Cross-sectional Analysis of the Relationship Between Unwanted Loneliness and Perceived Health in Users of Senior Centers

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Manuscrito recibido: 16/09/2025
Manuscrito aceptado: 23/11/2025

Cómo citar este documento

Oya Mesa LM, Sánchez Fernández C, Alcayde Leyva JM, Curcio F, Guzmán García JM, De Pedro Jiménez D. Cross-sectional Analysis of the Relationship Between Unwanted Loneliness and Perceived Health in Users of Senior Centers. *RqR Quantitative and Qualitative Community Nursing Research* 2026;14(1): 63-86.

Original

Análisis transversal de la relación entre la soledad no deseada y la salud percibida en usuarios de centros de mayores

Resumen

Introducción: La soledad no deseada es frecuente entre las personas mayores y tiene efectos negativos sobre su bienestar y su calidad de vida. Nuestro objetivo fue determinar la prevalencia de la soledad no deseada y su relación con la percepción de la salud entre las personas mayores de 65 años que acuden a los centros de mayores de la Junta de Andalucía situados en la ciudad de Algeciras, Cádiz, España.

Métodos: Se realizó un estudio transversal descriptivo en el que se utilizó la Escala de Soledad Social Este II junto con otras variables sociodemográficas, económicas, de hábitos y de salud, recopiladas mediante cuestionarios en entrevistas personales en el Centro Residencial de Mayores y el Centro de Participación Activa I. Se realizó un análisis de correlación parcial ajustado por las variables que alcanzaron significación estadística. Se obtuvo la autorización del comité de ética de la Junta de Andalucía (código SICEIA-2024-000074).

Resultados: Se recogieron noventa cuestionarios de 21 hombres y 69 mujeres con edades comprendidas entre los 65 y los 95 años. El nivel educativo predominante era el de primaria, y el nivel de ingresos era inferior a 12000 euros al año. La prevalencia de la soledad se situaba por debajo de la media de la comunidad autónoma. La salud percibida mejora a medida que disminuyen los valores de soledad ($p = 0,004$). El análisis de correlación entre la salud percibida y el nivel de soledad ajustado para las variables significativas mostró un valor de tendencia, $p = 0,068$.

Conclusiones: La prevalencia de la soledad no deseada en la ciudad de Algeciras es inferior a la prevalencia regional. El valor tendencial de significación estadística sugiere que los niveles más altos de soledad se asocian con una peor salud percibida. Es necesario aumentar el tamaño de la muestra y recopilar datos de más centros de usuarios para confirmar esta relación.

Palabras clave

Soledad, aislamiento social, institucionalización, servicios de salud para ancianos, estado de salud.

Abstract

Introduction: Unwanted loneliness is common among older adults, with negative effects on their well-being and quality of life. We aimed to determine the prevalence of unwanted loneliness and its relationship with perceived health among individuals over 65 years old who use senior centers of the Junta de Andalucía located in the city of Algeciras, Cádiz, Spain.

Methods: This is a cross-sectional descriptive study using the Este II Social Loneliness Scale along with other sociodemographic, economic, habit, and health variables, collected through questionnaires in personal interviews at the Residential Center for the Elderly and Active Participation Center I. A partial correlation analysis adjusted for variables that reached significance was performed. Ethical committee approval from the Junta de Andalucía was obtained (code SICEIA-2024-000074).

Results: Ninety questionnaires were collected from 21 men and 69 women aged between 65 and 95 years. The predominant education level was primary, and the income level was below 12,000 euros per year. The prevalence of loneliness was below the average for the autonomous community. Perceived health improves as loneliness values decrease (p=0.004). The correlational analysis between perceived health and adjusted loneliness level for significant variables showed a trend value (p=0.068).

Conclusions: The prevalence of unwanted loneliness in the city of Algeciras is lower than the regional prevalence. The trend value of statistical significance suggests that higher levels of loneliness are associated with worse perceived health. It is necessary to increase the sample size and collect data from more user centers to confirm this relationship.

Key words

Loneliness, social isolation, institutionalization, health services for the aged, health status.

Introduction

The population over 65 years old is growing at a faster rate than other population segments, a trend particularly relevant in Spain, where in June 2023, 20.27% of the population was over 65, surpassing the proportion of those aged 0-14 years (1). The World Health Organization (WHO) estimates that by 2050, the global population over 60 will double to 22% of the total, while those over 80 to 426 million (2).

Unwanted loneliness (UL) is defined as an absence of social contact, belonging, or a sense of isolation that can become painful (3), i.e., a perceived discrepancy between social needs and their availability in the environment (4). Conversely, from an objective point of view, it is defined as a lack of companionship and manifests as social isolation, which can be sought and does not necessarily have to be unpleasant (5).

UL is a major concern among older adults: one in three people over 60 years old worldwide reports feeling lonely frequently (6), and its prevalence among institutionalized patients reached 68.3% in 2021 (7). Institutionalization often triggers anxiety, fear, and a sense of abandonment due to separation from the home environment (8).

The WHO recognizes UL as an important risk factor harming both physical and mental health, making it a public health issue (9).

Neurobiological mechanisms related to aging, UL, and social isolation can activate stress responses that alter vascular resistance, increase blood pressure, reduce immune control, and contribute to cardiovascular disease, obesity, cognitive decline, depression and insomnia (10,11).

Older adults are especially vulnerable due to physical, cognitive, and psychosocial changes such as health deterioration, loss of loved ones, and social rol reduction, all of which lower quality of life and can act as indirect predictors of mortality (12,13).

Holt-Lunstad et al., demonstrated that loneliness and social isolation increase mortality risk by 26% and 29%, respectively, levels comparable to those associated with smoking, alcohol consumption, or obesity (14), while also increasing healthcare resources use (11).

Theories and Models Defining Loneliness

There are numerous theories and models that attempt to define loneliness (15,16):

- Social Cognitive Theory: This theory proposes that individuals with a greater sense of loneliness are those who maintain a negative perception of themselves and their environment. One of the models involved in this theory is the loneliness discrepancy model by Peplau and Perlman, which considers personal influences, social norms, and values as determinants in the form and interpretation of one's social network. Another model is the Loneliness Model by Jong-Gierveld, which takes into account personality characteristics, sociodemographic variables, and the type and form of cohabitation, influencing the subjective evaluation of the social network.

- Attribution Theory: This theory considers two types of causes of loneliness: internal or personal causes and external or situational causes.

- Interactionist Theory: This theory establishes two distinct causes associated with loneliness: the lack of a social support network and the absence of a particular emotional bond, leading to emotional loneliness and social loneliness.

- Psycho-dynamic Theory: This theory determines loneliness as a state of mind

manifested as a symptom of neurosis belonging to earlier stages of the life cycle.

- Existential Theory: This theory has a religious basis and an ontological perspective. In this way, negative feelings are transformed into positive ones related to love, pleasure, and peace. However, this can also lead to confusion as it does not clearly distinguish between the objective and subjective aspects of loneliness.

- Integrative Model: This model was proposed by Montero and Sánchez, and it combines two previously mentioned theories: social cognitive theory and existential theory. It defines loneliness as the result of a combination of absences and deficits in interpersonal relationships, an aspect belonging to social cognitive theory, and the finding of a positive and pleasant perspective to experience loneliness, related to existential theory.

- Emergent Theory: This theory differentiates between emotional, social, and sexual-romantic loneliness.

Risk factors

The related risk factors, according to their origin, are external (economic status, retirement, or loss of emotional support, among others), internal (health, personal meaning attributed to relationships, and other intrapersonal factors), and structural (existing barriers that hinder a person's accessibility and the feeling of social isolation, such as the characteristics of the living environment or a change of residence without any prior emotional connection) (17).

According to their characteristics and type, they include:

1. Sociodemographic risk factors: These include advanced age, gender (higher prevalence in women), marital status, socioeconomic status (higher prevalence in lower levels), educational level (higher prevalence with lower educational levels), living arrangements (higher prevalence if living alone), place of residence, and lack of religious affiliation.

2. Physical and psychological risk factors: These include intrapersonal elements (such as personality traits, behavior, the meaning of relationships, and how they are understood), multimorbidity and comorbidity, functional and cognitive decline, physical and intellectual disability, and even lower physical activity (due to its preventive and socializing functions).

3. Social risk factors: These include the size and quality of social and emotional networks, the degree of social participation, the availability of social resources, and social changes due to aging (such as children leaving the family home, a change of residence, retirement, loss of a driver's license, etc.).

4. Socio-environmental risk factors: These include digital communication (not only because it does not facilitate interpersonal contact but also due to the lack of knowledge to use it) and the absence of an adequate transportation network.

The role of the Senior Centers

Although institutionalization is a risk factor that influences UL, it can also act as a protective factor (18).

In a study conducted by the ONCE Foundation and the AXA Foundation, the aim was to determine at a national level who should address the problem of loneliness. The general view was that public institutions should be responsible for tackling UL, although it was also considered that the family plays a fundamental role in achieving this. Public institutions were ranked first (43%), followed by the individual themselves (23-30%), non-governmental organizations (13-16%), and private institutions (7%) (19).

Due to the significant issue that UL represents for people over 65 years old, its increasing prevalence, and its relationship with health, combined with the lack of recent and updated studies on institutionalized patients and users of public centers to our knowledge, we aimed to determine the prevalence of UL and its relationship with perceived health among individuals over 65 years old who use senior centers. We hypothesize that higher levels of UL will be significantly associated with poor self-perceived health in this population.

Methods

Design, Population, and Sample

A cross-sectional descriptive analysis was conducted at the Residential Center for the Elderly (CRPM) and the Active Participation Center for the Elderly (CPAM) of the Junta de Andalucía in the city of Algeciras (Cádiz, Spain).

Ninety questionnaires were collected through voluntary convenience sampling during February and March 2024. For a population over 65 years old residing in Algeciras in 2022 of 20,317 people and an estimated 9% of people living in loneliness, the sampling error was 5.9% (for a confidence level of 95%).

Data collection was conducted by a trained individual who received specific instruction to ensure standardized procedures and maximize data quality.

Inclusion, Exclusion, and Eligibility Criteria

The inclusion criteria were being 65 years or older, residing in Algeciras, and having no cognitive or communication impairments. Those excluded were individuals without permanent residence in Algeciras, those with comprehension and/or communication difficulties that prevented active participation, terminally ill patients, or those who had participated in similar studies in the past year.

To be eligible, participants had to meet all inclusion criteria and none of the exclusion criteria.

Variables and categories

Independent variables

Sociodemographic:

- Age (in years).
- Gender (Male, Female).
- Marital status (single, married, widowed, separated, divorced).
- Number of living children.
- Number of family members in the city.
- Number of friends in the city.

Only for CPAM users:

- Number of cohabitants in the usual residence.
- Do you live with any animals? (Yes, No)

Socioeconomic:

- Educational level (illiterate, primary education, secondary education, high school, basic vocational training, intermediate vocational training, advanced vocational training, university education).
- Annual net personal income (Less than 12,000, 12,000 to 24,000, 24,000 to 40,000, 40,000 to 60,000, 60,000 to 80,000, more than 80,000 euros). This variable

was included at the start of data collection due to the high number of "don't know" or "no answer" responses in the variable referring to total annual net income (personal and family).

- Annual net income (total, personal and family) (Less than 12,000, 12,000 to 24,000, 24,000 to 40,000, 40,000 to 60,000, 60,000 to 80,000, more than 80,000 euros).

Only for CPAM users:

- Architectural barriers that hinder mobility (stairs without ramps, no elevator, narrow doors, slippery surfaces, absence of handrails, non-adapted public transport, loss of driver's license, no means of transportation, others).

Habits and Health:

- Physical activity or exercise (none, occasional, several times a month, several times a week).
- Alcohol consumption in the last 12 months (daily or almost daily, 5-6 days a week, 3-4 days a week, 1-2 days a week, 2-3 days a month, once a month, less than once a month, not in the last 12 months, never or just a sip to try it in life).
- Difficulty seeing (none, some, a lot, cannot see at all).
- Difficulty hearing (none, some, a lot, cannot hear at all).
- Difficulty walking 500 meters without assistance (none, some, a lot, cannot at all).
- Difficulty climbing 12 steps (none, some, a lot, cannot at all).

Dependent variables

Perceived health in the last 12 months (very good, good, fair, poor, very poor).

Scales

Este II Social Loneliness Scale is a brief scale with good reliability (Crohnbach´s alpha=0.72) and confirmed factorial validity, specifically designed for the older Spanish population, with a multidimensional approach. It consists of 15 items, each with three response categories: Always (0), Sometimes (1), and Never (2). The total score ranges is obtained by summing the item scores. The scale is structured into three factors: Perception of Social Support, Use of New Technologies, and Social Participation Index. Based on the total score, three levels of social loneliness are distinguished: Low (0-10 points), Medium (11-20 points), and High (21-30 points) (20).

Data collection

Data were obtained through personal interviews, after collecting informed consent (both in paper format), in the residential areas (CRPM) and active participation areas (CPAM). The scale was applied by reading the questions to the user and requiring one of the response categories: always, sometimes, and never (quantified as zero, 1, and 2 points, respectively). Subsequently, the data were digitized into an Excel file. Both the initial collection and digitization were carried out anonymously.

Data analysis

Qualitative variables were summarized using frequencies and percentages, while quantitative variables were summarized using the mean and standard deviation or median and interquartile range.

In the univariate analysis between categorical variables, the Chi-square or Fisher's test was used. For categorical and quantitative variables, the one-way ANOVA test was applied. The Spearman's Rho correlation was used between the level of perceived health and other quantitative variables, as well as between the level of loneliness and the difficulty in walking or climbing stairs. A partial correlation analysis was performed between the loneliness scale and perceived health, adjusted for variables that reached significance. The normality of the sample was checked using the Kolmogorov-Smirnov test.

No imputations or analyses of missing data were performed. The results of the variables "difficulty walking" and "difficulty climbing stairs" were unified due to the similarity of responses (if the responses "none" or "some difficulty" did not match in both variables, the latter was adopted) to increase statistical power.

A p-value of <0.05 was considered statistically significant, while values between 0.05 and 0.1 were interpreted as indicative of a trend.

The data were analyzed using SPSS version 26 (IBM Corp., 2019) and Jamovi version 2.4.11 (The Jamovi Project, 2023).

Ethical and Legal Considerations

This research has received favorable approval from the ethics committee of the Junta de Andalucía (code SICEIA-2024-000074) and has been conducted in accordance with the latest version of the Declaration of Helsinki and laws 14/2007 and 41/2002.

The collected data have been processed in accordance with the General Data Protection Regulation of the European Union (GDPR) and Organic Law 3/2018, of December 5, on the Protection of Personal Data and guarantee of digital rights (LOPDGDD).

Results

the sample consisted of 21 men and 69 women, with a median age of 73 years for men and 72 for women, and the same age range for both sexes, 65 to 95 years. The predominant educational level was primary education, and the income level was below 12,000 euros per year. Significant differences were found in marital status, with more single and divorced men and more married and widowed women (p<0.001). Regarding physical activity, women exercised several times a week more than men, 88.4% compared to 61.9%, with a higher percentage of sedentary men, who reported doing nothing at 23.8%, compared to only 2.9% of women (p=0.004).

Regarding alcohol consumption, more women were abstinent, although the percentage of men who had not drunk in the last 12 months was higher (p=0.003).

The relational analysis of the Este II Scale questions, in isolation, with gender, showed that women have more people to talk to (p=0.015), have more friends or family available (p<0.001), use mobile phones more and make more calls (p=0.006 and p=0.013). Additionally, they socialize and participate more (p<0.001 and p=0.005), although no significant differences were found between men and women regarding the level of loneliness.

It should be noted that no positive responses were recorded for the questions related to architectural limitations.

In the relationship between perceived health and the other analyzed variables, the connection between perceived health and physical activity stood out, with higher percentages of perceived health observed as exercise increased (p=0.002).

Table 1. Sociodemographic Characteristics, Habits, Limitations, Health Level, and Loneliness Scale by Gender (N=90)

		Men (n=21)	Women (n=69)	p value
		n (%), median (IR), mean (SD)		
Age		73 (65-95)	72 (65-96)	0.48
Marital status	Single	7 (33.3%)	1 (1.4%)	<0.001
	Married	8 (38.1%)	37 (53.6%)	
	Widowed	2 (9.5%)	26 (37.7%)	
	Separated	0 (0%)	2 (2.9%)	
	Divorced	4 (19%)	3 (4.3%)	
Number of living children		2 (0-5)	3 (0-5)	0.016
Number of family members in the city		4.19 (8.24)	10.1 (9.11)	0.009
Number of friends in the city		14 (16.1)	20.2 (13.8)	0.087
Educational level	Illiterate	1 (4.8%)	4 (5.8%)	0.644
	Primary education	13 (61.9%)	42 (60.9%)	
	Secondary education	0 (0%)	4 (5.8%)	
	High school	2 (9.5%)	6 (8.7%)	
	Basic vocational training	0 (0%)	3 (4.3%)	
	Intermediate vocacional training	1 (4.8%)	3 (4.3%)	
	Advanced vocational training	0 (0%)	3 (4.3%)	
	University	4 (19%)	4 (5.8%)	
Individual income level (euros) (H=18, M=65)	Lees than 12,000	10 (55.6%)	42 (64.6%)	0.25
	12,000 to 24,000	7 (38.9%)	16 (24.6%)	
	24,000 to 40,000	0 (0%)	6 (9.2%)	
	40,000 to 60,000	1 (5.6%)	1 (1.5%)	
	60,000 to 80,000	0 (0%)	0 (0%)	
	More than 80,000	0 (0%)	0 (0%)	
Physical activity	None	5 (23.8%)	2 (2.9%)	0.004
	Occasional	1 (4.8%)	5 (7.2%)	
	Several times a month	2 (9.5%)	1 (1.4%)	
	Several times a week	13 (61.9%)	61 (88.4%)	
Alcohol consumption	Never	2 (9.5%)	29 (42%)	0.003
	Not in the last 12 months	11 (52.4%)	10 (14.5%)	
	Less tan once a month	1 (4.8%)	2 (2.9%)	
	Once a month	0 (0%)	6 (8.7%)	
	2-3 days a month	0 (0%)	3 (4.3%)	
	1-2 days a week	2 (9.5%)	6 (8.7%)	
	3-4 days a week	1 (4.8%)	0 (0%)	
	5-6 days a week	0 (0%)	3 (4.3%)	
	Daily or almost daily	4 (19%)	10 (14.5%)	
Difficulty seeing (H=20, M=69)	None	12 (60%)	41 (59.4%)	1
	Some	8 (40%)	25 (36.2%)	
	A lot	0 (0%)	3 (4.3%)	
	Cannot see at all	0 (0%)	0 (0%)	
Difficulty hearing	None	15 (71.4%)	45 (65.2%)	0.592
	Some	4 (19%)	20 (29%)	
	A lot	2 (9.5%)	4 (5.8%)	
	Cannot hear at all	0 (0%)	0 (0%)	

		Men (n=21)	Women (n=69)	p value
		n (%), median (IR), mean (SD)		
Difficulty walking 500 m without assistance	None	16 (76.2%)	61 (88.4%)	0.173
	Some	0 (0%)	0 (0%)	
	A lot	0 (0%)	0 (0%)	
	Cannot at all	5 (23.8%)	8 (11.6%)	
Difficulty climbing 12 steps	None	14 (66.7%)	57 (82.6%)	0.206
	Some	2 (9.5%)	4 (5.8%)	
	A lot	0 (0%)	0 (0%)	
	Cannot at all	5 (23.8%)	8 (11.6%)	
Perceived health	Very poor	1 (4.8%)	4 (5.8%)	0.166
	Poor	4 (19%)	4 (5.8%)	
	Fair	4 (19%)	17 (24.6%)	
	Good	5 (23.8%)	30 (43.5%)	
	Very good	7 (33.3%)	14 (20.3%)	
Este II Scale				
Do you feel that you have someone to talk to about your daily problems?	Always	11 (52,4%)	57 (82,6%)	0,015
	Sometimes	4 (19%)	5 (7,2%)	
	Never	6 (28,6%)	7 (10,1%)	
Do you believe there are people who care about you?	Always	13 (61,9%)	56 (81,2%)	0,112
	Sometimes	8 (38,1%)	11 (15,9%)	
	Never	0 (0%)	2 (2,9%)	
Do you have friends or family when you need them?	Always	11 (52,4%)	64 (92,8%)	<0,001
	Sometimes	5 (23,8%)	2 (2,9%)	
	Never	5 (23,8%)	3 (4,3%)	
Do you feel ignored?	Always	1 (4,8%)	6 (8,7%)	0,765
	Sometimes	3 (14,3%)	14 (20,3%)	
	Never	17 (81%)	6 (8,7%)	
Do you feel sad?	Always	2 (9,5%)	10 (14,5%)	0,241
	Sometimes	6 (28,6%)	31 (44,9%)	
	Never	13 (61,9%)	28 (40,6%)	
Do you feel lonely?	Always	4 (19%)	9 (13%)	0.312
	Sometimes	1 (4.8%)	12 (17.4%)	
	Never	16 (76.2%)	48 (69.6%)	
And at night, do you feel lonely?	Always	2 (9.5%)	12 (17.4%)	0.489
	Sometimes	1 (4.8%)	8 (11.6%)	
	Never	18 (85.7%)	49 (71%)	
Do you feel loved?	Always	15 (71.4%)	59 (85.5%)	0.257
	Sometimes	4 (19%)	6 (8.7%)	
	Never	2 (9.5%)	4 (5.8%)	
Do you use a mobile phone?	Always	11 (52.4%)	57 (82.6%)	0.006
	Sometimes	5 (23.8%)	9 (13%)	
	Never	5 (23.8%)	3 (4.3%)	
Do you use a computer (tablet, memory games)?	Always	6 (28.6%)	12 (17.4%)	0.46
	Sometimes	4 (19%)	12 (17.4%)	
	Never	11 (52.4%)	45 (65.2%)	
Do you use the Internet?	Always	7 (33.3%)	26 (37.7%)	0.945
	Sometimes	4 (19%)	11 (15.9%)	
	Never	10 (47.6%)	32 (46.4%)	

		Men (n=21)	Women (n=69)	p value
		n (%), median (IR), mean (SD)		
During the week and weekends, do other people call you to go out?	Always	5 (23.8%)	40 (58%)	0.013
	Sometimes	7 (33.3%)	16 (23.2%)	
	Never	9 (42.9%)	13 (18.8%)	
Do you find it easy to make friends?	Always	14 (66.7%)	51 (73.9%)	0.227
	Sometimes	0 (0%)	5 (7.2 %)	
	Never	7 (33.3%)	13 (18.8%)	
Do you go to any park, association, or senior center where you interact with other seniors?	Always	9 (42.9%)	58 (84.1%)	<0.001
	Sometimes	2 (9.5%)	4 (5.8%)	
	Never	10 (47.6%)	7 (10.1%)	
Do you like to participate in leisure activities organized in your neighborhood or residence?	Siempre	12 (57.1%)	58 (84.,1%)	0.005
	A veces	5 (23.8%)	2 (2.9%)	
	Nunca	4 (19%)	9 (13%)	
Level of Social loneliness	Low	13 (61,9%)	57 (82,6%)	0,113
	Medium	6 (28,6%)	10 (14,5%)	
	High	2 (9,5%)	2 (2,9%)	
Only for CPAM users				
Do you live with any animals?	Yes	1 (16.7%)	13 (21.7%)	1
	No	5 (83.3%)	47 (78.3%)	

Own elaboration

Regarding the level of loneliness, it was observed that perceived health improves as high loneliness values decrease (p=0.004).

Table 2. Relationship between perceived health and other categorical variables (N=90).

		Perceived Health										p value
		Very bad (n=5)		Bad (n=8)		Fair (n=21)		Good (n=35)		Very good (n=21)		
Sex	Men	1	(20.0%)	4	(50.0%)	4	(19.0%)	5	(14.3%)	7	(33.3%)	0.166
	Women	4	(80.0%)	4	(50.0%)	17	(81.0%)	30	(85.7%)	14	(66.7%)	
Marital status	Single	0	(0.0%)	1	(12.5%)	3	(14.3%)	2	(5.7%)	2	(9.5%)	0.111
	Married	3	(60.0%)	1	(12.5%)	6	(28.6%)	23	(65.7%)	12	(57.1%)	
	Widowed	1	(20.0%)	5	(62.5%)	8	(38.1%)	8	(22.9%)	6	(28.6%)	
	Separated	1	(20.0%)	0	(0.0%)	1	(4.8%)	0	(0.0%)	0	(0.0%)	
	Divorced	0	(0.0%)	1	(12.5%)	3	(14.3%)	2	(5.7%)	1	(4.8%)	
Educational level	Illiterate	1	(20.0%)	0	(0.0%)	3	(14.3%)	0	(0.0%)	1	(4.8%)	0.089
	Primary education	1	(20.0%)	5	(62.5%)	12	(57.1%)	27	(77.1%)	10	(47.6%)	
	Secondary education	1	(20.0%)	0	(0.0%)	0	(0.0%)	1	(2.9%)	2	(9.5%)	
	High school	1	(20.0%)	1	(12.5%)	3	(14.3%)	1	(2.9%)	2	(9.5%)	
	Basic vocational training	0	(0.0%)	1	(12.5%)	0	(0.0%)	0	(0.0%)	2	(9.5%)	
	Intermediate vocacional training	0	(0.0%)	0	(0.0%)	0	(0.0%)	1	(2.9%)	3	(14.3%)	0.089
	Advanced vocational training	0	(0.0%)	1	(12.5%)	0	(0.0%)	2	(5.7%)	0	(0.0%)	
	University	1	(20.0%)	0	(0.0%)	3	(14.3%)	3	(8.6%)	1	(4.8%)	

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		Perceived Health										p value
		Very bad (n=5)		Bad (n=8)		Fair (n=21)		Good (n=35)		Very good (n=21)		
Individual income level (euros)	Lees than 12,000	4	(80.0%)	5	(83.3%)	12	(66.7%)	21	(61.8%)	10	(50.0%)	0.281
	12,000 to 24,000	0	(0.0%)	0	(0.0%)	6	(33.3%)	11	(32.4%)	6	(30.0%)	
	24,000 to 40,000	1	(20.0%)	1	(16.7%)	0	(0.0%)	1	(2.9%)	3	(15.0%)	
	40,000 to 60,000	0	(0.0%)	0	(0.0%)	0	(0.0%)	1	(2.9%)	1	(5.0%)	
Physical activity	None	2	(40.0%)	3	(37.5%)	1	(4.8%)	0	(0.0%)	1	(4.8%)	0.002
	Occasional	0	(0.0%)	0	(0.0%)	3	(14.3%)	2	(5.7%)	1	(4.8%)	
	Several times a month	0	(0.0%)	0	(0.0%)	3	(14.3%)	0	(0.0%)	0	(0.0%)	
	Several times a week	3	(60.0%)	5	(62.5%)	14	(66.7%)	33	(94.3%)	19	(90.5%)	
Alcohol consumption	Never	3	(60.0%)	3	(37.5%)	11	(52.4%)	7	(20.0%)	7	(33.3%)	0.458
	Not in the last 12 months	2	(40.0%)	3	(37.5%)	6	(28.6%)	5	(14.3%)	5	(23.8%)	
	Less tan once a month	0	(0.0%)	0	(0.0%)	0	(0.0%)	1	(2.9%)	2	(9.5%)	
	Once a month	0	(0.0%)	0	(0.0%)	0	(0.0%)	5	(14.3%)	1	(4.8%)	
	2-3 days a month	0	(0.0%)	0	(0.0%)	1	(4.8%)	2	(5.7%)	0	(0.0%)	
	1-2 days a week	0	(0.0%)	1	(12.5%)	1	(4.8%)	3	(8.6%)	3	(14.3%)	
	3-4 days a week	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	1	(4.8%)	
	5-6 days a week	0	(0.0%)	0	(0.0%)	1	(4.8%)	2	(5.7%)	0	(0.0%)	
	Daily or almost daily	0	(0.0%)	1	(12.5%)	1	(4.8%)	10	(28.6%)	2	(9.5%)	
Difficulty seeing	None	2	(40.0%)	6	(75.0%)	7	(35.0%)	23	(65.7%)	15	(71.4%)	0.078
	Some	3	(60.0%)	2	(25.0%)	10	(50.0%)	12	(34.3%)	6	(28.6%)	
	A lot	0	(0.0%)	0	(0.0%)	3	(15.0%)	0	(0.0%)	0	(0.0%)	
Difficulty hearing	None	5	(100%)	4	(50.0%)	11	(52.4%)	20	(57.1%)	20	(95.2%)	0.017
	Some	0	(0.0%)	3	(37.5%)	9	(42.9%)	11	(31.4%)	1	(4.8%)	
	A lot	0	(0.0%)	1	(12.5%)	1	(4.8%)	4	(11.4%)	0	(0.0%)	
Difficulty walking 500 m without assistance	None	3	(60.0%)	6	(75.0%)	14	(66.7%)	34	(97.1%)	20	(95.2%)	0.002
	Cannot at all	2	(40.0%)	2	(25.0%)	7	(33.3%)	1	(2.9%)	1	(4.8%)	
Difficulty climbing 12 steps	None	3	(60.0%)	6	(75.0%)	12	(57.1%)	30	(85.7%)	20	(95.2%)	0.007
	Some	0	(0.0%)	0	(0.0%)	2	(9.5%)	4	(11.4%)	0	(0.0%)	
	Cannot at all	2	(40.0%)	2	(25.0%)	7	(33.3%)	1	(2.9%)	1	(4.8%)	
Live with animals	Yes	1	(33.3%)	2	(50.0%)	0	(0.0%)	8	(25.0%)	3	(20.0%)	0.134
	No	2	(66.7%)	2	(50.0%)	12	(100%)	24	(75.0%)	12	(80.0%)	
Loneliness level	Low	3	(60.0%)	5	(62.5%)	12	(57.1%)	33	(94.3%)	17	(81.0%)	0.004
	Medium	1	(20.0%)	2	(25.0%)	8	(38.1%)	1	(2.9%)	4	(19.0%)	
	High	1	(20.0%)	1	(12.5%)	1	(4.8%)	1	(2.9%)	0	(0.0%)	

Own elaboration

In Table 3, it can be observed how the level of loneliness is related to marital status (p=0.001), physical activity (94.3% of those who engaged in physical activities several times a week had a low level of loneliness, p<0.001), and the level of loneliness was higher if they had difficulty walking or climbing stairs (p<0.001).

Table 3. Relationship Between the Level of Loneliness and Other Categorical Variables (N=90)

		Loneliness level			p value
		Low	Medium	High	
Sex	Men	13 (18.6%)	6 (37.5%)	2 (50.0%)	0.113
	Women	57 (81.4%)	10 (62.5%)	2 (50.0%)	
Marital status	Single	6 (8.6%)	2 (12.5%)	0 (0.0%)	0.001
	Married	42 (60.0%)	3 (18.8%)	0 (0.0%)	
	Widowed	18 (25.7%)	8 (50.0%)	2 (50.0%)	
	Separated	1 (1.4%)	0 (0.0%)	1 (25.0%)	
	Divorced	3 (4.3%)	3 (18.8%)	1 (25.0%)	
Educational level	Illiterate	3 (4.3%)	2 (12.5%)	0 (0.0%)	0.399
	Primary education	46 (65.7%)	7 (43.8%)	2 (50.0%)	
	Secondary education	3 (4.3%)	1 (6.3%)	0 (0.0%)	
	High school	4 (5.7%)	3 (18.8%)	1 (25.0%)	
	Basic vocational training	3 (4.3%)	0 (0.0%)	0 (0.0%)	
	Intermediate vocacional training	3 (4.3%)	1 (6.3%)	0 (0.0%)	
	Advanced vocational training	3 (4.3%)	0 (0.0%)	0 (0.0%)	
	University	5 (7.1%)	2 (12.5%)	1 (25.0%)	
Individual income level (euros)	Lees than 12,000	43 (62.3%)	6 (54.5%)	3 (100.0%)	0.589
	12,000 to 24,000	20 (29.0%)	3 (27.3%)	0 (0.0%)	
	24,000 to 40,000	4 (5.8%)	2 (18.2%)	0 (0.0%)	
	40,000 to 60,000	2 (2.9%)	0 (0.0%)	0 (0.0%)	
Physical activity	None	3 (4.3%)	2 (12.5%)	2 (50.0%)	<0.001
	Occasional	1 (1.4%)	3 (18.8%)	2 (50.0%)	
	Several times a month	0 (0.0%)	3 (18.8%)	0 (0.0%)	
	Several times a week	66 (94.3%)	8 (50.0%)	0 (0.0%)	
Difficulty seeing	None	44 (62.9%)	6 (40.0%)	3 (75.0%)	0.371
	Some	24 (34.3%)	8 (53.3%)	1 (25.0%)	
	A lot	2 (2.9%)	1 (6.7%)	0 (0.0%)	
Difficulty hearing	None	48 (68.6%)	10 (62.5%)	2 (50.0%)	0.298
	Some	19 (27.1%)	4 (25.0%)	1 (25.0%)	
	A lot	3 (4.3%)	2 (12.5%)	1 (25.0%)	
Difficulty walking 500 m without assistance	None	68 (97.1%)	8 (50.0%)	1 (25.0%)	<0.001
	Cannot at all	2 (2.9%)	8 (50.0%)	3 (75.0%)	
Difficulty climbing 12 steps	None	63 (90.0%)	8 (50.0%)	0 (0.0%)	<0.001
	Some	5 (7.1%)	0 (0.0%)	1 (25.0%)	
	Cannot at all	2 (2.9%)	8 (50.0%)	3 (75.0%)	

		Loneliness level			p value
		Low	Medium	High	
Alcohol	Never	20 (28.6%)	9 (56.3%)	2 (50.0%)	0.732
	Not in the last 12 months	15 (21.4%)	5 (31.3%)	1 (25.0%)	
	Less tan once a month	2 (2.9%)	1 (6.3%)	0 (0.0%)	
	Once a month	6 (8.6%)	0 (0.0%)	0 (0.0%)	
	2-3 days a month	3 (4.3%)	0 (0.0%)	0 (0.0%)	
	1-2 days a week	8 (11.4%)	0 (0.0%)	0 (0.0%)	
	3-4 days a week	1 (1.4%)	0 (0.0%)	0 (0.0%)	
	5-6 days a week	3 (4.3%)	0 (0.0%)	0 (0.0%)	
	Daily or almost daily	12 (17.1%)	1 (6.3%)	1 (25.0%)	

Own elaboration

The correlational analysis between perceived health and other quantitative variables can be seen in Table 4. The relationship between perceived health and loneliness was inverse, meaning that higher loneliness was associated with poorer health. The strength of the relationship was weak (-0.370, p<0.001), but highly significant.

A positive relationship was found between age and the level of loneliness (0.229, p=0.031) and an inverse relationship between the number of family members, friends, and cohabitants with the level of loneliness. The number of friends showed moderate association strength (-0.507, p<0.001), which was also highly significant.

A positive relationship was also detected between the number of friends and the level of perceived health, although the association strength was weak (0.249, p=0.018).

Table 4. Correlational analysis between perceived health and other quantitative variables

	Perceived health		Age		Children		Family members		Friends		Cohabitants	
Age	0.015		–									
	88		–									
	0.891		–									
Children	-0.043		0.086		–							
	88		88		–							
	0.685		0.422		–							
Family members	0.168		0.190		0.290	**	–					
	88		88		88		–					
	0.114		0.073		0.006		–					
Friends	0.249	*	-0.151		0.104		0.369	***	–			
	88		88		88		88		–			
	0.018		0.155		0.327		<.001		–			
Cohabitants	0.164		-0.227		-0.021		-0.002		0.076		–	
	64		64		64		64		64		–	
	0.188		0.067		0.868		0.987		0.544		–	
Loneliness	-0.370	***	0.229	*	0.050		-0.256	*	-0.507	***	-0.256	*
	87		87		87		87		87		63	
	<.001		0.031		0.643		0.016		<.001		0.040	

Note. * p < .05, ** p < .01, *** p < .001. Own elaboration

In Table 5, the correlational analysis between the level of loneliness and difficulties in walking and climbing stairs can be seen, to assess the strength of the association. A strong positive expected relationship was found between the difficulty in walking and climbing stairs (0.972, p<0.001) and a weak to moderate relationship for both walking (0.624, p<0.001) and climbing stairs (0.631, p<0.001).

Table 5. Correlational Analysis Between the Level of Loneliness and Difficulty in Walking and Climbing Stairs

	Loneliness		Difficulty walking	
Difficulty walking 500 m without assistance 0.624	0,624	***	–	
	88		–	
	< .001		–	
Difficulty climbing 12 steps	0.631	***	0.972	***
	88		88	
	< .001		< .001	

Note. * p < .05, ** p < .01, *** p < .001

In Table 6, the partial correlation between the quantitative levels of loneliness and perceived health is shown, controlling for age, marital status, physical activity, number of family members, friends, and difficulty in walking and/or climbing stairs.

Table 6. Partial Correlation Analysis Between Loneliness and Perceived Health

	Loneliness		Perceived Health	
Loneliness	–			
	–			
Perceived health	-0,202		–	
	0.068		–	

Note: Controlling for 'Marital Status', 'Physical Activity', 'Number of Family Members', 'Number of Friends', 'Age', and 'Difficulty in Walking and/or Climbing Stairs'

Discussion

The objective of this study was to determine the prevalence of UL and its relationship with the perceived health of individuals over 65 years old who are users of two senior centers of the Junta de Andalucía located in the city of Algeciras (Cádiz, Spain).

The prevalence in the analyzed centers was lower than the regional average. A trend-level statistical value (p=0.068) was reached between loneliness and perceived health, indicating that health deteriorates when the level of loneliness is high.

The data revealed that there are a greater number of single and divorced men compared to the figures for women, with a higher percentage of married or widowed women. However, according to the National Institute of Statistics (INE), different data is observed, as among the Spanish population over 65 years old in 2023, there is a higher number of single women, a high-

er number of married men, and a higher number of divorced or separated women. The only category that matches the data obtained in our research is the marital status of widowhood (21). This fact can be related to the unequal life expectancy between the sexes, with the latest recorded data in 2022 being 80.36 years for males and 85.74 years for females (22).

Regarding alcohol consumption, a higher percentage of women reported never having tried it. As for consumption in the last 12 months, a greater number of women reported having consumed it, although men consumed a higher quantity. This fact fits with the Social Cognitive Theory and the Attribution Theory, due to its cultural and social nature; alcohol consumption in men has always been seen as a sign of masculinity and has been accepted by society. In contrast, women, who in earlier times adopted a social role based on domestic and family responsibilities, found it incompatible with alcohol consumption. Although the current view of women has changed, this social pressure has affected the older female population for years and may be the reason for their lower consumption (23,24).

Regarding physical activity, there is a greater tendency towards sedentary behavior in men. This observation does not correspond with the statements made by other authors. For instance, Font-Jutgla et al., in a systematic review, concluded that older women were more inactive (25). Muñoz and Espinosa also observed lower physical activity in women of this age group due to family dedication and their caregiving role in the domestic sphere, in addition to their low perceived health, which is closely related to poor health status.

Physical activity has also been linked to perceived health, with better perceived health associated with higher levels of physical activity. This can be explained by the Activity Theory, which relates a lower probability of disability with active individuals and the level of activity with satisfactory feelings, enabling a better coping with the aging process (26).

An inverse relationship between physical activity and loneliness has also been found, with a greater feeling of loneliness in people who do not engage in physical activity or do so occasionally. Conversely, low levels of loneliness were found in people who engage in physical activity several times a week. These data can be explained based on the named risk factors for loneliness, linking the decrease in exercise with a higher level of loneliness, either due to its health benefits that improve quality of life or its social aspects that contribute to self-fulfillment and mental well-being (27). These results are also consistent with interactionist theory and support the promotion of physical activity programs in senior centers as a strategy for both health promotion and loneliness prevention.

The deterioration of health status largely depends on advanced age, with the female group being the most affected due to having a higher life expectancy and living longer (28). Contrary to the claims of the mentioned studies, in our sample, men are more sedentary, possibly due to their lower level of socialization. Women reported having greater availability of friends and family and show higher social participation and digital communication. This greater socialization of women could be influenced by their childhood education, which is related to the domestic sphere (29). Anyway, no differences in loneliness were found between the sexes. This confirms the conclusion of Maes et al., highlighting the absence of gender differences in the prevalence of loneliness (30).

Contrary to our data, the older male population uses mobile phones more, a fact related to the lower educational level and technological exposure of older women, according to Rosales and Morey. How-

ever, this fact is very changeable and subject to the influence of other factors, such as the greater socialization of women, as mentioned in our sample (31).

Regarding architectural barriers, no positive responses were found. These variables only referred to users of Active Participation Centers for the elderly (CPAM), who, being fully capable of participating in all the activities organized by the center, did not consider any architectural barriers in their homes that would cause them difficulty or prevent social interaction and participation.

The prevalence of UL is higher in widowed, separated, or divorced individuals, clearly reflecting the influence of marital status as a risk factor for loneliness (32). On the other hand, the emerging theory of loneliness specifies three types of resulting causes, two of which correspond to losses related to emotional and romantic-sexual loneliness, which also explain this phenomenon (15).

Regarding the health difficulties variables related to seeing, hearing, walking 500 meters without assistance, and climbing 12 steps, an association of greater loneliness was found in line with greater recorded difficulty. A higher level of loneliness appeared in people with some difficulty or inability to perform these tasks, with an association strength between weak and moderate, possibly higher if the sample size had been larger. These variables are characteristic of aging and advanced age, which can bring negative consequences on the perception of health and mental stability, potentially increasing social and family isolation as individuals find themselves unable to engage in leisure or self-fulfillment activities, thereby increasing the prevalence of UL (17).

Likewise, we have observed an inverse relationship between perceived health and loneliness (in the unifactorial relationship, $p<0.001$, and in the adjusted relationship, although trend-level, $p=0.068$), with perceived health being significantly better as high loneliness values decrease. This is also asserted by Martín Roncero and González-Rábago in a cross-sectional study conducted in 2021, where worse perceived health is found in lonely individuals (33). This may be because if health is perceived negatively, it influences social participation, potentially increasing social isolation (34).

The prevalence of moderate and high loneliness found in the senior centers of the Junta de Andalucía in the city of Algeciras was 28.6% and 9.5% in men, and 14.5% and 2.9% in women, respectively. When comparing these figures with the study conducted by García-González on the prevalence of loneliness in Andalucía in 2020, it is much lower, as that study recorded a prevalence of 35-60% in men and 40-55% in women (35). This significant difference in prevalence may be due to the characteristics of the study centers and the city, as throughout the process, conditions that are entirely suitable and conducive to the physical and mental well-being and care of the elderly have been observed. It is worth noting that both the CRPM and the CPAM of Algeciras demonstrate a strong professional commitment to all their users to provide the best possible care and quality of life, a fact reflected in the collected responses, individual perceptions, and gratitude expressed by all interviewees.

This study contributes to existing evidence by reinforcing the association between loneliness and relevant health factors, thus providing a structured approach for nursing interventions targeting loneliness. Clinically, the implementation of the standardized care plan could enhance identification and management of loneliness in various healthcare settings. From a public policy perspective, these findings support the development of comprehensive strategies that integrate social and healthcare services aimed at mitigating loneliness among vulnerable populations.

Limitations and strenghts

The lack of causality in cross-sectional studies must be added to the fact that multifactorial analyses could not be performed due to the failure to meet assumptions (for multiple linear regression, ordinal logistic regression, and multiple correspondence analysis) or the absence of relationships (for example, for various combinations of mediation or moderation analysis). This is likely due to the small sample size in several categories and the weakness of the association strength between variables, which may also be influenced by this same reason. It should also be noted that the non-probability nature of the sampling limits external validity.

To our knowledge, there are no studies on this subject in the city of Algeciras.

Conclusions

The prevalence of UL in the city is lower than the regional prevalence. The trend value of statistical significance suggests that higher levels of UL are associated with poorer perceived health among those over 65 years old who use the senior centers of the Junta de Andalucía in the city of Algeciras.

Implications for practice

It is necessary to increase the sample size and collect data from more user centers to confirm this relationship.

For future research, it is recommended to conduct longitudinal studies to explore causal relationships and the long-term effects of interventions. Additionally, interventional studies focusing on specific strategies, such as social prescribing, exercise programs, or cognitive-behavioral approaches, are encouraged to determine the most effective methods to reduce loneliness and improve well-being.

This integrated approach would promote advances in this field by linking evidence with practice and guiding policy and research priorities on reducing loneliness.

A standardized nursing care plan is proposed, which can be used by any nursing professional interested in addressing unwanted loneliness and can facilitate their process.

Nursing diagnostics (36):

1. [00054] Risk for Loneliness r/t affective deprivation and social isolation.
2. [00053] Social Isolation r/t absence of satisfactory reciprocal interpersonal relationships aeb low level of social interaction and loneliness.
3. [00241] Impaired Mood Regulation r/t unwanted loneliness aeb hopelessness and difficulty in social functioning.

1 [00054] Risk for Loneliness

NOC:

[1216] Level of Social Anxiety:

Indicators:

- [121601] Avoids social situations
- [121603] Avoids leaving home
- [121604] Anxious anticipation of social situations
- [121607] Negative self-perceptions of social skills
- [121608] Negative self-perceptions of acceptance by others

[1203] Severity of Loneliness

Indicators:

- [120301] Sense of unfounded terror
- [120303] Sense of external restlessness
- [120204] Sense of hopelessness
- [120205] Sense of not belonging
- [120309] Sense of being excluded

NIC:

[5100] Enhancement of Socialization:

- Encourage greater involvement in already established relationships.
- Facilitate the use of aids for sensory deficits such as glasses and hearing aids.
- Encourage the patient to change environments, such as going for a walk or to the cinema.
- Promote social and community activities with people who have common interests and goals.
- Use role-playing to practice improved communication skills and techniques.
- Refer the patient to an interpersonal skills group or program where they can increase their understanding of transactions and decrease feelings of loneliness, if appropriate.
- Provide positive feedback when the patient establishes contact with others.

[5270] Emotional Support:

- Discuss the emotional experience with the patient and explore what has triggered their emotions and feelings of loneliness.
- Listen to the patient's expressions of feelings and beliefs about unwanted loneliness, offering empathetic or supportive comments.
- Help the patient to recognise and express feelings such as anxiety, anger or sadness.
- Provide support during the stages of denial, anger, bargaining and acceptance of the grieving process.
- Encourage talking or crying as a way of reducing the emotional response, providing a sense of security during periods of heightened anxiety and loneliness.
- Provide support with decision-making.

[5230] Emotional Support:

- Assess the impact of the patient's life situation on roles, relationships, and loneliness, as well as their understanding of the disease process.
- Provide an environment of acceptance.
- Assist the patient in evaluating available resources and support systems to achieve goals.
- Help the patient break down complex goals into small, manageable steps.
- Encourage the verbalization of feelings, perceptions, and fears.
- Encourage a realistic attitude of hope as a way to manage feelings of helplessness and loneliness.

2 [00053] Social Isolation

NOC:

[0121] Development: Older Adult

Indicators:

- [12101] Maintains cognitive function
- [12109] Maintains interest in life
- [12112] Maintains relationships with close family members [12114] Maintains close relationships with friends
- [12118] Adapts to retirement

[1502] Social Interaction Skills

Indicators:

- [150203] Cooperates with others
- [150212] Relates to others

NIC:

[4362] Behavior Modification: Social Skills

- Assist the patient in identifying interpersonal problems resulting from social skill deficits.
- Encourage the patient to verbally express feelings associated with interpersonal problems and loneliness, and to identify desired outcomes of problematic interpersonal relationships or situations.
- Identify specific social skills using guided discussion and examples that will be the focus of training.

- Consider using a behavior training program based on standardized and evidence-based interpersonal skills that can help eradicate unwanted loneliness.
- Provide models (e.g., role-playing, video presentations) that demonstrate behavioral steps within the context of situations that make sense to the patient.
- Assist the patient in enacting behavioral steps aimed at addressing loneliness.
- Involve close ones in social skills training sessions (role-playing) with the patient, if appropriate.

[5510] Health Education

- Identify risk groups and age ranges that would benefit most from health education on unwanted loneliness, as well as internal and external factors that may enhance or diminish motivation to follow healthy behaviors.
- Formulate the objectives of the Health Education program to address unwanted loneliness, considering the resources (personnel, space, equipment, money, etc.) needed to carry it out.
- Develop interactive and educational materials written at an appropriate reading level for the target audience.
- Focus on the immediate or short-term benefits of positive lifestyle behaviors in the context of unwanted loneliness.
- Use group presentations to provide support and reduce the threat that members experiencing loneliness may feel.
- Use group discussions and role-playing to influence existing beliefs, attitudes, and values about unwanted loneliness.
- Utilize social and family support systems to enhance the effectiveness of lifestyle or health behavior modifications related to loneliness.
- Plan long-term follow-up to reinforce the adoption of healthy lifestyles and behaviors and to check for improvement in feelings of loneliness

3 [00241] Impaired Mood Regulation

NOC:

[1300] Acceptance: Health Status

Indicators:

- [130008] Recognizes the reality of the health situation
- [130010] Copes with the health situation
- [130017] Adapts to changes in health status
- [130012] Clarifies personal values

[1604] Participation in Leisure Activities

Indicators:

- [160402] Feeling of satisfaction with leisure activities
- [160403] Use of appropriate social interaction skills
- [160412] Chooses leisure activities of interest

NIC:

[5440] Enhance Support Systems

- Observe the current family situation and support network.
- Determine barriers to the use of unused or underutilized support systems.
- Encourage relationships with people who have similar interests and goals.
- Refer to community programs for the prevention or treatment of unwanted loneliness, self-help groups, or online resources aimed at addressing loneliness, if appropriate.

[4410] Goal Setting

- Identify the patient's recognition of their own problem.
- Assist the patient in prioritizing goals and activities aimed at addressing loneliness.
- Coordinate with the patient to set periodic review dates to assess progress towards goals to eradicate loneliness.

[5450] Group Therapy

- Form an optimally sized group: 5 to 12 members, with mandatory attendance, organized in 1-2 hour sessions.
- Provide an individualized orientation session for each new group member before the first group session to discuss the situation of loneliness.
- Arrange chairs in a circle, close to each other, and encourage members to share commonalities and feelings provoked by loneliness, such as anger, sadness, lack of confidence, etc.
- Use role-playing and problem-solving as appropriate.
- Provide social reinforcement (verbal and non-verbal) to achieve desired behaviors/responses to improve the situation of loneliness.
- Help members provide mutual feedback to develop awareness of their own behaviors.
- Conclude the session with a summary of the discussions, emphasizing the importance of taking action against loneliness.

[4330] Art Therapy

- Provide a quiet environment and art instruments appropriate to the developmental level and goals of the therapy.
- Identify an artistic medium to use, such as paintings (e.g., self-portrait, human figure drawings, kinetic family drawings), photographs and other media (e.g., photo journal, media journal), graphics (e.g., timeline, body maps), or artistic objects (e.g., masks, sculpture).
- Use drawings to determine the effects of stressful events (hospitalization, divorce, or abuse) on the patient and their feelings of loneliness.

[4320] Animal-Assisted Therapy

- Determine the patient's acceptance of animals as therapeutic agents.
- Teach the patient/family the purpose and rationale for the presence of animals in a care environment.
- Facilitate the patient's care and contact with therapy animals.
- Organize patient exercises with therapy animals, as appropriate, to encourage the expression of emotions towards the animals and increase the feeling of companionship.

[4310] Activity Therapy

- Teach the patient and family about the role of physical, social, spiritual, and cognitive activity in addressing unwanted loneliness.
- Assist the patient in choosing activities consistent with their physical, psychological, and social capabilities.
- Collaborate with occupational, recreational, and/or physical therapists in planning and monitoring a specific activity program to address unwanted loneliness, as appropriate.
- Encourage participation in recreational and enjoyable activities aimed at reducing loneliness: group singing, volleyball, table tennis, walks, swimming, simple concrete tasks, simple games, routine tasks, household chores, personal grooming, puzzles, and card games.
- Refer to community centers or activity programs dedicated to addressing loneliness, as appropriate.
- Allow family participation in activities, as appropriate.

[4860] Reminiscence Therapy

- Identify with the patient a theme related to feelings of loneliness for each session (e.g., work life), organizing small groups of participants suitable for group reminiscence therapy.
- Use communication techniques (such as focusing, reflecting, and repeating) that encourage the verbal expression of both positive and negative feelings about past events and their relation to feelings of unwanted loneliness.
- Adjust the number of sessions based on the patient's response and their desire to continue the process.

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