Araştırma Makalesi / Research Article

Covid-19: Pandemi Döneminde Yaşlı Bireylerde Yaşanan Yalnızlık Durumu ve Etkileyen Faktörler: Kesitsel Çalışma

Loneliness of Elderly and Affecting Factors During the Covid-19 Pandemic: A Cross-Sectional Study

Hülya KANKAYA[1] | Beyza YILDIRAK [2]

Emine KARAMAN[3*]

ÖZET

Covid-19 pandemisinin yaşamımıza getirdiği azalmış sosyal temas özellikle yüksek risk grubunda yer alan yaşlı bireyler için yalnızlık duygusuna neden olmuştur. Araştırma, Covid-19 pandemik salgın döneminde yaşlı bireylerin yalnızlık durumu ve etkileyen faktörleri incelemek amacıyla yapılmıştır. Tanımlayıcı ve kesitsel tipte olan araştırma 104 yaşlı birey ile yürütülmüştür. Veriler "Kişisel Bilgi Formu" ve "Yaşlılar için Yalnızlık Ölçeği" kullanılarak toplanmıştır. Çalışmaya katılan yaşlıların yalnızlık ölçeği toplam puan ortalaması; 9.47±6.04, "duygusal yalnızlık" alt boyut ortalaması; 5.96±3.82, "sosyal yalnızlık" alt boyut ortalaması; 3.49±2.78 olarak belirlenmiştir. Yaşlıların kendini yalnız hissetme ifadelerinin ölçek puan ortalamasını (p=0.000), sosyal etkinliklere katılma düzeylerinin sosyal yalnızlık alt boyutu puan ortalamalarını (p=0.038) istatistiksel olarak anlamlı düzeyde etkilediği saptanmıştır. Çalışmada, yaşlı bireylerin bu dönemde kendilerini daha yalnız hissettiklerini ifade ettikleri, ancak ölçek puan ortalamalarının orta düzeye yakın olduğu görülmüştür. Bu durumun toplumsal yapı olarak aile ilişkilerinin kuvvetli olmasından kaynaklandığı, bu durumun yaşlıların yalnızlık duygusunu azaltmada etkili olabileceği düşünülebilir.

Anahtar kelimeler: Covid-19, Yaşlı, Yalnızlık

ABSTRACT

The reduced social contact that the Covid-19 pandemic has brought to our lives has caused a feeling of loneliness, especially for elderly individuals in the high-risk group. The study was conducted to examine the loneliness of elderly and affecting factors during the Covid-19 pandemic. This cross-sectional and descriptive study was conducted 104 elderly in Türkiye. "Elderly Information Form" and "Loneliness Scale" were used as data collection tools. The total mean loneliness scale score of the elderly was 9.47±6.04. "Emotional loneliness" sub-dimension score was 5.96±3.82, "Social loneliness" sub-dimension score was 3.49±2.78. It was determined that the expressions of feeling lonely of the elderly affected the scale mean score (p=0.000) and their participation in social activities had a statistically significant effect on the social loneliness sub-dimension mean score (p=0.038). It was concluded that the mean score of the scale was the middle level. It can be speculated that this situation arises from the strong family relations as a social structure, and this may be effective in reducing the loneliness of the elderly.

Keywords: Covid-19, Elderly, Loneliness

*Sorumlu yazar: emine.karaman@ege.edu.tr (E. KARAMAN).

[1] Hülya KANKAYA, RN, PhD, Associate Professor, Ege University, Faculty of Nursing, İzmir, Türkiye iD

[2] Beyza KİRACIOĞLU YILDIRAK, RN, Etlik City Hospital, Ankara, Türkiye iD

[3] Emine KARAMAN, RN, PhD, Associate Professor, Ege University, Faculty of Nursing, İzmir, Türkiye iD

INTRODUCTION

The novel coronavirus (Covid-19), originating in Wuhan city of China's Hubei province in December 2019, spread and had a swift impact on the entire world rapidly. The outbreak has been termed as a pandemic by the World Health Organisation (WHO) (Ciotti et al., 2020; Esen et al., 2024). Covid-19 virus causes mild or moderate respiratory illness in individuals and recovers with symptomatic treatment. However, elderly individuals and individuals with chronic diseases (such as chronic respiratory disease and cardiovascular disease) are more likely to develop serious diseases (WHO, 2020). This disease is risky for all individuals, and elderly individuals with high risk of complications and death are among the important groups affected by the pandemic. Mortality rates due to COVID-19 in elderly individuals aged 65 years and older are 79.2% in the USA and 72% in Turkey (CDC, 2021; T.R. Ministry of Health, 2020; Stolz et al., 2021). During the pandemic process, measures such as the use of masks, hand hygiene practices, contact tracing, social distancing, social isolation, closure of social areas and lockdown restrictions have been taken to reduce the spread of the virus and control the pandemic (Cihan & Gökgöz Durmaz, 2021). These measures have been even more restrictive in our country, especially in order to protect the elderly, who are a risk group. In addition, notification have been given to elderly people to reduce their contact with family members and relatives (Gencer, 2020). Fear of transmission of the virus reduced interactions between people with social and individual measures taken. All these factors suggest that the feeling of loneliness will increase in the elderly as in all individuals. Because loneliness can also be affected by situations such as reduced social contact and insufficient social activities (Dahlberg, 2021; Heidinger & Richter, 2020).

Loneliness is a natural feeling that everyone can experience. Nevertheless, it is a condition that causes pain to the individual and negatively affects well-being (Akgül & Yeşilyaprak, 2018). Loneliness poses a high risk in elderly individuals and this risk has been attributed to reasons such as widowhood, living alone,

and mobility limitations. Before the pandemic, studies in Europe and the USA estimated that the rate of loneliness in the elderly was estimated to be between 5% and 43%, and this rate was determined to be high (Stolz et al., 2021; Leigh-Hunt et al., 2017; Wickens et al., 2021).

In addition to its mental effects, loneliness in the elderly may increase the risk of depression, dementia, cardiovascular disease, mortality and other diseases (Guner et al., 2021; Krendl & Perry, 2021). Loneliness in the elderly is important because of the risks it brings with it and its widespread prevalence. In addition, nowadays, developing technology and medical innovations have contributed to the increase in life expectancy and the increase in the elderly population in many countries (Tüzün Özdemir & Usta Yeşilbalkan, 2024). The elderly population in our country constitutes an important population with a rate of 9.5% (Turkish Statistical Institute, 2020). Therefore, with the changes brought about by the new type of coronavirus and the pandemic in our lives, the need to evaluate the loneliness status for the elderly, where the risk of loneliness increases even more, comes to the forefront. The study was conducted to examine the loneliness of elderly and the factors affecting it during the Covid-19 pandemic outbreak period.

The research questions were as follows:

-What is the level of loneliness of elderly during the Covid-19 pandemic outbreak period?

-What are the factors affecting loneliness of elderly during the Covid-19 pandemic outbreak period?

MATERIALS AND METHODS

Design

The study was cross-sectional and descriptive.

Study Population/Sample

The sample of the study consisted of elderly aged 65 years and over who used e-mail and electronic

communication tools of the Google Form link between November 2021 and January 2022, whose physical and cognitive health levels were suitable for answering the planned forms and who agreed to participate in the study. Elderly who were illiterate, who did not want to participate in the study and who did not fill out all the forms were excluded from the study. The study was conducted with a total of 104 elderly individuals.

Snowball sampling technique was used in sample selection, and all elderly individuals who complied with the inclusion criteria and could be reached between the determined dates, were included in the study without sample calculation.

Data collection

The data was collected by e-mail and electronic communication tools using Google Form questionnaire form between the determined dates. Before starting the questionnaire, the participants were asked to give consent to participate in the study. It was initiated after answering 'yes or no' to the question "I participate in this study completely voluntarily". "Elderly Information Form" and "Loneliness Scale for the Elderly" were used to collect data.

Data Collection Tools

Elderly Information Form: This form consisted of 19 questions including the participants' descriptive characteristics such as gender, age, employment status, marital status, educational status, chronic diseases, medication use, Covid-19 status and cohabitation. The form was prepared by the researchers (Stolz et al., 2021; Wickens et al., 2021; Guner et al., 2021).

Loneliness Scale for the Elderly: The scale, whose Turkish validity and reliability study was conducted by Akgül and Yeşilyaprak (2015), consists of 11 items and two sub-dimensions (Akgül & Yeşilyaprak, 2015). The scale includes six negative items measuring emotional

loneliness (2, 3, 5, 6, 9, 10) and five positive items measuring social loneliness (1, 4, 7, 8, 11). General loneliness score consists of the sum of emotional loneliness results and social loneliness score. The degree to which each statement in the scale is experienced by the respondents is determined by a Likert type rating (0=yes, 1=may be, 2=no). Five of the items (2, 3, 5, 6, 9, 10) are scored in the reverse direction. The lowest score is 0 and the highest score is 22. As the score increases, the level of loneliness increases. In the validity and reliability study, Cronbach's alpha internal consistency coefficients of the sub-dimensions of the scale have been found as 0.79 for emotional loneliness, 0.81 for social loneliness and 0.85 in total (Akgül & Yeşilyaprak, 2015). The Cronbach's alpha value of the scale was 0.83 for this study.

Statistical analysis

A statistical Package program was used in the statistical analysis of the data and number, percentage, mean and standard deviation values have been calculated. Scale total score and sub-dimension score means and independent variables were compared and the conformity of the data to normal distribution was evaluated. The effects of variables on the mean scale scores in the data that did not fit the normal distribution have been analysed with Kruskal-Wallis and Mann-Whitney U tests. The results have been evaluated at 95% confidence interval and significance level has been taken as $p < 0.05$.

Ethical considerations

The study compiled ethically with the declaration of Helsinki. In order to conduct the research, and ethical approval from a University Medical Research Ethics Committee (IRB No: 21-11.1T/32) and T.R. Implementation permission was received from the Ministry of Health, General Directorate of Health Services. A written informed consent was obtained from all study participants. The details disclosed

included the study purpose, confdentiality, participants' autonomy, voluntary participation and freedom to withdraw from participating at any time.

RESULTS

The mean age of the elderly was 66.95±7.69 years, 58.7% were female, 79.8% were married, 45.2% were primary school graduates, 80.8% lived with their families. Among the elderly participants, 65.4% stated that they were retired, 85.6% stated that they did not smoke, 96.2% stated that they did not drink alcohol, and 53.8% stated that they were diagnosed with covid-19. Other descriptive characteristics of the elderly were given in Table 1 and 2.

Table-1. Sociodemographic characteristics of the Elderly -1

Sociodemographic characteristics	n	%
Age (years) = 66.95±7.69 (min:65 – max: 79)		
Gender		
Female	61	58.7
Male	43	41.3
Marital status		
Married	83	79.8
Single	21	20.2
Education		
None	8	7.7
Primary school graduate-grade 1	47	45.2
Primary school graduate-grade 2	14	13.5
High school graduate	25	2.0
University graduate	10	9.6
Employment status		
Worker	8	7.7
Official	3	2.9
Unemployed	18	17.3
Retired	68	65.4
Self-employed	7	6.7
Economic status		
Little	25	24.0
Mild	53	51.0
More	26	25.0
Smoking		
Yes	15	14.4
No	89	85.6
Alcohol consumption		
Yes	4	3.8
No	100	96.2
Co-morbidities		
Yes	66	63.5
No	38	36.5
Regular medication		
Yes	61	58.7
No	43	41.3
Diagnosed with COVID-19		
Yes	56	53.8
No	48	46.2
Relatives' Diagnosed with COVID-19		
Yes	94	90.4
No	10	9.6
With whom does the patient live		
Spouse and children	80	80.8
Alone	20	19.2
Nursing home	-	-
Total	**104**	**100.0**

Table-2. Other characteristics of the Elderly -2

Characteristics	n	%
Level of Participation in Social Activities Before the Pandemic		
Meeting with friends three or more times a week and participating in a social activity	35	33.7
Meeting with friends usually once a week and participating in a social activity	29	27.8
Meeting with friends once or two times a month and participating in a social activity	11	10.6
	21	20.2
Meeting with friends sometimes and participating in a social activity	8	7.7
Usually not meeting with anyone		
The level of change on physical activity status during the Covid-19 pandemic		
Less active than before the epidemic	81	77.9
More active than before the epidemic	2	1.9
No change	21	20.2
The level of change on social activity during the Covid-19 pandemic		
Less active than before the epidemic	78	75.0
More active than before the epidemic	8	7.7
No change	18	17.3
Feeling alone during the Covid-19 pandemic		
Yes	45	43.3
No	34	32.7
Sometimes	25	24.0
Total	**104**	**100.0**

The mean total score of the Loneliness Scale of the elderly who participated in the study were determined as 9.47±6.04, the mean of "emotional loneliness" sub-dimension as 5.96±3.82, and the mean of "social loneliness" sub-dimension as 3.49±2.78 (Table 3).

Table-3. Loneliness Scale Score of Elderly

Scale Score	X ± SD*	Min - Max
Total Score	9.47±6.04	0-20
Sub-dimension Score		
Emotional loneliness	5.96±3.82	0-14
Social loneliness	3.49±2.78	0-9

*Standard Deviation

When the variables affecting the mean scores of the participants' Loneliness Scale were evaluated, it was determined that the expressions of feeling lonely affected both sub-dimensions of the scale (X^2=19.075, p=0.00; X^2=11.990, p=0.002) and total mean scores (X^2=16.568, p=0.000), and the level of participation in social activities affected the mean scores of the social loneliness sub-dimension (X^2=10.139, p=0.038) at a statistically significant level (Table 4).

Table-4. Factors affecting the Loneliness of Elderly

	Factors affecting	$X \pm SD^*$	X^2/Z	p
Loneliness Scale Score	Female	8.70±5.92		
	Male	10.55±6.10	Z=-1.499	p=0.134
	Married	9.86±6.15		
	Single	7.85±5.41	Z=-1.308	p=0.191
	None	11.00±7.30		
	Primary school graduate-grade 1	10.57±5.31		
	Primary school graduate-grade 2	10.69±6.34	X^2=9.131	p=0.058
	High school graduate	6.60±6.42		
	University graduate	8.70±5.47		
	Worker	10.00±7.94		
	Official	10.00±6.00		
	Unemployed	9.97±6.56	X^2=0.446	p=0.979
	Retired	9.43±5.71		
	Self-employed	8.28±7.13		
	Other chronic disease-Yes	9.96±5.90	Z=-1.168	p=0.243
	Other chronic disease-No	8i59±6.26		
	Living with spouse and children	9.36±5.26	X^2=0.003	p=0.959
	Living with alone	9.50±6.23		
	Living in nursing home	-		
	Meeting with friends three or more times a week	10.65±5.67	X^2=8.849	p=0.065
	Meeting with friends usually once a week	8.58±6.35		
	Meeting with friends once or two times a month	6.18±6.11		
	Meeting with friends sometimes	9.10±6.01		
	Usually not meeting with anyone	13.00±4.56		
	More physical active than before the epidemic	9.87±6.23	X^2=2.660	p=0.265
	Less physical active than before the epidemic	13.50±6.36		
	No change about physical activity	7.57±4.95		
	More social active than before the epidemic	10.00±6.13	X^2=3.181	p=0.204
	Less social active than before the epidemic	9.87±6.85		
	No change about social activity	7.05±4.90		
	Feeling alone during the Covid-19 pandemic-Yes	12.11±5.44	X^2=16.568	**p=0.000
	Feeling alone during the Covid-19 pandemic-No	6.29±5.90		
	Feeling alone during the Covid-19 pandemic-Sometimes	8.23±5.52		

*Standard Deviation, Z = Mann–Whitney U, X^2= Kruskal wallis test, **p< 0.05

DISCUSSION

Loneliness and social isolation is a problem and risk factor that can affect most of the elderly and cause low quality of life, physical and psychological problems and increase early mortality. In the United States, about one-quarter of older adults are socially isolated, and 43% reported feeling lonely (National Academics of Sciences, Engineering, and Medicine, 2020). With the Covid-19 pandemic, social distancing and isolation have negatively affected the elderly all over the world in order to prevent infection development, complications and reduce mortality (Wu, 2020).

Based on the results of this study, the mean loneliness scale score of the elderly was 9.47±6.04, which is close to the middle level. However, 43.3% of the elderly individuals stated that they felt lonely during the pandemic process. When the studies on the loneliness status of the elderly in the Covid-19 pandemic were examined; in the study of Dziedizc et al. (2021), it has been determined that 58.8% of the elderly experienced moderate and high levels of loneliness (Dziedizc et al., 2021). In the study of Kotwal et al. (2021), 54% of elderly individuals reported that they had a sense of loneliness (Kotwal et al., 2021). In the study of Donizzetti and Lagacé (2022), it was found that the loneliness score of the elderly was at a moderate level, which was similar to our study (Donizzetti & Lagacé, 2022). When we look at the studies conducted in our country, it was observed that the studies were mostly qualitative in nature and a significant proportion of the elderly stated that they experienced a sense of loneliness due to being isolated at home in this process (Stolz et al., 2021; İnce, 2020; Ercan & Arıcı, 2020; Kılıncel et al., 2020). In a quantitative study conducted in our country using the same scale, the total scale score average was found to be 9.57±4.6, similar to our study (Şahan et al., 2023).

With the pandemic, the inability of the elderly to leave the house, like other individuals, has led to inactivity, which has been a factor that increases the risk of developing diseases such as stroke and coronary heart disease (Kahraman et al., 2022; Hintistan & Cin, 2022; Sayin Kasar & Karaman, 2021). In our study, the majority of the elderly stated that they were less physically active than before the pandemic. Moreover, social isolation created a feeling of being pushed aside and increased the feeling of loneliness in the elderly. In order to get rid of this feeling, elderly individuals tried to interpret their experiences and make sense of the pandemic (Gencer, 2020). In our study, the majority of the elderly stated that they were less social compared to the pre-pandemic period.

In the study of Kapıkıran et al. (2022), it was observed that a significant proportion of elderly individuals with social support did not experience loneliness, while other elderly individuals stated that they experienced loneliness (Kapıkıran et al., 2022). Similarly, in other studies, it was determined that the most important determinant of the feeling of loneliness was social support, and the elderly with social support stated that they experienced less loneliness (İnce, 2020; Kılıncel et al., 2020; Kapıkıran et al., 2022; Hsu & Chao, 2022). In İnce's (2020) study, the elderly stated that the decrease in their social support not only increased the feeling of loneliness but also made their living conditions more difficult (İnce, 2020). In Ercan and Arıcı's (2020) study, it was determined that the elderly who were residing close to their children experienced less loneliness (Ercan and Arıcı's, 2020). In Hsu and Chao's (2022) study, it was determined that family support was a protective factor against loneliness (Hsu and Chao's, 2022). In our study, although there was no statistically significant difference, the elderly living alone reported that they were lonely compared to those living with their families.

The perception of loneliness, together with social isolation, may cause other psychological problems in elderly individuals. The level of happiness and life satisfaction may decrease in the elderly who feel loneliness. The feeling of social isolation and loneliness, which increased with the Covid-19 pandemic, increases the risk of stress, anxiety, sleep problems and depression, especially in elderly individuals (Wu, 2020; Hintistan & Cin, 2022). Studies have shown that there are significant correlations between the feeling of loneliness and depressive feelings in the elderly during the Covid-19 pandemic period, and anxiety and depressive feelings increase as loneliness increases (Dziedzic et al., 2021; Donizzetti & Lagacé, 2022; İnce, 2020; Kılıncel et al., 2020; Müller et al., 2021). However, in a study conducted in Australia, it was determined that elderly individuals experienced more loneliness during the pandemic, but the psychological effects of this short-term period were not much (Stolz et al., 2021). Although the psychological effects of loneliness were not examined in our study, it was found that the mean of the "emotional loneliness" sub-scale, which is one of the sub-scales of the loneliness scale, was higher than the mean of the "social

loneliness" sub-scale, and that elderly individuals felt more emotionally lonely. A similar difference was found in the study of Şahan et al. (2023).

In our study, it can be said that most of the independent variables did not statistically affect the loneliness score, only the expressions of feeling lonely were significantly affected and this result increased the reliability of the scale results.

CONCLUSIONS

During the Covid-19 pandemic, reducing social contact in order to reduce the risk of transmission has led to various physical and psychological effects on individuals. Elderly individuals, who are in the high risk group in terms of infection and its complications, are also an important group exposed to these effects. It is considered that the feeling of loneliness may be experienced more intensely in this group where more restrictions are applied. In the results of our study, it has been determined that elderly individuals expressed that they felt more lonely during this period, but their scale mean scores were close to the middle level. This situation may be considered to be due to the fact that family relations are strong as a social structure, and this situation may be effective in reducing the feeling of loneliness of the elderly.

Limitation of the Research

Elderly were reached online to reduce the risk of transmission due to the pandemic process. The number of samples was remained limited due to the restrictive use of online communication tools by elderly individuals. Snowball sampling was used in sample selection due to pandemic conditions and the fact that the research was conducted digitally. This method introduces some limitations in terms of sample representation. The sample size was a small group to draw more general conclusion.

REFERENCES

Akgül, H., & Yeşilyaprak, B. (2015). Adaption of loneliness scale for elderly into Turkish culture: Validity and reliability study. Elderly Issues Research Journal, 8(1), 34–45.

Akgül, H., & Yeşilyaprak, B. (2018). The effect of psychoeducation program for reducing loneliness on loneliness level of the elderly. OPUS International Journal of Society Researches, 8(14), 11–52.

Centers for Disease Control and Prevention (CDC). (2021). Provisional death counts for Coronavirus disease 2019 (COVID-19). Retrieved from https://www.cdc.gov/nchs/covid19/mortality-overview.htm

Cihan, F., & Gökgöz Durmaz, F. (2021). Evaluation of COVID-19 phobia and the feeling of loneliness in the geriatric age group. International Journal of Clinical Practice, 75(6), e14089.

Ciotti, M., Ciccozzi, M., Terrinoni, A., Jiang, W. C., Wang, C. B., & Bernardini, S. (2020). The COVID-19 pandemic. Critical Reviews in Clinical Laboratory Sciences, 57(6), 365–388. https://doi.org/10.1080/10408363.2020.1783198

Dahlberg, L. (2021). Loneliness during the COVID-19 pandemic. Aging & Mental Health, 25(7), 1161–1164.

Donizzetti, A. R., & Lagacé, M. (2022). COVID-19 and the elderly's mental illness: The role of risk perception, social isolation, loneliness, and ageism. International Journal of Environmental Research and Public Health, 19(8), 4513.

Dziedzic, B., Idzik, A., Kobos, E., Sienkiewicz, Z., Kryczka, T., & Fidecki, W. (2021). Loneliness and mental health among the elderly in Poland during the COVID-19 pandemic. BMC Public Health, 21(1), 1976.

Ercan, M., & Arıcı, A. (2020). Bio-psycho-social effects of COVID-19 pandemic process on elderly. Journal of ADEM, 1(3), 5–22.

Esen, H., İlçe, A., & Yiğit, Ü. (2024). Sağlık Çalışanları Arasında Kesici Delici Tıbbi Alet Yaralanmalarına Covid 19 Pandemisinin Etkisi. Sağlık Bakım Ve Rehabilitasyon Dergisi, 3(1), 1-11.

Gencer, N. (2020). Being elderly in COVID-19 process: Evaluations on curfew for 65-year-old and over citizens and spiritual social work. Turkish Journal of Social Work Research, 4(1), 35–42.

Guner, T. A., Erdogan, Z., & Demir, I. (2021). The effect of loneliness on death anxiety in the elderly during the COVID-19 pandemic. Omega (Westport). Advance online publication. https://doi.org/10.1177/00302228211010587

Heidinger, T., & Richter, L. (2020). The effect of COVID-19 on loneliness in the elderly: An empirical comparison of pre-and peri-pandemic loneliness in community-dwelling elderly. Frontiers in Psychology, 11, 585308.

Hintistan, S., & Cin, A. (2022). Being elder in COVID-19 pandemia. Ordu University Journal of Nursing Studies, 5(1), 114–124.

Hsu, H. C., & Chao, S. F. (2022). Loneliness, loneliness literacy, and change in loneliness during the COVID-19 pandemic among older adults: A cross-sectional study. BMC Geriatrics, 22(1), 707.

İnce, C. (2020). The older people as a socially vulnerable group in disasters: The case of COVID-19. Eurasian Journal of Researches in Social and Economics, 7(9), 184–198.

Kahraman, B., Uğur, T. D., Girgin, D., & Koçak, A. B. (2022). Being old during COVID-19 era: Problems experienced by individuals aged 65 and over during the pandemic process. Hacettepe University Journal of Faculty of Letters, 39(1), 124–143.

Kapıkıran, Ş., Kırmızı, F., & Işıtan, A. A. (2022). Qualitative study on the problems experienced by the elderly in the COVID-19 process. Western Anatolia Journal of Educational Sciences, 13(Special Issue 1), 1–20.

Kılıncel, O., Muratdağı, G., Aydın, A., Oksuz, A., Buyukdereli Atadag, Y., & Etcioglu, E. (2020). The anxiety and loneliness levels of geriatric population in-home quarantine during COVID-19 pandemic in Turkey. Turkish Journal of Clinical Psychiatry, 23(Supp 1), 7–14.

Kotwal, A. A., Holt-Lunstad, J., Newmark, R. L., Cenzer, I., Smith, A. K., & Covinsky, K. E. (2021). Social isolation and loneliness among San Francisco Bay Area older adults during the COVID-19 shelter-in-place orders. Journal of the American Geriatrics Society, 69(1), 20–29.

Krendl, A. C., & Perry, B. L. (2021). The impact of sheltering in place during the COVID-19 pandemic on older adults' social and mental well-being. Journal of Gerontology: Series B, 76(2), e53–e58.

Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., & Valtorta, N. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. Public Health, 152, 157–171.

Müller, F., Röhr, S., Reininghaus, U., & Riedel-Heller, S. G. (2021). Social isolation and loneliness during COVID-19 lockdown: Associations with depressive symptoms in the German old-age population. International Journal of Environmental Research and Public Health, 18(7), 3615.

National Academics of Sciences, Engineering, and Medicine. (2020). Social isolation and loneliness in older adults: Opportunities for the health care system. Washington, DC: The National Academies Press.

Sayin Kasar, K., & Karaman, E. (2021). Life in lockdown: Social isolation, loneliness, and quality of life in the elderly during the COVID-19 pandemic: A scoping review. Geriatric Nursing, 42(5), 1222–1229.

Stolz, E., Mayerl, H., & Freidl, W. (2021). The impact of COVID-19 restriction measures on loneliness among older adults in Austria. European Journal of Public Health, 31(1), 44–49.

Şahan, A. G., Açıkgöz, A., Yörük, S. & Güler, D. (2023). Loneliness of Elderly Individuals and Associated Factors During the Covid-19 Pandemic in Turkey. Balıkesir Health Sciences Journal, 12(3), 603-610. https://doi.org/10.53424/balikesirsbd.1109630

T.R. Ministry of Health. (2020). COVID-19 weekly situation report 12/10/2020–18/10/2020 Türkiye. Retrieved from https://covid19.saglik.gov.tr/Eklenti/39168/0/covid-19-haftalik-durum-raporu---42-haftapdf.pdf?_tag1=710A3D148C11F8852B0DDC1FB4EE49DAE667F46D

Turkish Statistical Institute. (2020). Elderly with statistics, 2020. Retrieved from https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2020-37227

Tüzün Özdemir, S., & Usta Yeşilbalkan, Ö. (2024). Adherence to Treatment in Geriatric Oncology Patients. Sağlık Bakım Ve Rehabilitasyon Dergisi, 3(3), 70-78.

Wickens, C. M., McDonald, A. J., Elton-Marshall, T., Wells, S., Nigatu, Y. T., & Jankowicz, D. (2021). Loneliness in the COVID-19 pandemic: Associations with age, gender, and their interaction. Journal of Psychiatric Research, 136, 103–108.

World Health Organization (WHO). (2020). Coronavirus disease (COVID-19). Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19

Wu, B. (2020). Social isolation and loneliness among older adults in the context of COVID-19: A global challenge. Global Health Research and Policy, 5, 27.