

Original Article

Loneliness and its Relationship with Care Dependency among the Elderly Living in Nursing Home

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Funding: This study was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) within the scope of the 2209-A University Students Research Projects Support Program under project number 1919B012203820.

Abstract

Background: Feelings of loneliness in the elderly can influence their quality of life and alter their care needs.

Aim: The study aims to determine the level of loneliness among elderly residents in nursing homes and examine its relationship with care dependency.

Methodology: Data were collected using the “Data Gathering Form,” the “Loneliness Scale for Elderly (LSE),” and the “Care Dependency Scale (CDS)”.

Results: The participants (n=254) had a mean age of 72.11 ± 6.43 , with the majority being male (78.3%). The mean total score of the LSE for participants was 11.05 ± 5.49 , while the mean total score of the CDS was 76.62 ± 8.51 . A weak negative correlation was found between the total scores of LSE and CDS ($r = -0.31$, $p < 0.01$).

Conclusion: An increase in the level of loneliness among elderly residents in nursing homes was found to be associated with an increase in care dependency. The increase in loneliness levels among the elderly living in nursing home may cause individuals to become more dependent on care, thus creating an economic burden on healthcare providers and the country's economy.

Keywords: Elderly, nursing home, loneliness, care dependency

Introduction

Population aging is a matter of great concern for many developed and developing countries. As the elderly population increases worldwide, more challenges related to aging are encountered (Trybusińska & Saracen, 2019; Ismail, Ahmad, Hamjah & Astina, 2021). In Turkey, it is noted that the elderly population has been growing at a higher rate compared to other age groups, showing a 24% increase in the last five years (Turkish Statistical Institute, 2021).

One of the significant issues faced during old age is the care of the elderly. Due to limitations in daily life activities, a decrease in self-care abilities, and the emergence of medical issues associated with aging, individuals eventually require assistance from others. This process leads to partial or complete dependency, increasing the care needs of individuals (Akgul & Yesilyaprak, 2015; Doroszkiewicz, 2022). While not every individual aged 65 and above becomes ill or dependent on care, the likelihood of needing help increases due to the risks of illness and physical limitations (Sucu, 2019). Care dependency involves professional support

when individuals' self-care abilities decline and they require assistance to meet their self-care needs (Dijkstra et al., 2005). In this regard, nursing care focused on meeting the basic needs of individuals takes precedence.

Independently desiring to maintain their autonomy, changes/innovations in their surroundings often cause anxiety among the elderly and may lead them to experience loneliness. Feelings of loneliness in the elderly can affect their quality of life, which, in turn, can increase their care needs (Trybusińska & Saracen, 2019; Steenbeek et al., 2021) Agar emphasize an increasing trend of dependency in daily life during advanced ages (Agar, 2020). Nurses should conduct assessments in various settings where elderly individuals reside (home visits, clinical environments, nursing home) to identify the presence of loneliness (Akbas, Tasdemir Yigitoglu & Cunkus, 2020). To the best of our knowledge, no studies have been found in the literature that specifically examine the level of loneliness among elderly residents in nursing home and their relationship with care dependency.

Accordingly, the objectives of this study were to:

- 1) What is the level of loneliness and care dependency among elderly residents in nursing home?
- 2) Is there a relationship between the level of loneliness and care dependency among elderly residents in nursing home?

Methodology

This study was designed as descriptive, and cross-sectional. Data were collected through surveys between November and December 2022. The surveys were conducted face-to-face with individuals and took an average of 10-15 minutes. The research was conducted in one of the largest nursing home in Turkey. Participants aged 65 and above, without communication and cognitive impairments (such as dementia, Alzheimer's, etc.), and willing to participate in the study were included. Individuals with diagnosed psychiatric illnesses (such as schizophrenia, major depression, etc.) and those who were fully dependent (bedridden) were excluded

from the study. The study was completed with 254 participants.

Data Collection: Data were collected using the "Data Collection Form", which were developed based on the literature, the "Loneliness Scale for Elderly (LSE)," and the "Care Dependency Scale (CDS)".

Data Collection Form: The form consists of 20 questions about participants' socio-demographic characteristics, information about their family, frequency of visits, health status, leisure activities, and other related aspects.

Loneliness Scale for Elderly (LSE): This scale, developed by Gierveld and Kamphuis, aims to measure the feelings of loneliness in the elderly (Gierveld & Kamphuis, 1985). It was adapted to Turkish by Akgul and Yesilyaprak (Akgul & Yesilyaprak, 2015). The scale consists of 11 items and is divided into two subscales: six items (2, 3, 5, 6, 9, 10) measure emotional loneliness (negative items), while five items (1, 4, 7, 8, 11) measure social loneliness (positive items). The emotional and social loneliness results are summed to calculate the scale's total score. The lowest possible score is 0, and the highest score is 22. The Cronbach's alpha values for the scale were 0.97 and 0.84. The Cronbach's alpha values obtained in this study were 0.67 for emotional loneliness, 0.72 for social loneliness, and 0.75 for the total scale score.

Care Dependency Scale (CDS): The scale, developed by Dijkstra in the Netherlands in 1998, is based on Virginia Henderson's fundamental human needs and assesses the level of care dependency in patients (Dijkstra, 1998). It was adapted to Turkish by Yont et al., (2010). The scale, consisting of 17 items, is rated using a 5-point Likert-type scale. The lowest possible score on the scale is 17, and the highest is 85. A higher scale score indicates that the patient is independent in meeting their care needs, while a lower score means that the patient is dependent on others to meet their care needs. The Cronbach's alpha value of the scale was found to be 0.91. In this study, it was found to be 0.91.

Ethical Aspects of the Study: The study adheres to the ethical principles outlined in the Declaration of Helsinki. Appropriate permissions were obtained from the

institution where the study was conducted. The study was approved by the University Institutional Review Board (IRB date and number: 14.10.2022/2022.140). Both verbal and written informed consent were obtained from participants who met the study criteria. The participants were assured that their responses would remain anonymous and confidential.

Statistical Analysis: SPSS Statistics 24.00 software was used for data analysis. Continuous variables were presented as means $\pm$ standard deviation (SD), and categorical variables were expressed as percentages. Independent samples t-test, Mann-Whitney U test, one-way analysis of variance (ANOVA), and Kruskal-Wallis H test were used for comparing data. For post hoc analysis, Tukey's honestly significant difference (HSD) test and Mann-Whitney U test were employed. Spearman and Pearson correlation analyses were conducted to assess the relationships between continuous variables. Two-sided P values <0.05 were considered statistically significant.

Results

The mean age of the participants in the study was determined to be 72.11 ± 6.43 years. The majority of participants were male (78.3%), unmarried (94.1%), had completed primary education (65.0%), and did not have children (70.9%). Additionally, most participants had been living in the nursing home for 0-5 years (64.6%), were able to meet their daily needs independently (70.1%), and had the opportunity to meet with their loved ones/family (72.4%) (Table 1).

The mean LSE total score of the participants in the study was observed to be 11.05 ± 5.49 .

Table 1. Characteristics of the participants

N= 254		n	%
Age	Mean $\pm$ SD (Min.-Max.)	72.11 ± 6.43 (65-91)	
Gender	Female	55	21.7
	Male	199	78.3
Marital status	Married	15	5.9
	Single	239	94.1
Educational status	Illiterate	25	9.8
	Literate	18	7.1
	Primary	165	65.0

The emotional loneliness subscale score was 6.54 ± 3.47 , and the social loneliness subscale score was 4.51 ± 3.31 (Table 2). Statistically significant higher emotional loneliness scores were discovered in married individuals who required assistance in meeting their daily needs and reported a need for psychological support. In contrast, participants who were literate, had inadequate income to cover expenses, and did not have children exhibited higher social loneliness scores compared to other individuals. When evaluating the LSE total scores, statistically significant higher scores were observed in married individuals, those with inadequate income, childless individuals, those requiring assistance in meeting their daily needs, and those who reported a need for psychological support ($p < 0.05$) (Table 3).

The participants' mean CDS score was determined to be 76.62 ± 8.51 (Table 2). Statistically significant higher CDS total scores were observed in male individuals, those with a high school education, those who had been living in the nursing home for 6-10 years, those who did not require assistance in meeting their daily needs, and those who did not report a need for psychological support ($p < 0.05$) (Table 3).

There was a weak negative correlation between the CDS total score and the emotional loneliness score ($r = -0.31$, $p < 0.01$), as well as a weak negative correlation between the CDS total score and the social loneliness score ($r = -0.19$, $p < 0.01$). Similarly, a weak negative correlation was revealed between the LSE total score and the CDS total score ($r = -0.31$, $p < 0.01$) (Table 4).

	High school	29	11.4
	Bachelor's degree	17	6.7
Economic status	Income more than expenses	84	33.1
	Income partially covers expenses	87	34.3
	Income less than expenses	83	32.7
Health insurance	Yes	127	50.0
	No	127	50.0
Having a child	Yes	74	29.1
	No	180	70.9
Duration of residence in a nursing home	≤ 5 years	164	64.6
	6-10 years	48	18.9
	≥ 11 years	42	16.5
Preferred place for aging	Nursing home	75	29.5
	Own home	176	69.3
	With children	3	1.2
Ability to meet daily needs without assistance	Yes	178	70.1
	Partially	49	19.3
	No	27	10.6
Chronic Illness	Yes	200	78.7
	No	54	21.3
An illness requiring care	Yes	13	5.1
	No	241	94.9
Availability of interaction with loved ones/family members	Yes	184	72.4
	Partially	22	8.7
	No	48	18.9
Leisure activities	Resting	211	83.1
	Special interests	12	4.7
	Other	31	12.2
Need for psychological support	Yes	67	26.4
	No	187	73.6

Table 2. Loneliness Scale for Elderly and Care Dependency Scale scores of the participants

N=254		Mean	SD	Min	Max
Loneliness Scale for Elderly	Emotional loneliness	6.54	3.47	0.00	12.00
	Social loneliness	4.51	3.18	0.00	10.00
	Total Score	11.05	5.49	0.00	22.00
Care Dependency Scale	Total Score	76.62	8.51	37.00	85.00

Table 3. Factors affecting participants' levels of loneliness and care dependency

	Loneliness Scale for Elderly					Care Dependency Scale		
	Emotional loneliness	Test, p	Social loneliness	Test, p	Total Score	Test, p	Total Score	Test, p
Gender								
Female	6.49±3.55	-0.117¥	4.45±3.33	-0.140¥	10.95±6.07	-0.155¥	72.73±12.59	-2.368*
Male	6.55±3.45	0.91	4.52±3.14	0.89	11.08±5.33	0.88	77.69±6.63	0.02
Marital status								
Married	8.60±2.77	2.394¥	5.33±2.94	1.038¥	13.93±5.28	2.113¥	70.20±14.62	-1.584*
Single	6.41±3.47	0.02	4.46±3.19	0.30	10.87±5.46	0.04	77.02±7.85	0.11
Educational status								
Illiterate	6.68±3.35	0.116 π	5.88±3.14	3.812 π	12.56±4.94	1.602 π	72.88±9.88	14.027 χ
Literate	6.83±3.22		6.56±2.50		13.39±4.69		71.39±12.78	
Primary	6.44±3.55		4.15±3.21		10.59±5.56		77.35±7.21	
High school	6.59±3.67	0.98	4.31±2.99	0.01	10.90±5.81		78.59±6.76	0.01
Bachelor's degree	6.88±3.06		4.18±2.79		11.06±5.36		77.18±12.08	
Economic status								
Income more than expenses	6.26±3.49	2.133 π	3.87±3.22	5.870 π	10.13±5.57	5.338 π	75.37±10.33	3.850 χ
Income partially covers expenses	6.20±3.36	0.12	4.23±3.07	<0.001	10.43±5.29	0.01	76.57±7.25	0.15
Income less than expenses	7.18±3.52		5.45±3.06		12.63±5.34		77.93±7.54	
Having a child								
Yes	6.20±3.25	-0.992¥	3.36±2.95	3.773¥	9.57±5.28	2.791¥	77.00±8.47	-0.707*
No	6.68±3.55	0.32	4.98±3.15	<0.001	11.66±5.47	0.01	76.46±8.54	0.48
Duration of residence in a nursing hom								
≤ 5 years	6.63±3.47	0.335 π	4.55±3.09	0.374 π	11.15±5.46	0.207 π	76.80±7.87	3.804 χ
6-10 years	6.56±3.42		4.14±3.25		10.60±5.41		77.85±8.51	
≥ 11 years	6.14±3.56		4.67±3.46		10.81±5.75		73.24±10.57	
Ability to meet daily needs without assistance								
Yes	6.01±3.41	7.597 π	4.24±3.09	2.34 π	10.24±5.40	6.696 π	80.18±4.29	10.273 χ
Partially	7.61±3.52	<0.001	5.29±3.42	0.10	12.90±5.45	<0.001	68.76±10.33	<0.001
No	8.11±2.90		4.89±3.11		13.00±5.05		67.41±9.53	
Chronic Illness								
Yes	6.53±3.42	-0.039¥	4.40±3.09	-0.890¥	10.89±5.48	-0.549¥	75.93±8.56	-1.716*
No	6.55±3.67	0.96	4.14±3.25	0.37	11.35±5.52	0.58	78.18±8.52	0.08
Need for psychological support								
Yes	8.48±2.95	5.645¥	5.12±3.22	1.846¥	13.60±5.07	4.603¥	73.61±10.95	-2.878*
No	5.84±3.38	<0.001	4.29±3.14	0.07	10.13±5.36	<0.001	77.70±7.18	<0.001

*Mann-Whitney U Test, ¥ Independent Samples T-Test, χ Kruskal-Wallis H Test, π One-Way Analysis of Variance (ANOVA), p < 0.05: Statistically Significant

Table 4. Relationship between participants' loneliness level and care dependency

N=254			Loneliness Scale for Elderly			Care Dependency Scale
			Emotional loneliness	Social loneliness	Total Score	Total Score
Loneliness Scale for Elderly	Emotional loneliness	r	1			
	Social loneliness	r	0.36*	1		
	Total Score	r	0.84*	0.81*	1	
Care Dependency Scale	Total Score	r	-0.31*	-0.19*	-0.31*	1

r: Spearman's Rank Correlation, Pearson's Correlation *p < .01, **p < 0.05: Statistically Significant

Discussion

Assessing the care dependency of elderly individuals, identifying their care needs, and predicting health risks in the early stages are crucial aspects. This study examined the loneliness levels of elderly residents in nursing home and their relationship with care dependency. The participants in the study were found to have moderate levels of loneliness and high levels of care dependency. Additionally, the present study's findings indicated that an increase in loneliness levels in the elderly was associated with an increase in care dependency.

Residing in a nursing home is extremely challenging and traumatic for many elderly individuals. This condition, associated with physiological and cognitive changes that come with aging, leads to a sense of unproductivity, separation from the family environment, feelings of worthlessness, and a loss of freedom, ultimately leading to isolation and loneliness (Korkmaz Hosoglu & Ummet, 2021). Trybusińska and Saracen reported that approximately half of the individuals residing in nursing home (n=250) exhibited feelings of loneliness (Trybusińska & Saracen; 2019), while Aung, Nurumal & Wan Bukhar found that all elderly residents in a nursing home felt "lonely," with 75% of them feeling "very lonely" (Aung et al.; 2017). Both studies highlight the influence of family relationships on the loneliness experienced by individuals in nursing home. Similar studies conducted in Turkey, such as those by Celik, Kin & Karadakovan (Celik et

al., 2017) and Polat and Karasu (Polat & Karasu, 2020), reported that the loneliness levels of elderly residents in nursing home were at a moderate level, while Korkmaz et al. (mentioned earlier) found higher levels of loneliness (Korkmaz Hosoglu & Ummet, 2021). In this study, the loneliness level of elderly individuals was determined to a moderate. Traditionally, in Turkey, the care and basic needs of the elderly have been met by their families and children. However, in recent years, especially in urban areas, social changes such as economic, cultural, and transitions to nuclear families have increased the prevalence of elderly individuals residing in institutions like nursing home, leading to a more frequent experience of loneliness among the elderly.

Loneliness levels were significantly higher in the elderly who were married, childless, and needing psychological support than other elderly individuals. Additionally, the study revealed that the average score for emotional loneliness was higher than that for social loneliness. Emotional loneliness is the absence of love or close relationships in an individual's life (Polat & Karasu, 2020). In their study, Naik and Ueland emphasized that maintaining connections with their past lives was a crucial parameter in coping with loneliness among elderly residents in nursing home (Naik and Ueland, 2020). This result suggests that despite having relatively high opportunities (72.4%) to meet their loved ones or family members, the elderly might

still require more support from their spouses and children.

Determining individuals' dependency or independency status guides nurses in planning nursing care. Considering that dependent individuals require more nursing care, identifying the level of care dependency is vital to managing care and enhancing care quality (Kilic, Cevheroglu & Gorgulu, 2017). Compared to studies in the literature, our participants exhibited higher levels of care dependency (Steenbeek et al., 2021; Hoedl & Bauer, 2020). Moreover, it is notable that male participants and individuals who could meet their daily needs without assistance had significantly higher CDS scores. This finding is intriguing, as one would expect individuals who cannot meet their needs due to physical limitations to have higher dependency levels. Based on these results, it can be suggested that elderly individuals' care dependency is influenced not only by their physical but also by their emotional and social needs.

The feeling of loneliness is one of the factors that can affect the health conditions and, consequently, the care needs of elderly individuals. Loneliness is frequently observed in elderly individuals who require long-term care. When reviewing the literature, numerous studies highlight the impact of loneliness on the quality of life and health condition of the elderly (Trybusińska & Saracen, 2019; Korkmaz Hosoglu & Ummet, 2021; Cacioppo & Cacioppo, 2014; Rico-Uribe, Caballero & Olaya et al., 2016). Jansson emphasized the association between loneliness and dependency on others (Jansson, Muurinen & Savikko et al., 2017). This study observed that an increase in loneliness levels among the elderly was paralleled by an increase in care dependency.

Limitations: The study's limitations include its single-center design and the use of surveys, which may introduce selection bias. Moreover, the participants were administered the CDS only once and could not be prospectively followed.

Conclusion: An increase in loneliness levels can lead individuals to become more dependent on care, affecting their daily lives and placing a significant economic burden on healthcare providers and the country's economy. Early detection and management of

loneliness in the elderly are crucial for the well-being of individuals, families, and society, as well as for healthcare professionals and government health policies. In addition, it is recommended to conduct qualitative studies evaluating loneliness and care dependency in the elderly.

Funding: This study was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) within the scope of the 2209-A University Students Research Projects Support Program under project number 1919B012203820.

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