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Original Article

The Effect of Anxiety and Fear Experienced in Individuals with Chronic Diseases on Self-Care Management during the COVID-19 Pandemic

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ABSTRACT

Objective: Individuals with chronic diseases are at the forefront of groups that are most affected psychologically by the coronavirus disease 2019 pandemic. Psychological changes which are experienced in this process may affect the self-care management of patients with chronic diseases in the risk group. This study aimed to determine the effect of anxiety and fear experienced in individuals with chronic diseases on self-care management during the coronavirus disease 2019 pandemic.

Methods: The research is a descriptive cross-sectional study that was conducted at a public hospital between between April and June 2021. Data were obtained from 150 outpatients with chronic diseases using the Patient Information Form, Self-Care Management Process in Chronic Illness Scale, Fear of Coronavirus Disease 2019 Scale, and Coronavirus Anxiety Scale.

Results: A positive, weak, and moderately strong and significant correlation between the total score of the Self-Care Management Process in Chronic Illness Scale, self-protection and social protection sub-dimension scores, and Fear of Coronavirus Disease 2019 Scale ($r = 0.286$, $P < .001$; $r = 0.512$, $P < .001$; $r = 0.423$, $P =< .001$, respectively) was noted. A very weak and significant relationship was found between Coronavirus Anxiety Scale and social protection sub-dimension scores ($r = 0.176$, $P = .031$). Also, it was found the Fear of Coronavirus Disease 2019 Scale score affected the Self-Care Management Process in Chronic Illness Scale total score and sub-dimension scores.

Conclusion: The findings reveal that the self-care management of patients with chronic diseases was above the moderate score, their fear levels were close to medium, and their anxiety levels were low. Moreover, a medium level of fear positively affected the self-care management of those patients.

Keywords: COVID-19, chronic disease, anxiety, fear, self-care

Introduction

Epidemiological data and studies have stated that there is a strong relationship between chronic diseases and coronavirus disease 2019 (COVID-19) disease severity and prognosis and that the disease is more common and has a more severe course in the elderly and individuals with chronic diseases.[1,2] Approximately 89.3% of patients hospitalized for COVID-19 have been reported to have at least 1 chronic disease, and this rate increases to 94% in patients aged ≥65 years and older.[3] Also, many studies have determined that patients with COVID-19 have diabetes and cardiovascular disease, most commonly hypertension.[4,5] In addition to causing hospitalizations and deaths, the COVID-19 pandemic can lead to the health problems such as depressive symptoms, insomnia, denial, anger, stress, anxiety, and fear globally due to its high contagiousness and mortality rates.[6-8] Studies showed that by late April and May 2020, mental health in the United Kingdom and the United States had deteriorated compared with pre-COVID-19 trends.[9,10]

Individuals with chronic diseases are at the forefront of groups that are most affected psychologically by the COVID-19 pandemic.[8,11] The symptoms of anxiety and depression can have profound effects on the control of chronic diseases, quality of life of patients, and their general health.[12] Also, self-care can be affected by psychosocial factors such as depression, stressors, life events, anxiety, and social support.[13] Therefore, it is of great

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importance that individuals with chronic diseases adapt to lifestyle changes to solve their existing or future problems. This state of adaptation is only possible if individuals can increase their self-care management.[14,15] In this process, it is important that health care providers maintain holistic care without ignoring the psychosocial problems of the individuals who they care for. They can help patients cope with the challenges posed by chronic illness by providing information and an environment for them to feel safe. Additionally, they can help patients with chronic diseases to effectively cope with the negativities which they experience during the pandemic process by helping patients to gain appropriate lifestyle and habits for their disease and accelerate the adaptation process.

Research Questions

1. What are the anxiety and fear levels of individuals with chronic diseases during the COVID-19 pandemic?
2. Is there a relationship between the anxiety and fear levels of individuals with chronic diseases and self-care management during the COVID-19 pandemic?
3. What is the effect of the level of anxiety and fear experienced in individuals with chronic diseases on self-care management during the COVID-19 pandemic?

Methods

Aim

The study was conducted to determine the effects of anxiety and fear experienced by chronic patients on self-care management during the COVID-19 pandemic.

Data Collection

This descriptive study was conducted in a public hospital between April and June 2021. The study sample consisted of 150 outpatients who visited the internal medicine polyclinic of the hospital. Patients with at least 1 chronic disease, whose general condition was suitable for the interview, who did not have a speaking problem, and who agreed to participate were included in the study.

Power analysis was performed by using the G*Power (v3.1.7) program to determine the sample sizes. The power of the study is expressed as $1 - \beta$ (β = probability of type II error) and the studies should have 80% power generally. According to Cohen's effect size coefficients,[16] when the correlation between self-care management and anxiety and fear scores was predicted to have a medium (*r*: 0.300) effect size, it was calculated that at least 82 people should be included in the study to achieve 80% power at the $\alpha = 0.05$ level.

Patient Information Form

There are questions that evaluate the personal characteristics of patients and the changes in their lifestyle behaviors caused by the pandemic.

Self-Care Management Process in Chronic Illness Scale

The purpose of the Self-Care Management Process in Chronic Illness Scale (SCMP-G), developed by Jones et al (1986), is to measure self-care management in patients with chronic diseases. The Turkish validity and reliability study of this scale was conducted by Hançerlioğlu and Aykar.[15] The SCMP-G consists of 2 sub-dimensions namely, self-protection (20 items), social protection (15 items) and 35 questions. The items were scored on a 5-point scale ranging from "1 = strongly disagree" to "5 = strongly agree." Total possible scores ranged from 35 to 175. As the score obtained from the scale increased, self-care management also increased. The Cronbach's alpha coefficient of the Turkish version of the scale was 0.85.[15] The present study found the Cronbach's alpha coefficient of the SCMP-G to be 0.88 in the self-protection sub-dimension, 0.84 in the social protection sub-dimension, and 0.91 in the whole scale, and it was found to have a high level of reliability.

Fear of Coronavirus Disease 2019 Scale

The Fear of Coronavirus Disease 2019 Scale (FCV-19S) was developed by Ahorsu et al[6] in 2020. It is a good psychometric tool that can be used to assess and alleviate fear of COVID-19. It was adapted to Turkish by Ladikli et al.[17] The scale has a single-factor structure and consists of 7 items. The scoring of the scale was as follows: 1 = strongly disagree, 2 = not agree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. The lowest and highest scores that can be obtained from this form are 7 and 35, respectively. Higher scores indicated a high fear of COVID-19. The reliability of Cronbach's alpha coefficients of the Turkish version of this scale was found as 0.82.[17] In this study, Cronbach's alpha coefficient was 0.85.

Coronavirus Anxiety Scale

The Coronavirus Anxiety Scale (CAS) was developed by Lee.[18] Many people experience great fear and anxiety during an infectious disease epidemic. This scale is a brief mental health scale used to determine potential cases of dysfunctional anxiety related to the COVID-19 crisis. Each item was rated on a 5-point scale to reflect symptom frequency, ranging from 0 (never) to 4 (almost every day) during the previous 2 weeks. By using an optimized cut-off score of ≥ 9, the CAS makes a good distinction between individuals with and without dysfunctional anxiety. A high total scale score (≥ 9) may indicate problematic symptoms that require further evaluation and/or treatment. In Evren et al's[1] study, the Cronbach's alpha coefficient of the scale was 0.80; in this study, it was 0.92.

Ethical Considerations

Ethical approval was given by the Zeynep Kamil Women and Children Diseases Training and Research Hospital Clinical Research Ethics Committee on Jan 20, 2021 (decision no: 13). In addition, an application was made to the COVID-19 Scientific Research Platform affiliated to the General Directorate of Health Services of the Ministry of Health (No: 2021-01-29T23_15_38), and the required approval was obtained. Institutional permission was obtained from the hospital management and from the authors to use the scales in our research. The patients who agreed to participate were informed about the study, and their written and verbal consents were received.

Statistical Analysis

Descriptive statistics such as percentage, frequency, mean, and standard deviation were used to evaluate the data. Further, normal distribution of scale scores was examined by the Shapiro–Wilk test; normally distributed measurements were evaluated with Pearson's correlation analysis, and non-normally distributed measurements were evaluated with Spearman's correlation analysis. Normally distributed measurements were also evaluated using regression analysis.

Results

Table 1 shows the participants' sociodemographic characteristics. The mean age of the patients was 58.34 ± 16.80 years. They were mostly female (66%), married (85.3%), and had graduated from primary and secondary school (52.7%). The majority (88.7%) of the patients lived with their families during this period. The most common chronic diseases were hypertension (48%) and diabetes (32%). Of the patients, 48% stated that their health status was medium.

Changes in the lifestyle behaviors of the patients are given in Table 2. There was a changes in their eating habits (41.3%); they consumed more organic foods (17.3%), and they stated that they ate more (17.3%). The majority of chronic patients stated that there was a change in their

Table 1. Personal Characteristics of the Patients

Variables	Groups	n	%
The average age (year)	58.34 ± 16.80		
Gender	Female	99	66.0
	Male	51	34.0
Marital status	Married	128	85.3
	Single	22	14.7
Education status	Primary-secondary education	**79**	**52.7**
	Highschool	24	16.0
	University	36	24.0
	Postgraduate	11	7.3
Employment status	Yes	53	35.3
	No	**97**	**64.7**
Income status	Income is less than expenses	**91**	**60.7**
	Income is equal to expenses	53	35.3
	Income is more than expenses	6	4.0
With whom they lived	Alone	17	11.3
	With family	**133**	**88.7**
Chronic disease*	Diabetes	**48**	**32**
	Hypertension	**72**	**48**
	Cardiac insufficiency	24	16
	Chronic obstructive pulmonary disease	26	17.3
	Asthma	22	14.7
	Thyroid diseases	31	20.7
	Other	10	6.7
Current health status	Very well	6	4.0
	Well	52	34.7
	Medium	**72**	**48.0**
	Bad	20	13.3

*Patients were able to choose more than 1 answer. Bold values indicated the highest pergentages in the variablesw.

activities (67.3%). Those who said "I stayed at home all the time" (61.4%). Moreover, it was found there was no change in sleeping habits (72.7%) and going to check-ups regularly (63.3%) in the majority of the cases.

Table 3 includes the means and standard deviations obtained from the scales. The participants' total FCV-19S mean score was 18.98 ± 6.56, total CAS mean score was 1.07 ± 2.53, and the total SCMP-G mean score was 117.51 ± 23.09. The mean score of the SCMP-G self-protection sub-dimension was 71.23 ± 14.34, and the social protection sub-dimension mean score was 46.29 ± 11.05.

When the skewness and kurtosis values obtained from the Shapiro–Wilk tests and the coefficients of variance were also evaluated to interpret whether the scale scores were normally distributed, it was determined that the scores for the FCV-19S and CAS were normally distributed, but the skewness and kurtosis values for the SCMP-G scale were far outside the −2, +2 range (Table 4).

Pearson's correlation analysis was used to determine the relationship between the scores of the FCV-19S and the SCMP-G scale; there was

Table 2. Changes in the Lifestyle Behaviors of the Patients During the Pandemic Process

Variables	Groups	n	%
Eating habits	Changed	62	41.3
	Not changed	**88**	**58.7**
What changes have occurred in eating habits	I ate less	10	6.7
	I ate healthy and organic foods	**26**	**17.3**
	I ate more	**26**	**17.3**
Weight gain	Yes	58	35.4
	No	**97**	**64.6**
Activity	Changed	**101**	**67.3**
	Not changed	49	32.7
What changes have occurred in activities	My mobility was decreased	30	29.7
	I stayed at home constantly	**62**	**61.4**
	I could not attend the gym	9	8.9
Smoked more cigarettes	Yes	15	10.0
	No	**135**	**90.0**
Consumed more alcohol	Yes	-	-
	No	**150**	**100.0**
Sleeping habits	Changed	41	27.3
	Not changed	**109**	**72.7**
Goingt to check-ups regularly	Yes	**95**	**63.3**
	Not	55	36.7
Feeling more anxious	Yes	**112**	**74.7**
	No	38	25.3

Bold values indicated the highest pergentages in the variables.

a positive, weak, medium, and significant correlation between both the self-protection and social protection sub-dimensions and the total of the SCMP-G and the FCV-19S scores ($r = 0.286$, $P < .001$; $r = 0.512$, $P < .001$; $r = 0423$, $p < .001$, respectively). Spearman's correlation analysis was used to determine the relationship between the scores of the CAS and the SCMP-G scale; there was a very weak and significant correlation between CAS and social protection sub-dimension ($r = 0.176$, $P < .05$).

Evaluation of the effect of FCV-19S on the SCMP-G scale scores by regression analysis determined that the level of fear was effective in both the self-protection and social protection sub-dimensions and self-care management scores ($R = 0.286$, $R^2 = 0.082$, $P < .001$; $R = 0.512$, $R^2 = 0.262$, $P < .001$; $r = 0.423$, $R^2 = 0.179$, $P < .001$) (Table 5).

Table 3. The Average Scores of the Patients from the Scales and Sub-dimensions

Scales and Sub-dimensions	Minimum	Maximum	Mean ± SD
Fear of COVID-19 Scale	7.00	35.00	18.98 ± 6.56
Coronavirus Anxiety Scale	0.00	20.00	1.07 ± 2.53
Self-care Management Process in Chronic Diseases Scale	41.00	164.00	117.51 ± 23.09
Self-protection	22.00	96.00	71.23 ± 14.34
Social-protection	15.00	68.00	46.29 ± 11.05

SD, standard deviation; COVID-19, coronavirus disease 2019.

Table 4. Evaluation of Conformity of Measurements to the Normal Distribution

Scales	Shapiro–Wilk	Coefficient of variance	Skewness	Standart error2	Kurtosis	Standart error2
Fear of COVID-19 Scale	0.978	34.6	−0.073	0.198	−0.621	0.394
Coronavirus Anxiety Scale	0.487	236.5	4.098	0.198	22.977	0.394
Self-care Management Process in Chronic Diseases Scale	0.955	19.5	−0.847	0.198	0.978	0.394

COVID-19, coronavirus disease 2019.

Table 5. The Effect of Fear of COVID-19 Scale on Self-Care Management Process in Chronic Illness Scale

Fear R	*R*	R^2	Corrected R^2	F	*P*
Self-protection	0.286	0.082	0.075	13.156	<.001
Social-protection	0.512	0.262	0.257	52.672	<.001
Self-care management	0.423	0.179	0.173	32.179	<.001

COVID-19, coronavirus disease 2019.

Discussion

The pandemic had been observed to affect all parts of society globally in terms of biological, psychological, and social aspects; risk groups (such as children, pregnant women, the elderly, and those with chronic diseases) were especially more affected. Also, changes in the contextual factors, such as epidemic management, uncertainty, vaccination, emerged as stressors creating an atmosphere of fear and anxiety and affected individuals emotionally. Individuals with lower adaptation to chronic illness faced challenges in performing self-care. Lower adaptation to treatment caused increased side effects of chronic illnesses and healthcare expenditures and increased the care burden. Psychological changes which is experienced in this process could have affected the self-care management of chronic patients in the risk group. Therefore, determining the self-care management of chronic patients in this process can help develop sustainable and effective strategies. In this study, we examined the effect of anxiety and fear on self-care management in individuals with chronic diseases during the COVID-19 pandemic.

Fear is one of the most common and outstanding psychological reactions in society during the current epidemic.[7,20] The feeling of fear, which has a decisive role in making the "fight or flight" decision in times of danger, can adversely affect mental health when it rises above a certain level.[21] Unavoidable increases in the number of positive cases and loss of life due to the COVID-19 pandemic, lack of an effective vaccine and treatment for the disease, and uncertainty caused people to experience the fear of losing themselves or their relatives because of the severity of the disease, fear of not being able to reach health institutions, fear of food shortages, fear of being infected or transmitting the virus at any time, fear of being unemployed, and similar fears.[7,22] The massive fear of COVID-19, called "coronaphobia," threatens people's physical health and lives, increases stress levels by triggering feelings of helplessness, illness, and death in individuals, and causes a wide variety of psychological problems such as anxiety and depression.[21] However, fear can increase risk perception and lead individuals to protective behaviors (e.g., washing hands and maintaining social distancing).[23] A medium level of fear can have a positive effect and motivate health behaviors during an epidemic.[7] Contrastingly, an uncontrollable level of fear can have negative effects on the general and psychological well-being of individuals and society, leading to conditions such as phobias or social anxiety.[22,23] Furthermore, it was found that as the score from the fear of COVID-19 increased, the scores obtained from the physical and psychological health domains of life quality decreased.[24]

In this study, while the fear levels of the participants were close to medium, their anxiety levels were low. However, more than half (74.7%) of the participants reported feeling more anxious. This was interpreted as the anxiety experienced during the pandemic not being at a level that would impair the functionality of individuals. The majority (88.7%) of individuals who participated lived with their families in this process. The support that individuals receive from their families may have contributed to coping with this process more easily. Cao et al[25] stated that there is a negative relationship between social support and anxiety levels, and living with parents is a protective factor against anxiety. In general, while studies have stated that individuals with chronic diseases during the COVID-19 process have higher levels of stress, anxiety, and depression than healthy individuals[26-28], fear levels of COVID-19 in individuals with chronic diseases were found to be significantly higher than those without chronic disease.[29,30] Similarly, in Gencer's[22] study, similar to our study, it was observed that the general mean score obtained from the FCV-19S was close to medium. Additionally, although there was no significant difference in the level of fear of coronavirus according to the presence of a chronic disease, it was determined that people who do not have a chronic disease have more fear of coronavirus than those who do.[22] These data suggested that the levels of anxiety and fear experienced by individuals may differ according to the period experienced during the pandemic process. Moreover, individuals with medical problems may feel more vulnerable to contacting new illnesses. This may increase the need for more supportive care in people with comorbidities as well as increased fear levels.

Chronic diseases involve challenging processes that fundamentally affect the quality of life and habits. Self-care is important in the management of chronic diseases. Self-care management is defined as ensuring the continuity of treatment in individuals with chronic diseases, complying with diet, performing life activities related to the disease, maintaining stability, and noticing changes in their status.[31] Within the scope of the measures taken during the pandemic process, curfews were imposed on people who were 65 years old and more and patients with chronic diseases, and they were only allowed to go out during limited hours. The fact that individuals are faced with the risk of being alone and limited in their ability to communicate with society, including their families, in this process once again underlines the importance of self-management in these patients. In this study, the self-care management levels of patients with chronic diseases were above the medium level. When the sub-dimensions of the self-care management scale were analyzed, it was observed that the level of self-protection was above the medium score, and the level of social protection, which is the other sub-dimension, was at a medium level. Also, there was a very weak correlation between anxiety level and social protection. Accordingly, it suggests that individuals try to be careful about following a healthy lifestyle and that they are aware that their condition may worsen if they do not follow the treatment plan and do not pay attention to their health. The fact that the majority of individuals participating in this study lived with their families in this process may have contributed to their good self-care management.

Fear and anxiety prepare individuals for future negative stimuli, and it helps to keep the individual safe and avoid the risk of behaviors by predicting protective behavior changes in the individual.[6,7] Study results by Ahorsu et al[6] showed that negative emotions predicted protective behavior changes (such as hand washing and social distancing) in response to the current pandemic. The medium level of fear obtained in this study can be interpreted as positively affecting self-care management and motivating healthy behaviors. In this study, it was observed that patients try to go to health checkups regularly, comply with treatment plans, and have healthy eating behaviors. From a different perspective, the reason for the decrease in the activities of patients can be evaluated as a positive attitude. Therefore, patients must protect themselves as the first priority. In this context, there is a decrease in their activities and obligatory compliance with measures taken to prevent contamination. A study[32] reported that the FCV-19S score was positively associated with a behavioral change assessing COVID preventive behaviors. Apparently, individuals perform more protective behaviors when they recognize a threat as critical. In the case of COVID-19, the perceived threat has the potential to be a motivating

factor in implementing actions to prevent COVID-19. Unlike previous results, there is a relationship between fear of COVID-19 and mindfulness, and experiencing a reduced fear associated with the COVID-19 pandemic contributes to higher mindfulness levels, which in turn contributes to lower levels of anxiety and depression.[33] According to the result conducted by Alacahan et al.[34] the mean COVID-19 fear scale total score was significantly higher in the healthy group than in the patient group, and not only the fear of people with chronic diseases being in the risk group for COVID-19 but also the difficulties they experience in the management of their chronic diseases and their feeling of stigma contributed to the fear of COVID-19. From the result of another study,[35] it was found that the fear of COVID-19 in the patients who applied to the emergency department was moderate and the patients postponed their applications to the emergency department due to fear of COVID-19. Also, it is indicated in the same study that it may pose a serious danger to public health.

Although patients are significantly scared and anxious during the COVID-19 process, experiencing fear and anxiety can encourage the individual to adopt protective behaviors. However, different levels of fear can complicate chronic disease management. This difference may be related to the sociodemographic and disease characteristics of the patients. It is important that the healthcare professionals provide patient-centered, multidisciplinary, and evidence-based approaches for successful chronic disease management and also provide effective communication with patients and their families to inform patients about their diseases, ensure the continuity of patient care, and teach ways to cope with problems such as depression, stress, fear, anxiety, and sleep disorders. Alacahan et al[34] indicated that appropriate follow-up and treatment strategies for individuals with chronic diseases should be developed during the epidemic process and that risk groups should be prioritized in terms of psychological support for the fear of COVID-19. All these studies emphasized that it is important to evaluate individuals' fear and anxiety levels to identify and alleviate the traumatic effects of COVID-19. Also, the development of care programs that provide patients with self-management and self-efficacy in managing their chronic diseases should be supported.

Study Limitations

The fear and anxiety levels measured in the study are limited to measurements obtained using the scales. Also, it was limited to chronic patients who visited the internal medicine outpatient clinic for treatment in a state hospital between the dates of the research. Some of the patients' refusal to participate in the study and the researcher's absence from the clinic caused some limitations. One of the limitations of this study was that the anxiety and fear levels of patients before the COVID-19 pandemic were not known, because, from the beginning of the pandemic to the present, the factors affecting the fear and anxiety may differ. The fact that the number of studies on the related subject is extremely low in the literature reviews has caused a limitation in terms of comparing our study. Thus, the limited number of studies that met the inclusion criteria of this review hinders the full exploration of the relationship between the level of anxiety and fear experienced in individuals with chronic diseases during the COVID-19 process and self-care management. In addition, this study did not evaluate the relationship between variables related to sociodemographic characteristics with the level of anxiety and fear related to COVID-19. These data may be important for planning self-care management in patients. This issue may be considered in future studies.

As a result of the study, the fear levels of patients with chronic diseases were close to medium, and the patients did not have an anxiety disorder that could affect their functionality. The self-care management levels of patients were above the medium level. The research findings showed that the moderate level of fear affected self-care management in patients with chronic diseases positively. Also, it was found that there was a very weak relationship between anxiety level and social protection.

Practical suggestions for improving patients' mental health and self-care management are to provide patient-centered, multidisciplinary, and holistic care and to monitor the mental health and self-care management parameters of patients. Meanwhile, providing psychological intervention programs or getting psychological support may be useful.

Ethics Committee Approval: Ethical approval was obtained from the Health Sciences University, Zeynep Kamil Women and Children Diseases Training and Research Hospital Clinical Research Ethics Committee (Date: January 20, 2021, Decision number: 13).

Informed Consent: Written informed consent was obtained from participant who participated in this study.

Peer-review: Externally peer-reviewed.

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References

1. Bae S, Kim SR, Kim MN, Shim WJ, Park SM. Impact of cardiovascular disease and risk factors on fatal outcomes in patients with COVID-19 according to age: a systematic review and meta-analysis. *Heart*. 2021;107(5):373-380. [CrossRef]
2. Liu H, Chen S, Liu M, Nie H, Lu H. Comorbid chronic diseases are strongly correlated with disease severity among COVID-19 patients: a systematic review and meta-analysis. *Aging Dis*. 2020;11(3):668-678. [CrossRef]
3. Garg S, Kim L, Whitaker M, et al. Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019 - COVID-NET, 14 States, March 1-30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(15):458-464. [CrossRef]
4. Yang J, Zheng YA, Gou X, et al. Prevalence of comobidities and its effects in patients infected with SARS-CoV-2: a systematic review and meta- analysis. *Int J Infect Dis*. 2020;94:91-95. [CrossRef]
5. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*. 2020;395(10229):1054-1062. [CrossRef]
6. Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: development and initial validation. *Int J Ment Health Addict*. 2020:1-9. [CrossRef]
7. Broche-Pérez Y, Fernández-Fleites Z, Jiménez-Puig E, Fernández-Castillo E, Rodríguez-Martin BC. Gender and fear of COVID-19 in a Cuban Population sample. *Int J Ment Health Addict*. 2020:1-9. [CrossRef]
8. Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int J Soc Psychiatry*. 2020;66(4):317-320. [CrossRef]
9. Pierce M, Hope H, Ford T, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *Lancet Psychiatry*. 2020;7(10):883-892. [CrossRef]
10. Twenge JM, Joiner TE. U.S. Census Bureau-assessed prevalence of anxiety and depressive symptoms in 2019 and during the 2020 COVID-19 pandemic. *Depress Anxiety*. 2020;37(10):954-956. [CrossRef]
11. Hajure M, Tariku M, Mohammedhussein M, Dule A. Depression, anxiety and associated factors among chronic medical patients amid COVID-19 pandemic in Mettu Karl Referral Hospital, Mettu, Ethiopia, 2020. *Neuropsychiatr Dis Treat*. 2020;16:2511-2518. [CrossRef]

12. Gerontoukou EI, Michaelidoy S, Rekleiti M, Saridi M, Souliotis K. Investigation of anxiety and depression in patients with chronic diseases. *Health Psychol Res*. 2015;3(2):2123. [CrossRef]
13. Mollaoglu M. Perceived social support, anxiety, and self-care among patients receiving hemodialysis. *Dial Transplant*. 2006;35(3):144-155. [CrossRef]
14. AvdalEÜ. COVID-19: care management in comorbid conditions. Şenuzun FA, editor. Internal Medicine Nursing and COVID-19. *Turk Klin J Med Sci*. 2020:10-14.
15. Hançerlioğlu S, Aykar FŞ. Validity and reliability of Turkish version of the Self Care Management Process in Chronic Illness. *Gümüşhane Univ J Health Sci*. 2018;7(1):175-183.
16. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale: Lawrence Erlbaum Associates; 1988.
17. Ladikli N, Bahadır E, Nurefşan FN, Akkuzu H, Karaman G, Türkkan Z. The reliability and validity of Turkish version of coronavirus Anxiety Scale. *Int J Soc Sci*. 2020;3(2):71-80.
18. Lee SA. Coronavirus Anxiety Scale: a brief mental health screener for COVID-19 related anxiety. *Death Stud*. 2020;44(7):393-401. [CrossRef]
19. Evren C, Evren B, Dalbudak E, Topcu M, Kutlu N. Measuring anxiety related to COVID-19: a Turkish validation study of the coronavirus Anxiety Scale. *Death Stud*. 2020:1-7. [CrossRef]
20. Wang C, Pan R, Wan X, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health*. 2020;17(5):1729. [CrossRef]
21. Artan T, Meydan S, Irmak S. Turkish version of the Fear of COVID-19 Scale: Validity and reliability study. *Arc Health Sci Res*. 2021;8(2):117-123. [CrossRef]
22. Gencer N. Coronavirus (COVID-19) fear of individuals during the pandemia: Çorum sample. *Int J Soc Sci Aca*. 2020;2(4):1153-1173.
23. Caycho-Rodríguez T, Tomás JM, Barboza-Palomino M, et al. Assessment of fear of COVID-19 in older adults: validation of the Fear of COVID-19 scale. *Int J Ment Health Addict*. 2021:1-15. [CrossRef]
24. Aksoy A, Abiç A, Değirmenci F, Vefikuluçay Yılmaz DV. The relationship between quality of life and fear of Turkish individuals during the COVID-19 pandemic: a cross-sectional study. *Arch Psychiatr Nurs*. 2021;35(5):472-478. [CrossRef]
25. Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res*. 2020;287:112934. [CrossRef]
26. Guo Y, Cheng C, Zeng Y, et al. Mental health disorders and associated risk factors in quarantined adults during the COVID-19 outbreak in China: cross-sectional study. *J Med Internet Res*. 2020;22(8):e20328. [CrossRef]
27. Mazza C, Ricci E, Biondi S, et al. A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: immediate psychological responses and associated factors. *Int J Environ Res Public Health*. 2020;17(9):3165. [CrossRef]
28. Stanton R, To QG, Khalesi S, et al. Depression, anxiety and stress during COVID-19: associations with changes in physical activity, sleep, tobacco and alcohol use in Australian adults. *Int J Environ Res Public Health*. 2020;17(11):4065. [CrossRef]
29. Bakioğlu F, Korkmaz O, Ercan H. Fear of COVID-19 and positivity: mediating role of intolerance of uncertainty, depression, anxiety, and stress. *Int J Ment Health Addict*. 2020:1-14. [CrossRef]
30. Özgünay SE, Akça F, Karasu D, Eminoğlu Ş, Gamlı M. Evaluation of fear levels of anesthetists and prophylaxis practices in the coronavirus (COVID-19) pandemic. *JARSS*. 2021;29(1):25-31. [CrossRef]
31. Özdelikara A, Taştan A, Atasayar BŞ. Assessment of self-care management and compliance in chronic diseases. *Ondokuz Mayıs Univ J Health Sci*. 2020;5(1):42-49.
32. Harper CA, Satchell LP, Fido D, Latzman RD. Functional fear predicts public health compliance in the COVID-19 pandemic. *Int J Ment Health Addict*. 2020:1-14. [CrossRef]
33. Belen H. Fear of COVID-19 and mental health: the role of mindfulness in during times of crisis. *Int J Ment Health Addiction*. 2022;20(1):607-618. [CrossRef]
34. Alacahan S, Kuş C, Gümüştakım RŞ. Covid-19 fears of adults with chronic disease 10. International Trakya Family Medicine Congress, Balkan Congress Center, Edirne; 2022.
35. Kurtgöz A, Avcı S. Determination of COVID-19 fear levels of patients applıng to emergency department. *Int Soc Sci Stud J*. 2021;7(77):405-412. [CrossRef]