

## LONELINESS AND PERCEIVED STRESS LEVELS OF HYPERTENSION PATIENTS İN COVID-19 PANDEMIA PROCESS

**Dr. Öğr. Üye. Ebru ÖZTÜRK ÇOPUR**

Kilis 7 Aralık University, Yusuf ğerefođlu Faculty of Health Sciences, Department of Nursing,  
ebruozturkcopur@kilis.edu.tr, Kilis/Turkey, 0000-0003-1843-3499

**Dr. Öğr. Üye. Fatma KARASU**

Kilis 7 Aralık University, Yusuf ğerefođlu Faculty of Health Sciences, Department of Nursing,  
fatmakarasu@kilis.edu.tr, Kilis/Turkey, 0000-0002-7347-0981

**Arş. Gör. Rabia ARPACI**

Kilis 7 Aralık University, Yusuf ğerefođlu Faculty of Health Sciences, Department of Nursing,  
rabiaarpaci118@gmail.com, Kilis/Turkey, 0000-0001-8441-6852

### Abstract

Were are experiencing the effects of Covid-19 pandemic as the whole world. Most people who have chronic illness especially hypertension patients are affected by Covid-19 outbreak. This study aimed to assess the perceived stress and loneliness levels of hypertensive patients during Covid-19 outbreak. This descriptive study was conducted on 135 hypertension people using the web-based online survey. Data were collected using the Socio-demographic Question Form, the UCLA-Loneliness Scale and the Perceived Stress Scale. 82.2% of the hypertensive patients included in the study feared because of Covid-19. 77.0% had a negative impact on their mental health due to the epidemic, 8.1% had a Covid-19 test for themselves or their relatives, 34.8% need psychological support was determined during the epidemic. A positive and very high correlation was found between UCLA-Loneliness and Perceived Stress. It was found that hypertension patients had high levels of stress and loneliness due to the Covid-19 outbreak. It was determined that as loneliness increases during the pandemic process stress increases and when loneliness affects stress to a high extent.

**Keywords:** Hypertension, Covid-19, Perceived Stress, Loneliness.

## COVID-19 PANDEMİ SÜRECİNDE HİPERTANSİYON HASTALARININ YALNIZLIK VE ALGILANAN STRES DÜZEYLERİ

### Öz

Dünya olark Covid-19 pandemisinin etkilerini yaşamaktayız. Özellikle hipertansiyon hastaları olmak üzere kronik hastalığı olan çođu kişi Covid-19 salgımından etkilenmektedir. Bu çalışma, Covid-19 salgımı sırasında hipertansiyon hastaların algılanan stres ve yalnızlık düzeylerini deđerlendirmeyi amaçladı. Bu tanımlayıcı çalışma, web tabanlı çevrimiçi anket kullanılarak 135 hipertansiyon hastası üzerinde gerçekleştirildi. Veriler Sosyodemografik Soru Formu, UCLA-Yalnızlık Ölçeđi ve Algılanan Stres Ölçeđi kullanılarak toplanmıştır. Çalışmaya dahil edilen hipertansiyon hastaların %82,2'si Covid-19 nedeniyle korktuđu, %77,0'ı salgın nedeniyle ruh sağlığı olumsuz etkilendiđi, %8,1'inin kendisi veya yakınları için Covid-19 testi yaptırdığı, %34,8'inin salgın sırasında psikolojik desteđe ihtiyaç duyduđu belirlendi. UCLA-Yalnızlık ile Algılanan Stres arasında pozitif yönde çok yüksek bir ilişki bulundu. Bu çalışmada, hipertansiyon hastalarının Covid-19 salgımı nedeniyle yüksek düzeyde stres ve yalnızlık yaşadıkları bulundu. Pandemi sürecinde yalnızlık arttıkça stresin arttığı ve yalnızlığın stresi yüksek oranda etkilediđi belirlenmiştir.

**Anahtar Kelimeler:** Hipertansiyon, Covid-19, Algılanan Stres, Yalnızlık.

## 1. INTRODUCTION

Covid-19 disease known as severe acute respiratory syndrome emerged firstly in China in the last month of year 2019 and has become pandemic in a short time (1). Covid-19 that causes health problems such as acute respiratory syndrome (ARDS), arrhythmia, shock, acute kidney damage, acute heart damage, liver dysfunction has spread rapidly and has greatly affected the lives of societies and the world. Covid-19 disease is an infection that has high mortality and is rapidly transmitted from person to person by droplet and contact (2). Its clinical and epidemiological features are published regularly. In addition to these, some specific diseases increase risk of infection and lung damage. These specific diseases are hypertension (%30), diabetes (%19) and coronary heart disease (%8) (3). Studies have shown that the disease progresses more rapidly in people over the age of 65 and increases the risk of infection and death in the elderly population with chronic disease such as hypertension (4). In a study, it was reported the most common secondary disease in patients with Covid-19 who developed ARDS are hypertension (27%), diabetes (19%) and cardiovascular diseases (6%) (5). Around 7.1 million individuals die early due to hypertension worldwide, and the addition of the Covid-19 outbreak, suggests that this number will gradually increase. Hypertension disease is also significant a public health problem in our country considering its global prevalence (6). It is unclear whether controlled or uncontrolled blood pressure in people with hypertension is a risk factor for the individual to get Covid-19 disease. However, in order to the decrease disease burden control of blood pressure has been emphasized the being an important point (7). Stress, a phenomenon parallel to human existence is always experienced as an integral part of life. As a matter of fact, epidemics, natural disasters, war and traumatic events as well as discussions and daily life events cause people to be exposed to constant stress. Events that are perceived as threatening to exist cause some destructive reactions by mental interpretation and evaluation of these events (8). These reactions appear psychological problems such as afraid, concern, withdrawing, loneliness. Also, Covid-19 outbreak can be a stressful event for most of the people. The outbreaks terms in the people can experience sleeping, eating and focusing problems, increase using to cigarette and alcohol, fear that chronic illnesses may get worse and may be concerned about their own health or health of a loved one. The feeling of loneliness is a disturbing situation that takes individuals away from their social environment and they have to endure (9). During Covid-19 process, individuals face loneliness due to their lack of emotional and social expectations. Considering the prevalence of hypertension disease in our country and the current situation and rate of spread of Covid-19 disease, which cannot be stopped, this disease threatens humanity as a clinical, economic and social burden. The aim of this study is to investigate the possible existence of a psychological interaction between Covid-19 and hypertension disease by measuring the stress and loneliness levels perceived by hypertension patients during the Covid-19 outbreak.

### *Research Questions*

1. What are the loneliness and stress levels of hypertension patients?
2. Is there a difference between the sociodemographic characteristics of hypertension patients and their loneliness and stress levels?
3. Is there a relationship between loneliness and stress levels of hypertension patients?

## 2. METHODS

### 2.1 Purpose and Type of the Research

This study was planned descriptively to determine the perceived stress and loneliness levels of hypertensive patients.

### 2.2 Research Design and Data Collection

A number of measures have been taken during epidemic periods to minimize interaction and reduce the risk of transmission. One of the measures has been social isolation to reduce interpersonal interaction. For this reason, a digital questionnaire was created by the researchers to include the participants in the study, and the study was carried out using an online database. In the study, has been focused the hypertension patients. Random sampling method, one of the sampling methods that is not based on probabilities, was used in the study. The digital questionnaire created was shared on social media platforms (such as Whatsapp, Instagram, Twitter) and respondents were asked to share it with other people. The sample of the study consisted of individuals who have hypertension and are willing to participate in the study. The study was conducted with 135 participants who accepted to participate in the study between 18.05.2020 (time: 09:00)- 31.05.2020 (time: 24:00).

*Inclusion criteria;*

- Having hypertension,
- Being over the age of 18,
- Not having a cognitive or mental problem that would prevent them from understanding and answering the research questions,
- Having a smart phone and being able to use any of the social media networks,
- Volunteering to participate in research.

*Exclusion Criteria*

- Having a chronic disease other than hypertension,
- Filling the survey form incompletely,
- Not being able to read and understand Turkish.

### 2.3 Data Collection

As data collection tools, the researchers utilized a "Socio-demographic Question Form, the UCLA-Loneliness Scale" and the "Perceived Stress Scale". The average time spent on completing the data collection forms was five minutes

*Socio-demographic Question Form:* In the socio-demographic question form, there are 22 questions in total such as age, gender, educational status, marital status, income, perception of health, duration of having hypertension, presence of any other chronic or mental illness, fear due to coronavirus, with whom he lives at home and how he spends his time (1,10-12).

*Perceived Stress Scale:* Perceived stress scale (1983) was developed by Cohen, Kamarck and Mermelstein (13). It has three different forms consisting of 14 items, 10 items and 4 items. In this research have been used 10 items form. The perceived stress scale is designed to measure how stressful certain situations in a person's life are perceived. Participants evaluate each item on a 5-point Likert-type scale ranging from "Never (0)" to "Very often (4)". The lowest score that can be obtained from the scale is 0, the highest score is 40. The increased score shows the higher the stress perception (14). In this research, Perceived Stress Scale is evaluated as Cronbach's alpha reliability coefficient 0.77.

*UCLA-Loneliness Scale:* UCLA-Loneliness scale was developed in 1978 by Russell and et al. The scale was later revised by Russell in 1996 (15). Russell reported that the third version of the UCLA Loneliness Scale was quite reliable after revision studies. The Turkish validity and reliability of the UCLA Loneliness Scale 3rd version was made by Durak and Durak (16). In this research was used 3rd version of UCLA Loneliness Scale. The third version of the UCLA Loneliness Scale is consists of being a total of 10 items 4-point Likert-type scale five positive questions (2., 3., 7., 9. and 10.

items) and five negative questions (1., 4., 5., 6. and 8. items). While scoring the items containing positive statements of the scale, they are calculated as "I never live = 4 points", "I rarely live = 3 points", "Sometimes I live = 2 points" and "I live often = 1 point". Reverse scoring is made for items that contain negative expressions of the scale. The lowest score that can be obtained from the scale is 10, the highest score is 40. It is accepted that the feeling of loneliness increases as the total score obtained from the scale increases. Russell determined the Cronbach alpha reliability coefficient of the third version of the UCLA-Loneliness Scale as 0.89 (17). In this research the third version of UCLA-Loneliness scale is evaluated as Cronbach's alpha reliability coefficient 0.80.

## 2.4 Ethical consideration

Before the onset of the study, ethics committee approval and necessary permission were obtained from the institution where the study was conducted (2020/10). At the beginning of the questionnaire sent to the participants, there is information about the purpose and content of the study and that participation in the study is voluntary. The identity information of the participants was not recorded in the questionnaire. The study was administered in accordance with the principles of the Helsinki Declaration.

## 2.5 Data analysis

Statistical analysis was performed on SPSS for Windows 21.0 software. The descriptive values of the data obtained were expressed as mean, standard deviation, number, and percentage frequencies. In the statistical analysis, the conformity of the data to the normal distribution was evaluated with the Shapiro-Wilk and Kolmogorov Smirnov tests. It was determined that the data showed normal distribution. ANOVA and t-test were used to compare independent variables. Regression analysis and pearson correlation was used to examine the relationship between loneliness and stress. Internal consistency Cronbach's alpha coefficient was calculated.

## 3. RESULTS

The mean age of hypertensive patients included in this study was  $53.31 \pm 13.37$ . 39.3% of hypertension patients were between the ages of 61-73, 51.1% were male, 39.3% were primary school graduates, 77.8% were married, 60.7% were equal to their income, 17.0% continued to work during the epidemic, 11.1% lived alone at home, 57.8% expressed their health status as moderate was determined. A statistically significant difference was found between the mean scores of the patients with hypertension in terms of age, gender, marital status, income and who lives with at home and the UCLA-Loneliness and Perceived Stress Scale ( $p < 0.05$ ) (Table 1).

**Table 1. Comparison of the socio-demographic characteristics of hypertensive patients with the UCLA-Loneliness and Perceived Stress Scale mean scores (n = 135).**

	UCLA-Loneliness Scale			Perceived Stress Scale	
	n (%)	$\bar{x} \pm SD$	Importance	$\bar{x} \pm SD$	Importance
<b>Age</b>					
28-40 age range	21 (15.6)	23.90±6.21		21.19±3.74	
41-50 age range	28 (20.7)	24.00±5.10	F=3.911*	23.24±5.86	F=6.414
51-60 age range	33 (24.4)	24.46±4.50	<b>p=0.010</b>	23.92±6.17	<b>p=0.001</b>
61-73 age range	53 (39.3)	27.24±4.91		26.75±5.19	
<b>Gender</b>					
Female	66 (48.9)	23.95±5.41	t=-3.031**	22.68±5.35	t=-3.664
Male	69 (51.1)	26.68±5.03	<b>p=0.003</b>	26.13±5.57	<b>p=0.001</b>
<b>Education Status</b>					
Literate	29 (21.5)	23.75±6.60		24.13±5.72	
Primary school graduate	53 (39.3)	26.58±4.44	F=2.650	24.94±6.16	F=2.082
High school graduate	20 (14.8)	26.95±4.49	<b>p=0.036</b>	26.55±4.83	<b>p=0.087</b>

Undergraduate	27 (20.0)	24.00±4.67		23.22±5.08	
Postgraduate	6 (4.4)	22.83±7.96		20.00±4.51	
<b>Marital Status</b>					
Married	105 (77.8)	24.79±5.45	t=-2.287	22.16±5.23	t=-3.756
Single	30 (22.2)	27.30±4.72	<b>p=0.024</b>	25.43±5.58	<b>p=0.001</b>
<b>Income Status</b>					
Less than income	47 (34.8)	26.25±5.07	F=8.453	25.10±4.90	F=5.307
Income is equal to expenses	82 (60.7)	25.42±5.18	<b>p=0.001</b>	24.58±5.99	<b>p=0.006</b>
More than income	6 (4.4)	17.16±4.02		17.33±2.50	
<b>Continue Work Status</b>					
I am not working	86 (63.7)	25.45±5.44		24.80±5.65	
Yes, I continue	23 (17.0)	24.26±4.61	F=1.167	24.04±5.39	F=0.686
No, I am currently not continuing due to COVID-19	18 (13.3)	27.22±5.70	p=0.328	24.22±6.10	p=0.603
I go to work but I am flexible	3 (2.2)	24.00±5.19		25.00±8.66	
I work from home	5 (3.7)	22.60±6.22		20.60±5.89	
<b>Who lives at home with</b>					
Alone	15 (11.1)	30.46±2.72	F=15.806	29.40±2.66	F=17.730
Only with his wife	37 (27.4)	27.10±4.29	<b>p=0.001</b>	26.91±4.91	<b>p=0.001</b>
With his family (wife, children)	83 (61.5)	23.63±5.37		22.44±5.49	
<b>How evaluate health</b>					
Good	38 (28.1)	24.15±5.21	F=6.147	23.85±5.80	F=2.117
Middle	78 (57.8)	25.01±5.20	<b>p=0.003</b>	24.44±5.23	p=0.124
Bad	19 (14.1)	29.10±5.04		26.84±5.90	
<b>Total</b>	<b>135 (100.0)</b>	<b>25.34±5.38</b>		<b>24.44±5.71</b>	

\* ANOVA test \*\* Independent groups t test, p <0.05.

82.2% of the hypertensive patients included in the study feared because of COVID-19. 77.0% had a negative impact on their mental health due to the epidemic, 8.1% had a COVID-19 test for themselves or their relatives, and 8.1% had a positive test result, 93.3% took into consideration the warnings made due to the COVID-19 outbreak, 18.5% of them there are healthcare workers at home, 34.8% need psychological support was determined during the epidemic. Patients are afraid of COVID-19, the epidemic affects their mental health, the test result is positive for themselves or their relatives, the test result is positive, pay attention the warnings given due to the COVID-19 epidemic, being a healthcare worker at home, needing psychological support during the epidemic with a statistically significant difference was found between the UCLA-Loneliness and Perceived Stress Scale mean scores (Table 2).

**Table 2. Comparison of hypertension patients' affected by COVID-19 and UCLA-Loneliness and Perceived Stress Scale mean scores (n = 135)**

	UCLA-Loneliness Scale			Perceived Stress Scale	
	n (%)	$\bar{X} \pm SD$	Importance	$\bar{X} \pm SD$	Importance
<b>Fear situation due to COVID-19</b>					
Yes	111 (82.2)	26.48±4.83	t=5.917**	25.30±5.65	t=3.971
No	24 (17.8)	20.08±4.68	<b>p=0.001</b>	20.45±4.12	<b>p=0.001</b>
<b>Mental health impact caused by COVID-19</b>					
Yes, positive	4 (3.0)	26.00±10.09	F=19.954***	18.75±8.05	F=24.347
No, negative	104 (77.0)	26.66±4.71	<b>p=0.001</b>	26.05±5.18	<b>p=0.001</b>
Never impressed	27 (20.0)	20.18±3.87		19.07±2.99	
<b>Covid-19 test status for a relative or oneself</b>					
Yes	11 (8.1)	25.33±4.66	t=4.543	25.22±4.51	t=3.769
No	124 (91.9)	21.13±4.42	<b>p=0.001</b>	22.33±5.01	<b>p=0.001</b>
<b>Covid-19 test positive status for a relative or oneself</b>					
Yes	11 (8.1)	28.18±3.37	t=2.733	28.00±4.38	t=2.183
No	124 (91.9)	24.09±5.46	<b>p=0.007</b>	24.12±5.72	<b>p=0.031</b>

The status to heed the warnings due to the COVID-19 outbreak					
I take some notice	9 (6.7)	21.00±3.27	t=2.560	24.77±5.75	t=2.589
I take too much into consideration	126 (93.3)	25.65±5.37	<b>p=0.012</b>	19.77±1.85	<b>p=0.011</b>
Presence of a health worker at home					
Yes	25 (18.5)	26.25±4.94	t=4.373	25.37±5.47	t=4.198
No	110 (81.5)	21.36±5.07	<b>p=0.001</b>	20.36±4.98	<b>p=0.001</b>
Needing psychological support during this process					
Yes	47 (34.8)	28.40±3.81	t=5.283	27.31±4.62	t=4.579
No	88 (65.2)	23.71±5.40	<b>p=0.001</b>	22.90±5.66	<b>p=0.001</b>
<b>Total</b>	<b>135 (100.0)</b>	<b>25.34±5.38</b>		<b>24.44±5.71</b>	

\* Only those with positive test results were taken. \*\* Independent groups t test \*\*\* ANOVA test, p <0.05.

A positive and very high correlation was found between "UCLA-Loneliness" and "Perceived Stress" ( $r = 0.826$ ,  $p = 0.001$ ) (Table 3). In other words, as loneliness increases, so does stress.

**Table 3. Correlation Distribution of Scores of UCLA-Loneliness and Perceived Stress Scale**

		UCLA-Loneliness Scale	Perceived Stress Scale
<b>UCLA-Loneliness Scale</b>			
	r	0.826	
<b>Perceived Stress Scale</b>	p	<b>0.001</b>	
	N	135	

\* Pearson Correlation test, p <0.05.

As a result of simple linear regression analysis, a significant relationship was found between UCLA-Loneliness and Perceived Stress Scale ( $R = 0.826$ ;  $p < 0.01$ ). According to the regression analysis, it was found that loneliness affects stress by 68.2% (Table 4).

**Table 4. Simple linear regression analysis between UCLA-Loneliness and Perceived Stress Scale**

Variable	B	Standart Error	Beta	t	p
Constant	6.330	1.156		5.476	<b>0.000</b>
Perceived Stress Scale	0.778	0.046	0.826	16.894	<b>0.000</b>

\*  $p < 0.01$  (Regression test).

#### 4. DISCUSSION

The Covid-19 outbreak affects the world significantly and is an important international public health emergency. There is still a lack of knowledge in the way of transmission, epidemiology, research tools and management. Risk factors for poor prognosis include chronic diseases such as hypertension, diabetes, asthma, as well as smoking history, bacterial co-infection, and the age group over 60 (18). Studies have shown that the disease progresses more rapidly in elderly people, and it can cause death in a shorter time in individuals aged 65 and over (19). Covid-19, one of the global epidemics, is a situation that threatens the lives and existence of individuals and causes trauma. Many reasons such as the fear of getting sick, the fear of spreading the disease itself or infecting someone else, uncertainty, quarantine measures, loss of freedom, the course of the disease can cause stress, anxiety, hopelessness, mood disorders, panic disorders in individuals. The Covid-19 outbreak can increase the stress state and sense of loneliness in individuals with hypertension.

In this study, it was observed that perceived stress and loneliness increased as the age got older in hypertensive patients (Table 1). In a study conducted, it was found that perceived stress, depression and anxiety in young people during the Covid-19 epidemic were higher than elderly individuals (11), on the contrary, in another study, it was found that loneliness was higher in elderly

individuals (20). It can be thought that the reasons such as the elderly people's struggle with chronic diseases such as hypertension and diabetes, weak support systems, decreased mental functions, weak immune systems, worrying about their health, fear of death increase stress and loneliness.

It was found that the perceived stress and loneliness scores of male hypertensive patients were higher than female hypertensive patients (Table 1). In a study conducted with Covid-19 positive cases, it was stated that the majority of the cases consisted of male individuals (20). In a study conducted in Zhejiang province of China, data on SARS-COV-2 infection was collected from 62 patients and it was observed that 58% of the patients were male (21). It has also been reported that men are exposed to more infections in MERS-COV and SARS-COV outbreaks (22,23). The reason for the decrease in the sensitivity of women to infection; It may originate from the innate X chromosome and sex hormones that play an important role in immunity (24). Contrary to these findings, a study conducted in Turkish society during the Covid-19 outbreak found a linear relationship between being a woman and anxiety, depression, and health anxiety (12). Another study found that women experienced more stress (25).

In the study, the stress and loneliness scores perceived by married hypertensive patients were found to be higher than that of singles (Table 1). In a study carried out during the Covid-19 outbreak, it was stated that singles experienced more depression and anxiety (26). In similar studies, it has been stated that married people experience more stress and psychological distress (27). These findings show that different results have been revealed in the studies. For those who are married to experience more stress; inability to fulfill his responsibilities to his family adequately, leaving his job, going on unpaid leave, increasing economic anxiety, exposure to infection and fear of contagion if he has to go to work can be thought to be effective.

In this study, it was found that there is a significant relationship between the income level of hypertensive patients and their perceived stress and loneliness scores, and that the scores of hypertensive patients whose income is equal to expenditure are higher than those whose income is more than expenses (Table 1). In a study conducted during the SARS epidemic, it was found that the level of income was associated with the level of depression and those with low income levels had high depression scores (28). During the epidemic, it can be thought that the reasons such as the closure of the workplaces, the inability of the employees to continue their jobs, the inability to get their salaries for a while, the decrease in their income and the increase in the expenses, the recession of the economy may increase depression and stress.

In the study, it was found that there was a significant relationship between who lived with hypertension at home due to the Covid-19 epidemic, the perceived stress and loneliness scores, and the scores of those living at home with their family were high (Table 1). The closure of schools and day care centers during the epidemic has caused families to be more interested in their children and increased time spent together. It is thought that excessive emotional and physical care given by families to their children in this process may lead to an increase in stress levels. In addition, elderly individuals preferred to stay away from other family members in order to reduce the risk of infection and remained under home quarantine for a long time. It can be said that the isolated environment increases the loneliness of elderly individuals. Similarly, the possibility of family members who need to work during the epidemic to bring the disease home from outside and the risk of infecting other individuals at home can be considered to increase stress.

In the study, it was found that hypertension patients had high scores of fear and perceived stress and loneliness due to the Covid-19 outbreak (Table 2). In the study conducted by Broche-Pérez et al. was stated that female participants had a high level of fear of getting Covid-19 disease (29). In a similar study conducted; It has been stated that patients with Covid-19 disease or individuals who suspect that they are infected experience intense emotional reactions such as fear and loneliness (10). It should not be overlooked that the epidemic process can increase the level of fear, anxiety and stress

in healthy individuals and may also exacerbate the symptoms of those with previous psychiatric disorders.

In the study, it was found that there was a significant relationship between the mental health status of hypertensive patients and their perceived stress and loneliness scores due to Covid-19, and their mental health was negatively affected (Table 2). In a study by Santini et al., (2020) it was found that low social interaction makes elderly people more prone to anxiety and depression (30). In another study, it was stated that there was a relationship between loneliness and mental health problems in the Covid-19 epidemic (31). Similarly, individuals quarantine themselves is caused frustration and boredom (32). During the epidemic process in our country, elderly individuals isolated themselves in their homes for a long time to be protected from the epidemic. The main reasons why elderly people are more at risk in this process are; They have chronic disease burden such as hypertension and diabetes, and their immune system is weak. The uncertainty of the process of the epidemic, quarantine, social distance and social isolation can cause negative effects on mental health. Especially increased loneliness and decreased social interaction are thought to emerge as a known risk factor in many mental health problems.

In this study, it was found that the perceived stress and loneliness scores were high in hypertension patients with the condition that the Covid-19 test was performed on themselves or their relatives and the test result was positive (Table 2). Testing for hypertensive patients and their relatives and a positive test result can be thought to increase the levels of stress and loneliness, fear of being infected or infecting someone else, fear of losing their life, thinking of being separated from their loved ones or losing them.

In this study, considering the warnings of hypertension patients due to Covid-19 with their perceived stress and loneliness between was determined positive relationship (Table 2). The course of the Covid-19 epidemic, which affects the world, the number of cases approved by the Ministry of Health in our country are shared daily through social media or news published on national channels. Up-to-date information about how the virus was transmitted in the Covid-19 outbreak and how we should protect against infection as a society is shared through some programs published by health authorities. It can be thought that individuals with hypertension disease to follow such channels and learn many new information about the virus from these channels increase their stress levels, anxiety and loneliness. In addition, the fact that individuals have chronic diseases such as hypertension and advanced age may cause them to act more cautiously against the infection risk created by the virus. In addition, it can be thought that this condition causes individuals with hypertension to experience more stress and feel lonely compared to individuals without other chronic diseases.

In the study, it was found that hypertension patients had high perceived stress and loneliness scores due to being a healthcare worker at home (Table 2). Since health professionals are actively working in the hospital during the pandemic process, although they do not have an infection, some people in the society show many stigmatizing behaviors such as not communicating with them and not being in the same environment, causing stress. The fear of healthcare professionals who provide primary care to Covid-19 patients, the fear of infecting them or transmitting the virus to their own families, and being in the risk group at the point of transmission can be considered to increase the loneliness and stress levels of individuals with chronic diseases such as hypertension (33).

In this study, the relationship between hypertension patients' need for psychological support during the epidemic process due to Covid-19 and perceived stress and loneliness was evaluated, and it was determined that hypertension patients did not need psychological support (Table 2). Thanks to the widespread use of the Internet and smartphones today, individuals choose to receive online support for mental health in the Covid-19 process. In addition, reasons such as the fact that our society lives in a large family and attaches importance to familial ties may make us think that hypertension patients need less psychological support during this epidemic process.



In the study, it was found that stress increases as loneliness increases as a result of the correlation test (Table 3), and according to the regression analysis, loneliness affects stress at a high rate (Table 4). In a systematic review examining the physiological responses to loneliness and acute stress, a positive relationship between loneliness and acute stress responses was reported (34). Loneliness is a negative phenomenon often associated with advanced age. Although loneliness is not an old age-specific experience, loneliness is common among older people. Factors such as limited mobility, loss of social support, increased likelihood of depression, loss of partner increase the loneliness of older adults. It is a phenomenon that needs attention in adult individuals as it is associated with important health problems such as loneliness, hypertension, mortality, and cognitive decline (35).

#### **4.1 Limitations of the Research**

The use of measurement tools with validity and reliability in this study is among the strengths of the research. Although the research has strengths, there are limitations of the study such as the online survey application, those who can use a computer or mobile phone, or those who have the social media tools specified in the study, can participate in the study, and those who are out of these cannot participate in the study. In addition, another limitation is that only hypertension patients with online access could participate in the study, which may increase the probability of individuals with similar views to participate in the study.

#### **5. CONCLUSION**

In this study, it was found that hypertension patients had high levels of stress and loneliness due to the Covid-19 outbreak; It was found that perceived stress and loneliness increased with increasing age. In the study, it was found that hypertension patients had high perceived stress and loneliness scores due to being a healthcare worker at home. In addition, it was determined that as loneliness increases during the pandemic process stress increases and when loneliness affects stress to a high extent.

The Covid-19 outbreak has drastically changed our lifestyle. The epidemic has placed a huge burden on our healthcare system, forcing millions of people to stay at home. As never before, the mental health of people should be supported as possible. Isolation, loneliness, fear of getting sick for individuals; these are particularly difficult situations for elderly people with chronic diseases. Although the COVID-19 pandemic is an important public health problem, there is no definite treatment yet. Individuals with hypertension are considered in the risk group for the disease. Public health nurses working with this group are expected to take responsibility for prevention, early diagnosis and post-treatment process, and to be spokespersons for the individual, family and society. Primary care nurses should take initiatives to raise awareness regarding the management of the COVID-19 pandemic for individuals with hypertension at home. All attempts in this direction are practices that will increase the quality of life of individuals. In addition, it may be suggested that public health nursing for the COVID-19 pandemic should carry out new evidence-based research in areas where it assumes duties, powers and responsibilities.

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#### **Conflict of interests**

The authors and/or family members declared no conflict of interest regarding this study.

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