Research Article (Araştırma Makalesi)

The Fear of Coronavirus Disease-19 in Adults with Chronic Disease

Kronik Hastalığı Olan Erişkinlerin Koronavirüs-19 Korkuları

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Özet

Amaç: Koronavirüs-19 (COVID-19) salgınının, dünya genelinde sağlık sisteminde birçok aksaklığa sebep olduğu bilinmektedir. Bu çalışmada kronik hastalığı olan bireylerin salgın sürecindeki COVID-19 korkularının ve bu korkuya neden olabilecek etkenlerin belirlenmesi amaçlandı. Bu çalışma, COVID-19 salgını sürecinde ve olası yeni salgınlarda doğru sağlık stratejilerinin geliştirilmesinde yol gösterici olabilmeyi amaçlamaktadır.

Gereç ve Yöntemler: Çalışmamızın evrenini Kahramanmaraş Sütçü İmam Üniversitesi Tıp Fakültesi'ne 3 aylık sürede başvuran 18 yaş üstü 92350 kişi oluşturmaktadır. Örneklem %5 hata payı, %95 güven aralığı ve %10 veri kaybı olasılığı ile hesaplandığında 421 kişi olarak belirlenmiştir. Veriler literatür taraması sonucunda oluşturulmuş anketlerin gönüllü bireylere yüz yüze görüşme yöntemi kullanılarak uygulanması ile elde edilmiştir. Ankette sosyodemografik özellikler ve salgın süreci ile ilgili çeşitli sorulara ek olarak koronavirüs (COVID-19) korkusu ölçeği uygulanmıştır. İstatistiksel analiz SPSS 21.0 paket programı kullanılarak yapılmıştır.

Bulgular: Çalışmamızda sağlıklı grubun çoğunluğunu (%52.5) erkekler oluştururken, hasta grubun çoğunluğunu (%56.9) kadınlar oluşturmaktadır. Sağlıklı grupta en sık %53..1 ile 18-34 yaş grubu insan varken, hasta grubunda en sık %33.0 ile 50-64 yaş grubu yer almaktadır. 65 yaş ve üzeri sıklığı sağlıklı grupta %0.6 iken, hasta grubunda %13.8 olarak bulunmuştur. Yaş grupları arasındaki fark istatistiksel olarak anlamlıdır ($p<0.001$). Kronik hastalığı olan ve olmayan gruplar arasında kıyaslama yapıldığında ise ortalama COVID-19 korkusu ölçeği puanları kronik hastalığı olan kişilerde daha yüksek çıkmıştır ($p<0.001$).

Sonuç: Kronik hastalığı olan kişilerin rutin bakımlarının aksamaması için salgın sürecinde ve sonrasında psikolojik destek programlarına ve sağlık kaynaklarının yeni bir adaptasyonuna ihtiyaç duyulmaktadır.

Anahtar kelimeler: COVID-19, Kronik hastalık, Korku, Pandemi

Abstract

Objective: Coronavirus Disease-19 (COVID-19) epidemic is known to have caused many setbacks worldwide. This study determined the COVID-19 fears in the epidemic process of individuals with chronic disease and the factors that could cause these fear. Furthermore, this study aims to be a guide to the process of the COVID-19 epidemic and the development of the right health strategies for potential new outbreaks.

Materials and Methods: The universe of our work is composed of 92350 people over 18 who applied to Kahramanmaras Sutcu Imam University Faculty of Medicine between 01.07.2020 and 30.09.2020. When the sample was calculated with a 5% margin of error, a 95% confidence interval and a 10% chance of data loss, 421 people were identified. The data were obtained through the application of surveys generated by the literature screening using face-to-face discussions with the volunteers. In addition to various questions about sociodemographic features and the epidemic process, COVID-19 fear scale has been applied to the survey. Statistical analysis was performed using the SPSS 21.0 package program.

Results: In our study, the most healthy group (52.5%) was made up of men, while the most patient group (56.9%) was women. The healthy group has the most common 53.1 to 18%-34% age group, and the patient group has the most common 33.0 to 50%-64% age group. The frequency of 65 years and older was 0.6% in the healthy group and 13.8% in the patient group. Although, the difference between the age groups was statistically significant ($p<0.001$) when compared to groups with chronic and non-chronic, the average COVID-19 fear scale has increased in people with chronic disease ($p<0.001$).

Conclusion: A new adaptation of psychological support programs and health resources is required during and after the outbreak to avoid disturbing the routine maintenance of persons with chronic diseases.

Keywords: Chronic disease, COVID-19, Fear, Pandemic

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INTRODUCTION

The epidemic, which emerges in any part of the rapidly globalized world today, has spread quickly through powerful transportation networks between countries, causing serious threats to all countries. A pandemic was declared by the World Health Organization (WHO) on March 11, 2020, due to the rapid spread of coronavirus disease-2019 (COVID-19) and its effects on human health. The WHO has notified 577.018.226 COVID-19 cases confirmed as of August 04, 2022, and the death of 6.401.046 COVID-19. In our country, the total number of cases reached 15.889.495, and deaths from COVID-19 reached 99.341 (1).

People had to undergo sudden and radical changes in their daily routines and lifestyles to comply with the pandemic conditions. These changes in everyday life and the presence of the epidemic have caused increased stress and fear in humans. It is thought that this stress and fear can cause mental problems (2,3).

During the pandemic, the use of most health care system resources for diagnosis and treatment of COVID-19, the strengthening of transportation, the current prohibitions, and the risk of infection have limited access to people's health centers. This can lead to disruptions in the monitoring and treatment of individuals with chronic diseases and deterioration in the quality of care for chronic diseases, leading to increased morbidity and mortality rates (4). As a result, individuals with chronic diseases already in the risky group for severe COVID-19 have increased the risk of the epidemic. In addition, this can cause people with chronic diseases to be psychologically adversely affected during the COVID-19 epidemic. For all these reasons, chronic disease control is crucial in the fight against COVID-19. A new adaptation is needed to ensure that health system resources are properly used in epidemic management (5).

In this study, the COVID-19 fears of individuals with chronic diseases and nondisease in the epidemic process and the factors that could cause these fears are determined. In this way, it is thought that taking precautions to protect the mental health of individuals with chronic diseases and developing and applying appropriate strategies to eliminate the problems that may occur in the care of their current diseases can be a guide for a similar events in the future.

MATERIALS AND METHODS

Our study universe comprises 92.350 people over 18 who applied to the Kahramanmaras Sutcu Imam University Faculty of Medicine in 3 months. According to the number of patients applying between these dates, the sample size was 383 when calculated with a 5% margin of error and a 95% confidence interval. Due to the probability of data loss (10%), the sample was set at 421. After the sample value was calculated, we worked from 18.01.2021 to 18.02.2021. Our descriptive and sectional study was conducted with 397 participants who applied to Kahramanmaras Sutcu Imam University Faculty of Medicine. The Ministry of Health has deemed it appropriate to do this work with our application to the scientific research platform on 09.10.2020. On 18.01.2021, 28 protocol numbers and ethical board approval were received from the Faculty of Medicine Kahramanmaras Sutcu Imam University Non-Entrepreneurial Clinical Studies Ethics Board for our study. Kahramanmaras Sutcu Imam University Medical Faculty Chief Physician also authorized the work. Participants were informed before the survey and included in the work upon their approval. The participants' criteria for involvement and exclusion in the survey were as follows.

The data were obtained through the application of surveys generated by the literature screening using a face-to-face discussion with the volunteers. In our study, a standard survey of 58 questions was conducted, including the first section, the second section with eight questions and the third section with seven questions, which included 43 questions, which included questions generated by a literature survey with sociodemographic questions. The first part of the survey is a question about the participants' sociodemographic characteristics and daily life changes during the COVID-19 outbreak.

The positivity scale was applied in the second part, and the third was the COVİD-19 fear scale. In the sociodemographic data form prepared by us, the age, gender, height, weight, marital status of the participants, maternity status, occupation, number of children, education status, and residence were asked to how many people have lived with, lived and/or had an over-65-year-old person to provide care for. The positivity scale was developed by Caprara et al (6). in 2012. Turkish validity and reliability study was performed by Cikrikci et al (7). The scale's internal amount coefficient of 0.73 is calculated as test-retest reliability of 0.91. It is a single-dimensional scale of eight substances, one of which is inverted (item 6), evaluating individuals' positivity levels. The scale has a 5-type Likert scoring structure (1: Not at all suitable and 5: Completely suitable). The minimum score on the scale is 8, and the maximum score is 40. High scores on the scale indicate high levels of positivity.

Ahorsu et al. (8) developed the COVİD-19 fear scale to measure individuals' fears of coronavirus. The Turkish adaptation of the scale was done by Bakioğlu et al (3). The scale consists of a single size and seven items. There were no adverse substances on the scale. The total

score from the scale items reflects the level of fear of coronavirus that the individual is experiencing. Points are available on a scale ranging from 7 to 35. A high score on the scale means experiencing a high degree of fear of the coronavirus. The Cronbach's alpha coefficient of the scale is 0.94. For factor analysis, KMO was 0.897, and Barlett was significant.

Statistical Analysis

Statistical analysis was performed using the SPSS 21.0 for Windows (SPSS, Inc.; Chicago, USA) package program. Identifier values are specified as numbers (n), percent (%), average (Avg.), standard deviation (SS), and middle (median). Pearson Ki-Kare and Fisher tests were used to compare categorical variables. The continuous variables are compared with parametric tests (Mann-Whitney U test, Kruskal Wallis test) where they match the normal distribution, according to the normality assessment with Kolmogorov-Smirnov and Shapiro-Wilk tests, and non-parametric tests (Mann-Whitney U test, Kruskal Wallis test) where they do not match the normal distribution. The Spearman Correlation Test evaluates the relationship between variables. The level of statistical significance is considered $p<0.05$.

RESULTS

A total of 397 people were included in this study. In this study, 94.3% of the sample was reached, as the number of hospitalization applications for the adult age group decreased during the COVID-19 outbreak. 54.9% of these individuals (n=218) have at least one chronic disease, whereas 45.1% (n=179) had no chronic disease. People with at least one chronic disease are grouped in the form of patients, and people without any chronic disease are grouped into healthy ones.

The average COVID-19 fear scale was 16.14±5.93 (median=15.0) in the healthy group, while the patient was significantly higher in the group and found as 19.45±7.15 (median=19.0), ($p<0.001$), (**Table 1**). **Figure 1** shows the box-line graph showing the distribution of COVID-19 fear scale total scores of the workgroups.

Table 1. Comparison of the scores of the participants from the fear of coronavirus scale

Working group	Fear Scale Scores			
	Mean±SD	Median	Minimum-maximum	p*
Healthy (n=179)	16.14±5.93	15.0	7.0-35.0	<0.001
Patient (n=218)	19.45±7.15	19.0	7.0-35.0	
Total (n=397)	17.96±6.82	17.0	7.0-35.0	

n=number, SD= standard deviation, *Mann Whitney-U test

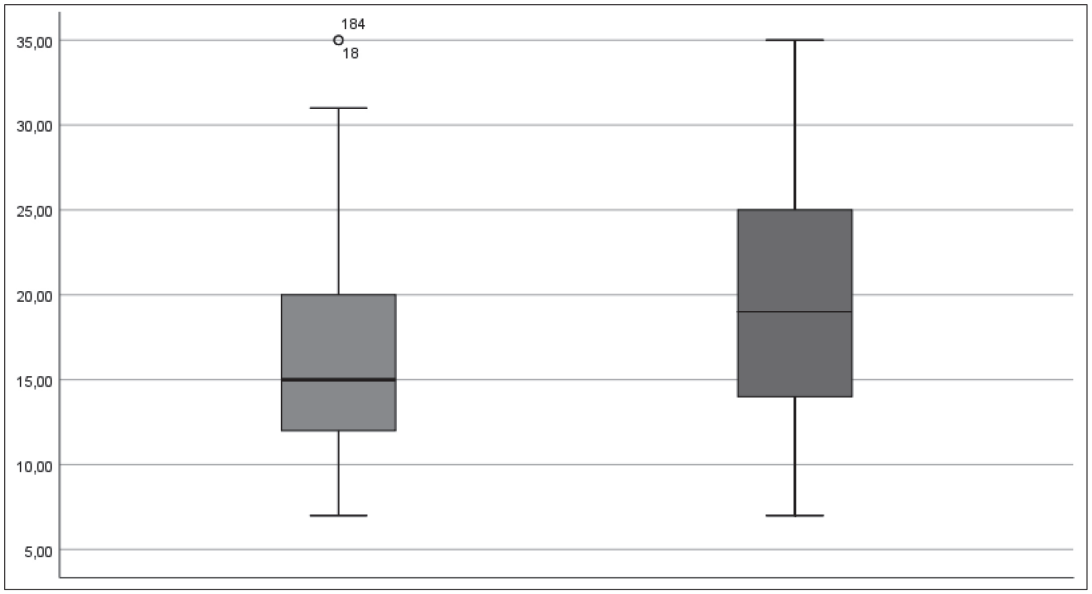

Figure 1. Box-line graph showing the distribution of study groups' COVİD-19 fear scale total scores

The healthy group has the most common 53.1% to 18–34 years, while the patient group has the most common 33.0% to 50–64 years of age. The frequency of 65 years and older was 0.6% in the healthy group and 13.8% in the patient group. The difference between age groups is statistically significant (p<0.001). 52.5% of the healthy and 43.1% of the patient group are men. No significant difference was detected between the groups regarding gender (p=0.062) (**Table 2**). No significant correlation was found when assessing the correlation between age and the coronavirus fear scale (r=0.063, p=0.210).

Table 3 illustrates the levels of the COVID-19 epidemic, thinking that they are at greater risk of death due to their anxiety and chronic diseases caused by chronic diseases.

Table 4 compares how participants spent time during the epidemic, social media, the internet, TV and the need for psychological support. 39.1% of the healthy group reported that their time in the outbreak period for social media, internet, or TV had increased partially, 32.4% had increased, 21.2% had never increased, and 7.3% had increased. When we look at the responses of the patient group, 32.1% stated that it partially increased, 30.3% increased, 26.6% never increased, and 11.0% increased.

Given the need for psychological support during the epidemic, it was determined that 67.0% of the healthy group did not need psychological support, and 1.1% needed it very much. 57.8% of the patient group stated that they did not need psychological support, and 3.7% said they needed it very much.

Table 2. Comparison of the study groups in terms of age and gender characteristics

		Healthy		Patient		Total		p
		n	%	n	%	n	%	
Age group	18-34 years	95	53,1	50	22,9	145	36,5	
	35-49 years	66	36,9	66	30,3	132	33,2	**<0,001**
	50-64 years	17	9,5	72	33,0	89	22,4	
	65 years and older	1	0,6	30	13,8	31	7,8	
Gender	Male	94	52,5	94	43,1	188	47,4	0,062
	Woman	85	47,5	124	56,9	209	52,6	

n=number, %= column percentage, SD= standard deviation, *Ki-kare test

Table 3. Responses to the course of the disease and the risk of death due to the disease in the group with chronic disease

	Participant's response	n (%)
Disease course	I'm not worried at all	41 (18.8)
	I'm partially worried	71 (32.6)
	I'm worried	87 (39.9)
	I'm very worried	19 (8.7)
Death risk	I don't think at all	53 (24.3)
	I think partly	65 (29.8)
	I'm thinking	75 (34.4)
	I think a lot	25 (11.5)

n=number, %= column percentage

Table 4. Comparison of the time spent by the participants in front of social media, the internet, and TV and their need for psychological support

		Healthy		Patient		Total		p
		n	%	n	%	n	%	
Has the time spent in front of social media, the internet and TV increased during the epidemic?	Never increased	38	21.2	58	26.6	96	24.2	0.244
	Partially increased	70	39.1	70	32.1	140	35.3	
	It increased	58	32.4	66	30.3	124	31.2	
	İncreased a lot	13	7.3	24	11.0	37	9.3	
Did you need psychological support during the epidemic?	I never needed	120	67.0	126	57.8	246	62.0	0.135
	I partially needed	41	22.9	56	25.7	97	24.4	
	I needed	16	8.9	28	12.8	44	11.1	
	I needed so much	2	1.1	8	3.7	10	2.5	

n=number, %= column percentage, *Ki-kare test

There was no statistically significant difference between the groups regarding the need for media-facing time and psychological support during the epidemic (p>0.05).

DISCUSSION

Our study detected changes in the day-to-day fears of adults with chronic diseases during the COVID-19 outbreak. In the literature, we planned a study like this because the deaths of people with chronic diseases were higher during the COVID-19 epidemic. However, this issue also requires analysis that shows how much of the adult population, especially those with chronic diseases, the quality of life is degraded and how much the countries have put the health system into trouble.

During the outbreak, the health system has dedicated most of its capacity to diagnosing and treating COVID-19, most major bed services and intensive care units have been dedicated to COVID-19 patients, and even suitable hospitals have been converted into pandemic hospitals. Many physicians and health workers have been assigned to COVID units. Except for emergency services, outpatient and chronic diseases are restricted. To limit the number of patients in the polyclinic, strict appointment rules have been introduced, and electrical medical interventions have been delayed. As a result, the application rates to health care institutions for people with acute and chronic diseases have decreased greatly (9).

Looking at the COVID-19 fear scale scores in the literature, Bakioğlu et al. (3)'s average COVID-19 fear score across Turkey was 19.44±6.07. In a study conducted in India, fear scores were found at 17.87±4.48 (10). In the March-April study, which started the Korukcu et al. (11) outbreak, the participants' COVID-19 fear scores were reported as 21.47±6.28. In our study, the participants' COVID-19 fear scale score was 17.96±6.82. This shows us that the fear of COVID-19 may have changed over time. The lower our fear points can be due to our work being done in early 2021, when the outbreak will last almost a year. People may have learned to live with the epidemic during this process and reported less fear. Additionally, the relatively low number of cases and patients due to the gradual inoculation of health workers and the public and curfews in this period can also explain the decline in fear ratings.

When comparing groups with chronic and non-chronic, the average COVID-19 fear scale has increased in people with chronic disease (p<0.001). Additionally, it was observed that COVID-19 fear scale scores have increased significantly with the increased level of thinking that they are at risk of more deaths due to chronic diseases (p=0.009). It has been shown in many studies that COVID-19 operates more heavily in individuals with a combination of more hospital hospitalization and mortality rates (12-14). This high risk posed by individuals with comorbidity is highlighted by all sources of information during the epidemic, especially in news sources, and continues to come. It can be a major fear that people with chronic diseases feel more vulnerable to COVID-19 than healthy people. Some studies indicate that Komorbidite presence is the risk factor for depression and/or suicidal thinking (15). Therefore, for those with chronic disease, the COVID-19 fear may be higher than for those without chronic disease. Fear

scale scores are expected to increase to they are at risk of more death due to chronic diseases is expected (3). Our work is consistent with the literature in this regard.

The only reason individuals with chronic diseases have more COVID-19 fears than those without them is that COVID-19 is more likely to be heavily in people with chronic diseases and think that people with chronic diseases are at greater risk of death because of their diseases. In addition, the disruption of the monitoring and/or treatment of patients' current diseases during the epidemic process, the deterioration of the quality of care, or concern for the course of chronic diseases can also contribute to COVID-19 fears. In the end, these causes and results may have affected each other in the form of a vicious cycle, causing people with chronic diseases to wear out more in terms of mental and physical health during the epidemic.

There are studies in the literature that support our study, but we cannot find a meaningful correlation between age and the COVID-19 fear scale total scores (3). Therefore, age and COVID-19 fear are expected to increase. In our study, the reason why we cannot achieve this result can be explained by the fact that young individuals have less experience in life than advanced individuals. The experience of life that older people have acquired, especially when they face a difficult situation, may have given them an advantage. Additionally, although older individuals are at greater risk for the COVID-19 course, COVID-19 may be considered a global public health problem. In young individuals, the disease can be seen poorly, and everyone feels threatened, regardless of age, and similarly answers questions.

Compared with the gender scale, average COVID-19 fear scale scores are significantly higher in women than in men ($p<0.001$). The gender difference in the COVID-19 fear we obtained in our study seems consistent with other studies that show that the COVID-19 outbreak has caused more fear and psychological impact on women (3,16,17). In the study of Özdin et al. (18) at the beginning of the outbreak, the higher rise in depression, anxiety and health anxiety in women also supports our work. A study involving 772 people studying the relationship between gender and COVID-19 fear in Cuba determined that being a woman indicates a medium and high level of COVID-19 fear (16). In a study of 8550 people in Bangladesh, women received significantly higher scores than men on the fear of COVID-19 (19).

The media, which plays a key role in detecting the current threat by providing information to the public during the outbreak and developing people's antibullying behaviors, often includes false or misleading news with no scientific basis for ratings (20). Sometimes the correct information can be exaggerated, or even the correct information can be frightening, even if it is not exaggerated (for example, the rapid rise of deaths and the detection of a newly mutated virus). The same risk applies to social media. Therefore, incorrect information about COVID-19, correct COVID-19 information and constant COVID-19-related agenda can trigger and increase the fear of individuals, which can then lead to psychological distress and inappropriate behavior (21). People with high fears may also be spending time in front of social media, the internet, or TV to deal with fear. As time increases, they may enter a vicious circle as the news they are exposed to causes psychological distress.

When we scanned the literature, there was a positive relationship between the time spent on social media and the fear of COVID-19 in a study studying the effect of social media use on the fear of coronavirus (22). In a study by Seyahi et al. (23), it was also mentioned that TV and social media increase the likelihood of psychiatric symptoms during the COVID-19 epidemic. In our study, the meaningful increase in fear scale scores as time goes up against social media, the internet, or the TV supports the literature ($p<0.001$).

CONCLUSION

The pandemic period is a relatively new process that people have never experienced, which needs to be fought individually and socially. It is particularly important to determine the physical and psychological impact of this pandemic, which is seen more frequently and viewed more heavily and deadly in people with chronic diseases (such as diabetes mellitus, chronic heart and lung disease, chronic kidney and liver disease), especially over 65 years old (24). Understanding the fear and other psychological effects caused by the outbreak in the epidemic process can lead us to a possible situation when we face it again by evaluating the general population's mental health. Additional work is needed to understand the psychological effects caused by infectious disease outbreaks and the additional risk factors and preventive measures for these effects. In this context, the public, the media and the government are getting busy. Against groups risky for COVID-19, empathy and support should be demonstrated instead of an attitude that increases their anxiety and fears. The awareness intended for COVID-19 should not be provided with unfounded news that may cause unfounded panic in people. Nevertheless, the information and images that can cause negative consequences should not be shared so easily for rating purposes.

We believe that our study will help understand the impact of the pandemic on humans, particularly those who are in the risk group, such as individuals with chronic diseases, and maybe a guide to the development of appropriate strategies in the COVID-19 epidemic process and possible new disease epidemics to maintain mental health and to address disruptions in the care of their existing diseases. However, the limitations of the article are that there is limited research on the study and that the study is single-centered.

Main Points

- Our study determined that patients with chronic diseases were more disadvantaged in fear of coronavirus.
- Psychological support programs and a new adaptation of health resources are needed in order not to interrupt the routine care of people with chronic diseases, infectious diseases, earthquakes and other disasters affecting society.
- Our study shows how important measures are taken to prevent stigma from protecting individuals' mental and physical health.

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Ethical Statement: The Ministry of Health has deemed it appropriate to do this work with our application to the scientific research platform on 09.10.2020. On 18.01.2021, 28 protocol numbers and ethical board approval were received from the Faculty of Medicine Kahramanmaras Non-Entrepreneurial Clinical Studies Ethics Board for our study. Kahramanmaras Sutcu Imam University Health Practice and Research Hospital Chief physician also authorized the work. Participants were informed before the survey and included in the work upon their approval.

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