well-being, closer attention to this population should be paid (39). Living in a nursing home can be a protective or a harmful factor in this regard. It has been demonstrated to offer several benefits, including potentially reducing feelings of loneliness and depression by fostering peer relationships in a supportive atmosphere (42). On the other hand, it has also been shown that institutionalized older adults may experience heightened feelings of loneliness compared to those living at home (14,15). While institutionalized older adults may have opportunities to develop relationships that would otherwise be inaccessible to them,

transitioning to a nursing home involves adapting to new surroundings and significant changes in daily routines. Additionally, they may struggle with physical distance from their homes and families, potentially leading to increased feelings of disconnection and decreased social ties, ultimately manifesting in more pronounced expressions of loneliness (14). Both perspectives are logical and reflect the complexity of loneliness and social relationships as multidimensional concepts.

Purpose of The Study and Study Objectives

There's a deficiency of comprehensive studies conducted in Portugal that provide a full and complete portrait of the institutionalised older adults residing in nursing homes. However, several studies have been conducted to acquire specific information for a vast range of variables concerning health issues, a full and exhaustive description of the institutionalised older adults, in Portugal, is still unknown to some extent.

Furthermore, the Portuguese population is significantly aged with the number of older adults residing in nursing homes rising day by day. It's paramount to know and understand a specific population to provide the best care, plan adequate interventions, better allocate health resources, and obtain the best results. Given today's awareness rising towards mental health and our understanding of the significance of social connections in promoting individual well-being, loneliness and perceived social support are main topics that warrants further exploration and investigation. Older adults in long-term care facilities might be more susceptible to having negative feelings of loneliness and suffer changes in their social circle, shaping their perceived social support.

Considering this, the purpose of the present work and its objectives are:

1. To characterise the study population based on social demographic factors.
2. To evaluate their levels of loneliness.
3. To evaluate their levels of perceived social support.
4. To analyse the relation between loneliness and perceived social support.
5. To evaluate the impact of gender and marital status on loneliness and perceived social support.
6. To analyse the relation between loneliness and autoperception of health status.
7. To analyse the relation between loneliness and the process of institutionalization.
8. To characterise social interactions withing the long-term care facility (visits and phone contacts).
9. To analyse the relation between social interactions, loneliness and perceived social support.

Methodology

The present work is included in a broader project named "O Perfil do Idoso Residente em ERPIs no Concelho do Sabugal" which was a study of the cross-sectional, descriptive type, approved by the Ethical Committee of Universidade da Beira Interior (Processo n.º CE-UBI-Pj-2023–048-ID1851). The project was presented, by the investigation team, to the Local Council of Social Action of Sabugal Municipality (Conselho Local de Ação Social - CLAS - do Município do Sabugal) where institution representatives were present. Detailed written information about the objectives and methods was provided to facilitate and encourage collaboration and a formal invitation was made for participation. The investigation was then conducted in a total of 21 nursing homes between June and August of 2023, by a team of 5 medical students, supervised by 3 academic researchers.

Participants, Sampling and Criteria of Inclusion and Exclusion

Sample size was determined with the goal of obtaining a representative sample of the institutionalised population in Sabugal. Calculations were made for a margin of error of 3% and a confidence of 95%, resulting in an interval of 217 to 479 people, setting the sample size for 350 participants. The number of participants of each nursing home was adjusted in proportion to the total number of residents that that institution contributes to the total number of institutionalised older adults in the municipality of Sabugal. The selection inside each nursing home was random, using the listings of each institution and a number randomization tool. To be eligible for participation, individuals had to meet inclusion criteria, not exhibit any exclusion criteria, and sign a confidentiality agreement to participate. Lastly, in cases where initially selected participants declined, a replacement participant, from the same institution, would be randomly chosen to take his place.

Participants eligible for investigation were all older adults, aged 65 years old or more, who had resided in a nursing home for at least 3 months. The sole exclusion criterion was non-consent to participate, and, in case of incapacitated participants, the decision of consent would be carried out by the legal tutor.

In the present study, data from participants with cognitive deficits, indicated by MMSE score or by impossibility on applying the MMSE, were excluded from statistical analysis resulting in a smaller sample of 119 people. This exclusion was necessary due to the instruments' requirements for reliable responses, as the assumption that answers given by individuals with cognitive deficits may not accurately reflect reality.

Instruments

To comply with the proposed study objectives a vast inquiry of 8 sections (Table 1) was applied to the study population. In this study the following sections were used: 1st section - sociodemographic inquiry, 2nd section - institutionalization, 3rd section - health status, 4th section - functional and social status and 5th section - geriatric evaluation scales. Integrated in the latter section, the UCLA Loneliness Scale and the Multidimensional Scale of Perceived Social Support were two of the instruments used. Table 2 discriminates the variables evaluated and used in the present study for the descriptive and statistical analysis.

Table 1. Sections included in the investigation inquiry.

Sections	
Section 1	Sociodemographic Inquiry
Section 2	Institutionalisation
Section 3	Physical Health Status
Section 4	Functional and Social Status
Section 5	Geriatric Evaluation Scales
Section 6	Summary Neurologic Examination
Section 7	Summary Clinical Examination
Section 8	Satisfaction Inquiry

Table 2 . Parameters used for descriptive and statistical analysis. *Quantitative variable. **Categorical variable.

Sections	Variables
1) Sociodemographic Inquiry	Age* Gender** Level of education** Marital Status**
2) Institutionalisation	Decision upon institutionalisation** Family relationship previously to institutionalisation** Process of adaptation to the institution**
3) Physical Health Status	Autopercetion of health status**
4) Functional and Social Status	Number of children* Number of grandchildren* Visits since the beginning of the year** Frequency of visits** Phone contacts since the beginning of the year** Frequency of phone contacts**
5) Geriatric Evaluation Scales	Folstein Mini-Mental State Examination (MMSE) UCLA Loneliness Scale Multidimensional Scale of Perceived Social Support (MSPSS)

Mini-Mental State Examination (MMSE)

The Mini-Mental State Examination (MMSE) was developed by Marshal F. Folstein, Susan E. Folstein, and Paul R. McHugh in 1975. MMSE is a brief screening questionnaire used to assess cognitive function in adults. It consists of a series of questions and tasks that evaluate different cognitive domains, including orientation, memory, attention, language and visuospatial abilities. Points are assigned based on the accuracy of their responses, with higher scores indicating better cognitive function (43). The MMSE was adapted to the Portuguese language in 1994 by Guerreiro *et al* (44) and more recently updated by Freitas *et al* (45). The score ranges from 0 to 30 points and to assume results compatible with cognitive deficit the level of education must be known: if illiterate and punctuation of 15 points or less, if 1 to 11 years of school and punctuation of 22 points or less or, if more than 11 years of school and a punctuation of 27 points or less is obtained, cognitive deficit is assumed.

UCLA loneliness scale

Daniel W. Russell, Letitia A. Peplau, and Mary L. Fergusson developed this scale in 1978 (46). It evaluates loneliness as a unidimensional construct. Its original version is made up of 20 items, however, shorter variations have been designed, such as the 8-item version and the 3-item version for quick assessment. The Portuguese version of the UCLA loneliness scale has a total of 16 items, and it has been adapted to the Portuguese language (47–49). Regarding score, each item receives a punctuation from 1 to 4, having each number a qualitative meaning to it, where 1 refers to “never” and 4 to “frequently”. A total score above 32 points indicates the presence of negative feelings of loneliness. The scale has been validated for the older Portuguese adult population and was reported as an exceptionally reliable instrument for the diagnosis of geriatric loneliness (47).

Multidimensional Scale of Perceived Social Support (MSPSS)

The MSPSS was developed by Gregory D. Zimet, Nancy W. Dahlem, Susan G. Zimet, and Gordon K in 1988(50). Farley. It was adapted and validated for the Portuguese population by Carvalho *et al* (51). This scale is a 12-item questionnaire, with four items for each subscale (family, friends, and significant others). The scale ranges from 1-“very strongly disagree” to 7-“very strongly agree.” Scores for each subscale (family, friends, and significant others) are calculated by summing the corresponding items and dividing by 4. Total score is obtained by summing all items and dividing by 12. Higher scores indicate greater perceived support from each source and levels of support based on

calculations fall in three distinct categories, high perceived social support, medium perceived social support, and low perceived social support.

Statistical Analysis

Data was analysed with SPSS, version 29.0 (52). Descriptive statistics were presented as frequencies (n) and percentages (%), means (M) and standard deviations for continuous variables with normal distribution. Adjusted logistic regressions were implemented for explaining feelings of loneliness based on MSPSS dimensions adjusted to gender and marital status. Adjusted logistic regressions were used since they allow, not only to assess associations between two variables, but also provide odds ratios to interpret the strength and directions of these associations (53). Effect sizes were calculated as adjusted odds ratios (aOR), and significance was assessed with p-values and 95% confidence intervals. Chi-square, when Cochran rules were met (54), or Fisher exact tests, otherwise, were used to assess the association between categorical variables (Table 2). The chi-square test of independence (or association) is widely used in medical research, and it's indicated to determine if there is a significant association between variables at a nominal level. It is a valuable analysis tool that works best in a randomized and sufficiently large samples, like in this case, hence its use. On the other hand, Fisher's Exact is more precise than the Chi-square test but can only be used for 2 x 2 contingency tables, so it was used when possible (55). Standardized residuals were calculated to detect detailed significance in each cell of the contingency table. Standardized residuals (ri) were presented when ri > absolute value of 1.96, considering that Pearson residuals follow a normal distribution. Spearman's rank correlations were used to measure the association between ordinal or dichotomous variables. Significance was deemed for $p<0.05$. The Spearman's rank correlation is a versatile, simple and handles ordinal data effectively, providing a clear measure of the strength of the association, hence its use (56)

Variables such as decision upon institutionalisation, frequency of visits and frequency of phone contacts were evaluated with open-ended questions. Due to variability in the inquiry answers and to assure validity of the used statistic tests these variables were clustered into categories. Similarly, the answers to variables such as level of education, marital status, family relationship prior to institutionalisation and auto perception of health status, although assessed through close-ended questions, were clustered into categories.

Table 3. Exemplification of variable clustering process for statistical analysis and validity of tests purposes

Variable	Initial categories	Clustered categories
Marital Status	Single	With partner
	Married	Without partner
	Divorced	(single/divorced)
	Widowed	Without a partner
	Common-law marriage	(widowed)

Results

A total of 119 elderly were studied, aged between 67 and 100, mean of 86.0 years old (SD=6.7). Table 4 presents demographics and other sample characteristics. The data highlights a predominance of females (63.0%, n=75) among participants, with a notable portion being illiterate (36.1%, n=43) and a majority being widowed (62.2%, n=74). Family composition showed that most participants had children (85.7%, n=102) and grandchildren (77.3%, n=92). Decision-making regarding institutionalisation varied, with many participants deciding for themselves (47.5%, n=56) or the decision being conducted by family members (43.2%, n=51). Despite the majority reporting good family relationships (91.6%, n=109), there were instances of conflict (8.4%, n=10). Health perception varied, with a significant portion reporting poor health (36.1%, n=43). However, adaptation to the institution was largely reported as easy (63.0%, n=75).

Table 4. Sociodemographic data, decision of institutionalisation, family relationship prior to institutionalisation, auto perception of health status and process of adaptation to the institution (n=119).

	n	%
Gender		
Male	44	37.%
Female	75	63.%
Education		
Illiterate	43	36.1%
Has not attended school but can read and write	23	19.3%
Went to school (at least at a basic level)	53	44.%
Marital status		
With partner	28	23.5%
Without partner (single/ divorced)	17	14.3%
Without partner (Widowed)	74	62.2%
Children		
No	17	14.3%
Yes	102	85.7%
Grandchildren		
No	27	22.7%
Yes	92	77.3%
Decision of institutionalisation		
Oneself	56	47.5%

	n	%
Family (spouse, adult children, other family members)	51	43.%
Others (social worker, others)	11	9.3%
Family relationship prior to institutionalisation		
Good relationship	109	91.6%
Conflictual relationship	10	8.4%
Auto perception of health status		
Good auto perception of health status (excellent, good, very good)	42	35.3%
Fair auto perception of health status	34	28.%
Bad auto perception of health status (bad, very bad)	43	36.1%
Process of adaptation to the institution		
Difficult	33	27.7%
Fair	11	9.2%
Easy	75	63.%

Descriptive analysis of the Multidimensional Scale of Perceived Social Support shows that across significant other, family, and friend dimensions, 42.9% (n=51) had high social support from significant others, 76.5% (n=91) had high social support from family, and 41.2% (n=49) had medium social support from friends. As for total perceived social support, 48.7% (n=58) had high perceived social support. Overall, perceived social support was not low nor medium for most participants, with high family social support being particularly prevalent (76.5%, n=91).

Regarding visits, most participants had at least one visit since the beginning of the year (87.4%, n=104). Frequency-wise, close to half of the sample reported frequent visits (45.4%, n=54), including participants who were visited daily, once per week, every two weeks, or once per month. However, 34.5% (n=41) of the participants had infrequent visits (between 2 to 4 visits per year), and 7.6% (n=9) only had occasional visits, including participants who were visited only once per year or in specific periods, such as summer holidays or festive periods (Christmas, Easter)

Regarding phone contacts, including both voice and video-chatting, most participants established this type of contact (84.9%, n=101). Most participants had phone contacts frequently (77.3%, n=92), this means, at least once every two weeks. However, 7,6% (n=9) established infrequent contacts, this means they only had one phone call per month or even less.

Results from the UCLA Loneliness Scale showed that 37.0% (n=44) of the participants had a score superior to 32 points, indicating negative feelings of loneliness.

Results for adjusted logistic regression models exploring the associations between loneliness with and perceived social support (PSS), across all its subscales (FamPSS,

FriPSS, SOPSS, tPSS) are described next (Table 5). Each logistic model considers a dimension of social support and adjusts for gender and marital status. Reference categories (set as 1) were chosen based on the lower risk of loneliness.

In the first logistic model focusing on the significant other subscale of perceived social support (SOPSS), participants with low SOPSS exhibited significantly higher odds of experiencing loneliness compared to those with high SOPSS (aOR=15.93, p<0.001). Similarly, those with medium SOPSS showed higher odds of loneliness (aOR=5.17, p=0.002).

Moving to the second logistic model examining the family subscale of perceived social support (FamPSS), participants with medium FamPSS showed increased odds of loneliness (aOR=3.59, p=0.018), but not those with low FamPSS (aOR=1.90, p=0.375); it's important to note that one of the reasons for this result could be the low sample size in this subscale of PSS (n=10).

In the third logistic model focusing on the friends subscale of perceived social support (FriPSS), participants with low FriPSS exhibited significantly higher odds of experiencing loneliness compared to those with high FriPSS (aOR=17.84, p<0.001). Similarly, those with medium FriPSS displayed increased odds of loneliness (aOR=3.97, p=0.016).

Lastly, the fourth logistic model analysed the total score of perceived social support (tPSS). Participants with low (aOR=7.86, p=0.004) and medium (aOR=7.17, p<0.001) tPSS had significantly higher odds of experiencing loneliness compared to those with high scores.

Effects of gender and marital status were not significant for all models. These results suggest that PSS effects on loneliness are independent from gender or marital status, and occurred wherever participants were males or females, had a partner, did not have a partner due to divorce or being single or were widowed.

Table 5. Adjusted logistic regressions for explaining negative feelings of loneliness based on MSPSS dimensions.

		aOR	p-value	95% CI
Logistic model 1	**PSS of the significant other**			
	High (n=51)	1	1	1
	Medium (n=44)	5.17	0.002**	1.87 - 14.28
	Low (n=24)	15.93	<0.001***	4.63 -54.82
	Gender			
	Male (n=44)	1	1	1
	Female (75)	1,78	0,222	0,71 - 4,49
	Marital status			
	With partner (n=28)	1	1	1

	Without partner (single/ divorced) (n=17)	1,65	0,469	0,43 - 6,39
	Without partner (Widowed) (n=74)	0,40	0,096	0,14 - 1,18
Logistic model 2	**PSS of family**			
	High (n=91)	1	1	1
	Medium (n=18)	3.59	0.018	1.24 - 10.39
	Low (n=10)	1.90	0.375	0.46 - 7.82
	Gender			
	Male (n=44)	1	1	1
	Female (75)	1,32	0,516	0,57 - 3,07
	Marital status			
	With partner (n=28)	1	1	1
	Without partner (single/ divorced) (n=17)	1,41	0,613	0,38 - 5,27
	Without partner (Widowed) (n=74)	0,64	0,365	0,25 - 1,68
Logistic model 3	**PSS of friends**			
	High (n=40)	1	1	1
	Medium (n=49)	3.97	0.016*	1.29 - 12.20
	Low (n=30)	17.84	<0.001***	5.12 - 62.18
	Gender			
	Male (n=44)	1	1	1
	Female (75)	1,41	0,467	0,56 - 3,55
	Marital status			
	With partner (n=28)	1	1	1
	Without partner (single/ divorced) (n=17)	1,59	0,503	0,41 - 6,13
	Without partner (Widowed) (n=74)	0,55	0,268	0,19 - 1,59
Logistic model 4	**Total score of PSS**			
	High (n=58)	1	1	1
	Medium (n=49)	7.17	<0.001***	2.84 -18.09
	Low (n=12)	7.86	0.004**	1.96 -31.60
	Gender			
	Male (n=44)	1	1	1
	Female (75)	1,47	0,404	0,59 - 3,64
	Marital status			
	With partner (n=28)	1	1	1
	Without partner (single/ divorced) (n=17)	1,24	0,759	0,32 - 4,84
	Without partner (Widowed) (n=74)	0,65	0,427	0,23 - 1,87

PSS, Perceived social support; each logistic model entered a dimension for social support and was adjusted for gender and marital status; reference category = 1; *p<0.05; **p<0.01;***p<0.001. Statistical tests employed were chi-square tests when Cochran's rules were met and Fisher's exact tests otherwise. Significance was indicated at p<0.05. Standardized residuals were considered significant when ri > absolute value of 1.96, meaning deviations from expected frequencies.

Regarding associations between MSPSS scores with gender and marital status, no significant difference in SOPSS levels was found between genders (X^2=2.61, p=0.272). Likewise, marital status did not yield significant differences in SOPSS levels (X2=4.10, p=0.393).

There were no significant differences in FamPSS based on gender (X2=0.60, p=0.741). A significant difference emerged with marital status (p=0.021), indicating that widowed

individuals had higher FamPSS levels (63.7%, n=58) compared to those with partners (26.4%, n=24). Standardized residual of 3.0 suggested that the proportion of participants without a partner (single/divorced) that got a score indicative of low FamPSS was significantly higher (50%, n=5) than the expected, when compared to proportions of participants with medium FamPSS (16.7%, n=3) and high FamPSS (9.9%, n=9).

Neither gender (X2=0.60, p=0.721) nor marital status (X2=1.67, p=0.797) exhibited significant differences across FriPSS. As for tPSS, there were no significant differences between genders (X2=1.24, p=0.538) and marital status (X2=8.08, p=0.075). A trend suggested that widowed individuals had higher tPSS (67.2%, n=39) compared to those with partners (24.1%, n=14) and single/divorced participants (8.6%, n=5).

Table 6. MSPSS associations with gender and marital status.

	High PSS	**Medium PSS**	**Low PSS**	**p-value**
		Significant other		
Gender				
Male	15 (29.4%)	20 (45.5%)	9 (37.5%)	0.272 (a)
Female	36 (70.6%)	24 (54.5%)	15 (62.5%)	
Marital status				
With partner	14 (27.5%)	11 (25.0%)	3 (12.5%)	
Without partner (single/ divorced)	7 (13.7%)	8 (18.2%)	2 (8.3%)	0.393 (a)
Without partner (widowed)	30 (58.8%)	25 (56.8%)	19 (79.2%)	
		Family		
Gender				
Male	32 (35.2%)	8 (44.4%)	4 (40.0%)	0.741 (a)
Female	59 (64.8%)	10 (55.6%)	6 (60.0%)	
Marital status				
With partner	24 (26.4%)	4 (22.2%)	0 (0.0%)	
Without partner (single/ divorced)	9 (9.9%)	3 (16.7%)	5 (50.0%) **[ri=3.0]**	0.021*(b)
Without partner (widowed)	58 (63.7%)	11 (61.1%)	5 (50.0%)	
		Friends		
Gender				
Male	13 (32.5%)	20 (40.8%)	11 (36.7%)	0.721 (a)
Female	27 (67.5%)	29 (59.2%)	19 (63.3%)	
Marital status				
With partner	10 (25.0%)	12 (24.5%)	6 (20.0%)	0.797 (b)

Without partner (single/ divorced)	4 (10.0%)	9 (18.4%)	4 (13.3%)	
Without partner (widowed)	26 (65.0%)	28 (57.1%)	20 (66.7%)	
		Total score		
Gender				
Male	19 (32.8%)	21 (42.9%)	4 (33.3%)	0.538 (a)
Female	39 (67.2%)	28 (57.1%)	8 (66.7%)	
Marital status				
With partner	14 (24.1%)	14 (28.6%)	0 (0.0%)	
Without partner (single/ divorced)	5 (8.6%)	9 (18.4%)	3 (25.0%)	0.075 (b)
Without partner (widowed)	39 (67.2%)	26 (53.1%)	9 (75.0%)	

Results presented as n (%); Statistic tests were (a) chi-square test when Cochran rules were met and (b) Fisher exact test otherwise according to Kroonenberg and Verbeek (2018); *p<0.05; standardizes residuals deemed significant and presented when ri > absolute value of 1.96, considering that Pearson residuals follow a normal distribution.

Associations between MSPSS scores and autoperception of health status, visits, and phone contacts were examined. The analysis is presented across distinct levels of PSS - high, medium, and low, with p-values indicating the significance of the associations.

Examining the autoperception of health status, no statistically significant differences were found in PSS subscales concerning the distinct categories of health perception, (good, fair and bad autoperception of health), (X2=6.01, p=0.199; X2=0.97, p=0.952; X2=1.82, p=0.769; X2=6.98, p=0.132).

Having received visits since the beginning of the year was associated with FamPSS and tPSS (p=0.002 and p=0.006). Not having received visits since the beginning of the year was associated with low FamPSS, with 50% prevalence (n= 5, ri=3.3), compared to lower prevalence in high and medium FamPSS (7.7%, n=7; 16.7% n=3).

Concerning phone contacts, significant differences in PSS levels were found for SOPSS (p=0.015), FamPSS (p=0.024) and tPSS (p=0.006). Absence of phone contacts was associated with increased proportion of lower SOPSS (33.2%, ri=2.3), FamPSS (40.0%, ri=2.0), and tPSS. (41.7%, ri=2.4)

Table 7. MSPSS associations with auto perception of health status, visits, and phone contacts.

	High PSS	**Medium PSS**	**Low PSS**	**p-value**
		Significant other		
Auto perception of health status				
Good auto perception of health status (excellent, good, very good)	21 (41.2%)	15 (34.1%)	6 (25.0%)	0.199 (a)

	High PSS	Medium PSS	Low PSS	p-value
		Significant other		
Fair auto perception of health status	17 (33.3%)	12 (27.3%)	5 (20.8%)	
Bad auto perception of health status (bad, very bad)	13 (25.5%)	17 (38.6%)	13 (54.2%)	
Visits since the beginning of the year				
No	5 (9.8%)	4 (9.1%)	6 (25.0%)	
Yes	46 (90.2%)	40 (90.9%)	18 (75.0%)	0.122 (a)
Phone contacts				
No	4 (7.8%)	6 (13.6%)	8 (33.3%) [ri=2.3]	
Yes	47 (92.2%)	38 (86.4%)	16 (66.7%)	0.015* (a)
		Family		
Auto perception of health status				
Good auto perception of health status (excellent, good, very good)	34 (37.4%)	5 (27.8%)	3 (30.0%)	
Fair auto perception of health status	25 (27.5%)	6 (33.3%)	3 (30.0%)	0.952 (b)
Bad auto perception of health status (bad, very bad)	32 (35.2%)	7 (38.9%)	4 (40.0%)	
Visits since the beginning of the year				
No	7 (7.7%)	3 (16.7%)	5 (50.0%) [ri=3.3]	0.002**
Yes	84 (92.3%)	15 (83.3%)	5 (50.0%)	(b)
Phone contacts				
No	10 (11.0%)	4 (22.2%)	4 (40.0%) [ri=2.0]	0.024* (b)
Yes	81 (89.0%)	14 (77.8%)	6 (60.0%)	
		Friends		
Auto perception of health status				
Good auto perception of health status (excellent, good, very good)	16 (40.0%)	15 (30.6%)	11 (36.7%)	
Fair auto perception of health status	9 (22.5%)	17 (34.7%)	8 (26.7%)	0.769 (a)
Bad auto perception of health status (bad, very bad)	15 (37.5%)	17 (34.7%)	11 (36.7%)	
Visits since the beginning of the year				
No	4 (10.0%)	6 (12.2%)	5 (16.7%)	
Yes	36 (90.0%)	43 (87.8%)	25 (83.3%)	0.704 (a)
Phone contacts				
No	2 (5.0%)	9 (18.4%)	7 (23.3%)	
Yes	38 (95.0%)	40 (81.6%)	23 (76.7%)	0.075
		Total score		

	High PSS	Medium PSS	Low PSS	p-value
	Significant other			
Autoperception of health status				
Good auto perception of health status (excellent, good, very good)	25 (43.1%)	12 (24.5%)	5 (41.7%)	
Fair auto perception of health status	18 (31.0%)	13 (26.5%)	3 (25.0%)	0.132 (b)
Bad auto perception of health status (bad, very bad)	15 (25.9%)	24 (49.0%)	4 (33.3%)	
Visits since the beginning of the year				
No	5 (8.6%)	5 (10.2%)	5 (41.7%) [ri=2.8]	0.006** (a)
Yes	53 (91.4%)	44 (89.8%)	7 (58.3%)	
Phone contacts				
No	4 (6.9%)	9 (18.4%)	5 (41.7%) [rI=2.4]	0.007** (a)
Yes	54 (93.1%)	40 (81.6%)	7 (58.3%)	

Results presented as n (%); Statistic tests were (a) chi-square test when Cochran rules were met and (b) Fisher exact test otherwise according to Kroonenberg and Verbeek (2018); *p<0.05;**p<0.01;***p<0.001; standardizes residuals deemed significant and presented when ri > absolute value of 1.96, considering that Pearson residuals follow a normal distribution.

When examining autoperception of health status with loneliness, there was no association between the two variables, (X2=1.65, p=0.437).

When examining the process of adaptation to the institution, significant differences were observed in the experience of loneliness. Individuals who reported the process as difficult were more likely to experience negative feelings of loneliness compared to those who found the process easy or fair (p<0.001): 50% of participants with negative feelings of loneliness had a difficult process of adaptation (ri=2.8) and 14.7% of the participants without negative feelings of loneliness had a difficult process of adaptation (ri=-2.8). No associations were found between loneliness and gender (X2=0.01, p=0.916), marital status (X2=2.58, p=0.275), visits since the beginning of the year (X2=1.97, p=0.160) or established phone contacts (X2=3.14, p=0.076).

Table 8. Experience of loneliness associations with gender, marital status, process of adaption to the institution, visits, and phone contacts.

	Without negative feelings of loneliness	With negative feelings of loneliness	p-value
Gender			
Male	28 (37.3%)	16 (36.4%)	0.916 (a)
Female	47 (62.7%)	28 (63.6%)	
Marital status			
With partner	17 (22.7%)	11 (25.0%)	0.275 (a)
Without partner (single/ divorced)	8 (10.7%)	9 (20.5%)	

Without partner (widowed)	50 (66.7%)	24 (54.5%)	
Process of adaptation to the institution			
Difficult	11 (14.7%) [ri=-2.1]	22 (50.0%) [ri=2.8]	<0.001 (a)
Fair	9 (12.0%)	2 (4.5%)	
Easy	55 (73.3%)	20 (45.5%)	
Visits since the beginning of the year			
No	7 (9.3%)	8 (18.2%)	0.160
Yes	68 (90.7%)	36 (81.8%)	
Phone contacts			
No	8 (10.7%)	10 (22.7%)	0.076
Yes	67 (89.3%)	34 (77.3%)	
Autoperception of health status			
Good auto perception of health status (excellent, good, very good)	29 (38.7%)	13 (29.5%)	
Fair auto perception of health status	22 (29.3%)	12 (27.3%)	0.437
Bad auto perception of health status (bad, very bad)	24 (32.0%)	18(43.2%)	

Results presented as n (%); Statistic tests were (a) chi-square test when Cochran rules were met and (b) Fisher exact test otherwise according to Kroonenberg and Verbeek (2018); *p<0.05;**p<0.01;***p<0.001; standardizes residuals deemed significant and presented when ri > absolute value of 1.96, considering that Pearson residuals follow a normal distribution

Finally, correlations between frequency of visits, frequency of phone contacts and MSPSS dimensions and experience of loneliness were run with Spearman rank correlations. Frequency of visits was not correlated with neither of the PSS subscales and didn't correlate with loneliness. Frequency of phone contacts was positively and significantly associated with score of significant other social support (rs=0.201, p=0.028), score of family social support (rs=0.315, p<0.001), score of friend social support (rs=0.191, p=0.038), total score of perceived social support (rs=0.276, p=0.002). Likewise, frequency of phone contacts was positively and significantly associated and experience of loneliness (rs=0.246, p=0.007).

Discussion

This study aims to provide a comprehensive understanding of older adults in Sabugal. Firstly, the study population was characterized based on sociodemographic factors; 119 older adults participated, with a mean age of 87.0 years. The sample was predominantly composed of females, widowed individuals and a notable portion lacked formal

education, being illiterate or only being able to read and write. Most participants had children and grandchildren and reported having good relationship with their families prior to institutionalization. These characteristics do not deviate from the characteristics of other studies' samples conducted in long-term care facilities in Portugal (15,17).

Most older adults found the process of institutionalization easy and, since the beginning of the year, most residents received visits and had phone contacts, frequently, within the long-term care facility. Studies reported that being actively involved in the process of institutionalization is associated with a smoother and faster adaptation (18,19). Since a significant portion of the participants decided to transition to a nursing home themselves, they were inherently involved in the process. Another significant portion had the decision made by a family member so still possibly involved in the process. This likely contributed to the generally easy adaptation process reported by the participants. Furthermore, the perceived social support among the participants was satisfactory, and all had been residing in the facility for at least three months, a period considered relatively sufficient for adaptation. Supported by the literature (18), both factors are associated with a successful adaptation. Recognizing the importance of mental health and social connections for health and well-being, the study focuses on the experience of loneliness and perceived social support of older adults. In the light of this, correlations between loneliness, perceived social support and other variables were investigated and the following results established.

Regarding loneliness, 37.0% had scores compatible with negative feelings of loneliness based on the UCLA scale of loneliness evaluation, with an average loneliness score of 29.0 (SD=11.8). A study conducted in Portugal (17) reported a 43.0% prevalence of loneliness among Portuguese older adults residing in nursing homes and, in other European countries, similar prevalences of loneliness among this population have been reported (20). In comparison, this sample exhibited slightly lower levels of loneliness; a possible explanation for a slightly lower prevalence of loneliness, is the fact that the interviews having been conducted during summertime. During summer months families and friends might be more present in older adults' lives since it coincides with a time when people often take time off work and emigrated family members return to their home country to visit relatives. Nevertheless, the exact prevalence of loneliness, particularly among institutionalized older adults, remains undisclosed. Gardiner *et al.* (2020), in a systematic review, observed a significant variation in the reported prevalence of loneliness among institutionalized older adults around the world, with reports of loneliness ranging from 31% to 100% for moderate loneliness and from 9% to 81% for severe loneliness (21). These findings highlight the considerable variability in

loneliness prevalence and a need of further research in the area. Nonetheless, a substantial proportion of institutionalized older adults have score compatible with negative feelings of loneliness, which should not be overlooked.

Perceived social support was overall good, since most participants presented scores consistent with high perceived social support from family (76.5%), while perceived social support from friends and from the significant other were dispersed between high and medium social support and very few older adults had scores compatible with low perceived social support. As for total perceived social support, it mainly varied between high and medium, this may be attributable to the fact that total perceived social support is obtained by summing up the results from the three perceived social support subscales: since the results of two of the subscales were dispersed between high and medium it is expectable the same occurs with total score.

Corroborating the study hypothesis, associations between perceived social support and loneliness were observed. Having low or medium perceived social support, across the different subscales, was related with higher probabilities of having feelings of loneliness with low scores greatly increasing these probabilities compared to medium scores. These results agree with previous findings of studies conducted both in the community and in long-term care facilities, which showed a negative influence of low perceived social support on loneliness (3,12,22). Curiously, not all sources of perceived social support had the same influence upon loneliness, with perceived social support from friends and significant others having a stronger influence on loneliness than perceived social support from family, implying that perceived social support from friends and significant others is more important on mitigating loneliness than perceived social support from family. Similarly, Zhang *et al.* (2022) reported a stronger influence of perceived social support from friends on loneliness, on a meta-analysis (12). Different relationships impact people's lives in various ways, and consequently, social support from different sources is not perceived the same. The value placed on certain relationships depends on several factors, such as age. For example, a growing child may look up to their parents, perceiving family connections as more meaningful, while an adolescent gaining autonomy may find connections with peers and schoolteachers (significant others) more significant. In older age, connections with friends and significant others may be more important for several reasons: they are voluntarily chosen relationships, friends tend to share more experiences and interests, and older adults value their independence and autonomy, often not wanting to be seen as a burden to family members (24). Studies have found that, in older age, contact with friends is more important for happiness, plays a stronger role in older adults' emotional well-being and associates with greater

pleasantness compared to encounters with family members (23), aligning with the importance of these relationships in older age. Exceptionally and contrary to the literature (12), having low social support from family wasn't associated with higher probabilities of experiencing loneliness. These findings might be attributable to the fact that the number of older adults with low social support from family in the sample was very low (n=10) which did not allow for a significant association between the two variables to be observed.

Regarding correlations between loneliness, gender and marital status, none were observed in the study. Some evidence has proposed that single, divorced, or widowed individuals are more likely to feel lonely than their married counterparts, and that being male composes a risk factor for loneliness with females being less likely to experience this feeling (25). A study conducted with both institutionalized and non-institutionalized older adults showed that women were 56% less likely to feel alone, and people without a partner were twice more likely to experience loneliness but this exclusively related to older adults living in community and did not apply to those residing in care facilities (26). The homogeneity of the sample, with most participants being widowed and being females, in conjunction with its relatively small size of 119 participants, might not have been sufficient to detect correlations and the institutional environment could provide a routine and level of social support that diminishes the impact of these variables on loneliness.

Similarly to what Prieto-Flores *et al.* (2011) reported, it was expected that those with good autoperception of health would exhibit less feelings of loneliness, however this was not observed (26). Health and disability are strongly related to loneliness; those with chronic conditions and/or disabilities have increased odds of reporting loneliness and, complementarily, those who perceive their health status as fair, bad, or very bad have also have the odds increased, like several studies have demonstrated (20,27,57). For example, Sol *et al.* (2023) observed that having poorer autoperception of health associated with more loneliness in a subsequent observation. However, it is important to consider that this correlation is most likely bidirectional: a longitudinal study that investigated the direction of the associations between poor self-rated health and loneliness found evidence of variables influencing each other in both directions, meaning that while having poorer health increases the odds of experiencing loneliness, feeling lonely increases the risk of having a poor autoperception of health (28). This reinforces that besides investigating associations between loneliness and self-rated health, it is crucial to analyse the direction of correlation.

On the other hand, the process of adaptation to the institution was correlated with experiencing loneliness. Individuals that reported the process as difficult were more likely to experience negative feelings of loneliness compared to their counterparts that had an easy or fair process of adaptation. As a matter of fact, 50% of participants with feelings of loneliness had had a difficult process of adaptation to the residential care setting. In a study in China (19) it was found that older adults who did not participate in the decision-making process regarding their institutionalization and those with higher number of pathologies experienced worse adaptation processes. Conversely, factors such as higher resilience, better perceived social support, greater satisfaction with the facility (29) and longer residency within the facility have been correlated with a better process of adaptation (19). According to Sarah A. Wilson (1997), the adaptation process can be described in three distinct phases: overwhelmed, adjustment and acceptance. During the overwhelmed phase, residents often reported feelings of loneliness, which supports between poor adaptation and loneliness. Additionally, Wilson concluded that an unplanned transition to a nursing home tended to result in longer periods required to reach the acceptance phase of adaptation. The process of adaptation to a care setting residence is multidimensional, complex, and can be particularly challenging either due to the loss of autonomy, privacy, to the absence of familiar surroundings, to the necessity to develop new strategies and behaviours to adjust to the new environment, and the need to establish new social networks (18,58). These factors can be stressful and are often associated with increased anxiety, negative feelings of non-belonging and abandonment, leading to loneliness (4,18), so, understanding why the adaptation process is perceived as difficult is essential to develop interventions that can facilitate smoother transitions, improve the well-being of older adults and decrease loneliness.

The hypothesis that having visits increases perceived social support was verified; having had visits since the beginning of the year, positively associated with perceived social support from family, while not having received visits since the beginning of the year associated with having low perceived social support from family. Perceived social support is a component of social support referring to the individual interpretation of social support and does not necessarily refer to the actual social support an individual receives or their social ties (59). Nonetheless, increased social interactions, such as having visits from friends and relatives in the context of long-term care facilities, creates opportunities for meaningful and fulfilling social exchanges to occur, thereby enhancing perceived social support. Receiving visits also correlated with total score of perceived social support but was not correlated with perceived social support from friends or from significant others. Explaining these results, norms and expectations often prioritize familial relationships, leading to regular visits from family members which fulfil social

obligations and reinforce feelings of support and care. Additionally, the physical proximity and frequency of contact with family members compared to friends or significant others make family visits more common, thus increasing perceived social support from family and not the other dimensions. Although not presented in the study's data, participants were inquired about whom they received visits from, and almost every participant, received visits from family members exclusively or, in some cases, from family members and others. The lack of disparity in the answers was the decision factor upon not including the quality of visits as a study variable. This nature of the visits may be reflecting on these findings, but no conclusions can be made since data was not analysed. Although receiving visits correlated with higher perceived social support scores, their frequency was not significantly associated with this variable. This reinforces the idea that the quality of interactions is more important than the quantity.

Establishing phone contacts and their frequency correlated positively with perceived social support, aligning with two interventional studies conducted Tsai *et al.* (2010, 2011), where emotional and appraisal social support of institutionalized older adults improved after a videoconference programme with family members (30,31). In the present study, the absence of phone contacts was associated with low perceived social support from significant others and family, as well as a lower overall perceived social support. The impact of phone contacts on perceived social support can be understood in a similar manner to how visits correlate with this variable. Phone contacts are convenient and flexible methods for establishing and maintaining social connections, thereby increasing opportunities for social bonding. While visits are more challenging to manage due to logistical issues such as physical travel, coordinating schedules, or taking time off work, phone contacts can be made from virtually anywhere at any time. This convenience allows friends and significant others, who might not have the opportunity to visit, to maintain their bonds through calls. This plausibly explains why phone contacts were correlated with perceived social support from significant others, whereas visits were not. Unfortunately, the research found only includes contacts of the videoconference type and does not include other forms of phone contacts, like a traditional phone call or messaging.

Conversely, correlations between loneliness and visits were not found, although the lack of physical social connections has been linked to higher prevalence of loneliness. In a study conducted by Prieto-Flores *et al.* (2011) older adults that only had 1 to 2 gatherings per month with family, friends or neighbours had significantly increased odds of feeling lonely (26) and Drageset *et al.* (2004) reported associations between contact with friends and social loneliness (32). Complementarily, Petra Benzinger *et al.* (2023) investigated

the consequences of contact restriction in residents of long-term care facilities during the COVID-19 pandemic, finding out that the prevalence of loneliness was higher during this time marked by absence of physical contact (33). In fact, most evidence indicates an increase in loneliness during the pandemic, affecting both the general population and specific groups like institutionalized older adults (34). However, it is important to remember that the rise in feelings of loneliness during this atypical and stressful time is multifactorial and might not solely correlate with the lack of physical interactions.

Curiously, solely the frequency of phone contacts showed association with loneliness, whereas establishing them didn't, contrary to what was expected. Studies that investigate the frequency of phone contacts and its association with loneliness are scarce, however, the positive association between loneliness and phone contacts has been demonstrated (32). For example, Drageset *et al.* (2004) found correlations between establishing telephone contacts and low levels of emotional loneliness and an interventional study with older adults taking part on regular videoconference calls with family member, demonstrated that this type of social interaction improves feelings of loneliness over time (30).

Broadly, evidence of the direct impact of phone contacts and visits from friends, relatives, and significant others, in the context of long-term care facilities, to improve perceived social support and decrease loneliness in older adults is not greatly documented. Studies that correlate these variables, especially perceived social support with visits and phone contacts are hard to find among the available literature. Nonetheless, the study findings suggest that social interactions, whether in person or via technological devices, are beneficial for the well-being of institutionalized older adults and should be encouraged. Promoting these interactions can enhance perceived social support and potentially mitigate feelings of loneliness among this vulnerable population.

Study strengths and limitations

The study benefited from its geographical context; having been conducted in Sabugal, it provides a portrayal not only of the characteristics of older adults in long-term care facilities but also offers insights of the specific demographic of older adults within rural areas. Care facilities in these areas may yield different results compared to their urban counterparts due to factors such as geographic isolation, limited access to healthcare, staffing challenges, socioeconomic factors, among others that can affect outcomes. By focusing on this population, the study helps us better understand the specific need of rural institutionalized older adults.

In addition to its geographic specificity, another strength of the study is its design as a randomized cross-sectional study; the randomized selection of participants, enhances the study's internal validity by minimizing selection bias. On the other hand, its cross-sectional design composes a limitation since casual conclusions can't be drawn from the findings and can only be interpreted as associations. In this sense, further research is needed to investigate the direction of variables and their correlations, giving special emphasis on the association between loneliness and autoperception of health that may be bidirectional.

The study's sample size is unfortunate; with an initial design for 350 participants, the limitations of the instruments used, led to a final sample of just 119 participants. Consequently, the findings may not accurately represent all subjects meeting the study's inclusion criteria.

The study primarily focuses on variables that, although objectively measurable through scales, are highly dependent on an individual's subjective perception. The issue with these variables is that they are influenced by numerous intrinsic and extrinsic factors, making them challenging to analyse and compare with prior research. For example, a depressed older adult might perceive the process of transition as difficult, regardless of the actual circumstances. Additionally, the timing of the investigation might affect the results; for instance, conducting the study during the summer when emigrated family members are visiting could lead to more favourable perceptions of social support and loneliness. Moreover, literature and research on these topics are highly heterogeneous, as researchers employ various evaluation methods. This inconsistency is unfortunate for scientific purposes although, on the other hand, allows for more space for humanistic reflection on the topic.

Lastly, due to time constraints, the investigation inquiry was conducted in a single session for each participant. This approach resulted in prolonged sessions that were exhausting for the older adult participants. Future research should consider implementing shorter inquiries with fewer open-ended questions. Increasing the proportion of closed-ended questions would not only reduce the duration of the session and make the process less tiring for participants but would also streamline the data cleaning process and simplify statistical analysis.

Conclusion

In summary, this study provides insights about the experiences of older adults residing in long-term care facilities in with particular focus on the rural area of Sabugal. The findings reveal that while institutionalized older adults generally have good perceived social support, particularly from family members, and maintain their social ties even through receiving frequent visits and phone contacts, a notable proportion still experiences negative feelings of loneliness.

The study reinforces the notion that loneliness is prevalent among this population and contributes to our understanding of its prevalence, which continues to show great variability in the literature, highlighting the need for further studies to accurately disclose loneliness prevalence.

Given the multifactorial aetiology of loneliness, it is crucial to continue investigating and identifying risk factors, as this study did not focus on causality. Recognizing the detrimental health effects of loneliness in older adults, this variable should be treated as a modifiable health risk factor. This is where the role and importance of health professionals, especially doctors, become critical. By acknowledging the significance of mental health, loneliness, and human connections for better health outcomes, the medical profession takes a vital step toward a new paradigm. Although managing multiple pathologies and polypharmacy is inherently challenging and time-consuming, doctors distinguish themselves by treating people holistically, beyond their mechanical issues. In the context of nursing homes, doctors play a pivotal role in fostering an environment where both physical and mental health are prioritized. Practically, they can assess and monitor residents, identifying early signs of loneliness, involve families, and promote social interactions. Since their advice is highly regarded, doctors can collaborate with staff, ensuring they are trained and aware of the importance of social support and loneliness and lastly, they can advocate for policies and practices that integrate social support as an essential part of geriatric care.

Moreover, while family is typically the closest and most available support network, the study reinforces the importance of friendships and other social ties for well-being in old age. Efforts should be made to foster these types of relationships, with frequent phone contacts from relatives, friends, and significant others being practical applicable measures to mitigate loneliness and strengthen these connections.

The study also highlights the significant association between the process of adaptation to the institution and feelings of loneliness. Developing interventions that facilitate smoother transitions and improve the well-being of nursing home residents can help mitigate loneliness.

Finally, expanding this evaluation to other municipalities is essential for a more comprehensive understanding of the needs and challenges faced by older adults in diverse communities, both in central and rural areas. Such an expansion will facilitate the development of tailored strategies that promote the well-being of this population and help create a less lonely environment for institutionalized older adults.

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