ARAŞTIRMA / RESEARCH

# Effect of COVID-19 social isolation on the fear of COVID-19, quality of life and cognitive functions in the elderly

COVID-19 nedenli sosyal izolasyonun yaşlılarda COVID-19 korkusu, yaşam kalitesi ve bilişsel işlevler üzerindeki etkisi

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**Abstract**

**Purpose:** The purpose of this study is to appraise the impact of COVID-19 social isolation on fear of COVID-19, quality of life and cognitive functions.

**Materials and Methods:** Individuals aged 65 and over who made an appointment for the CoronaVac vaccine via appointment system and 603 people residing in these houses, wanted to be vaccinated, gave informed consent for the vaccine and agreed to participate, were included in the study. Sociodemographic data form, Coronavirus 19 Phobia Scale, Mini Mental State Test and Short Form 36 Quality of Life Scale were filled in by the study population.

**Results:** Patients included in our research, 63.0% were female (n=380) and 37.0% were male (n=223). The mean age was 77.65 ± 8.05 (min:65, max:97) years. Status of having a relative with COVID-19, social function status of SF-36, mental health status of SF-36 economic status of CP19-S size and the total score of CP19-S were found as multivariate predictors of COVID-19 disease transmission. As the total score of the participants from the COVID-19 phobia scale increased, their cognitive functions significantly decreased.

**Conclusion:** These findings reported important results regarding the effects of social isolation experienced by the elderly during the COVID-19 pandemic on quality of life, cognitive functions, and COVID-19 fear levels.

**Keywords:** COVID-19, fear of COVID-19, quality of life, cognitive function, elderly

**Öz**

**Amaç:** Bu çalışmanın amacı, COVID-19 nedeniyle yaşanan sosyal izolasyonun COVID-19 korkusu, yaşam kalitesi ve kognitif fonksiyonlar üzerine etkisinin değerlendirilmesidir.

**Gereç ve Yöntem:** Çalışmaya MHRS üzerinden CoronaVac aşısı için randevu alan 80 yaş ve üzeri çalışmaya katılmaya gönüllü bireyler ile bu evlerde ikamet eden aşı yaptırmak isteyip, aşı için aydınlatılmış onamı ve çalışmaya katılmayı kabul eden 603 birey dahil edilmiştir. Çalışmaya katılan yaşlılara sosyodemografik veri formu, Coronavirüs 19 Fobisi Ölçeği, Mini Mental Durum Testi ile Kısa Form 36 Yaşam Kalitesi Ölçeği doldurtulmuştur.

**Bulgular:** Çalışmamıza alınan hastaların %63,0'ı kadın (n=380), %37,0'ı erkekti (n=223). Çalışmamıza alınan 603 hastanın yaş ortalaması 77,65±8,05 (min:65, maks:97) yıl olarak bulundu. Yakını COVID-19 olma durumu, KF-36'nın sosyal fonksiyon durumu (KF-36'nın mental sağlık durumu, CP19-S'nin ekonomik boyutu (ile CP19-S'nin toplam puanı COVID-19 hastalığını geçirme durumunu etkileyen çok değişkenli prediktörler olarak tanımlandı. Katılımcıların COVID-19 fobisi ölçeğinden aldıkları toplam puan arttıkça bilişsel fonksiyonlarının da anlamlı derecede düştüğü görülmüştür.

**Sonuç:** COVID-19 pandemi sürecinde yaşlıların yaşadıkları sosyal izolasyonun yaşam kalitesi, kognitif fonksiyonlar ve COVID-19 korku düzeyleri üzerindeki etkileri ile ilgili önemli sonuçları vardır.

**Anahtar kelimeler:** COVID-19, COVID-19 korkusu, yaşam kalitesi, kognitif fonksiyon, yaşlı

## INTRODUCTION

On 31 December 2019, China reported cases of pneumonia of unknown cause to the World Health Organization. The existing cases were thought to be epidemiologically linked to the seafood and livestock wholesale market in the city of Wuhan[1]. Later, it was found that the causative agent of the disease was a new coronavirus called SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2), which was determined for the first time in humans. The disease it caused was accepted as Coronavirus Disease-2019 (COVID-19)[2].

This epidemic, which spread rapidly to the world, has affected and continues to affect many countries in many areas from the economy to the psychological sections. Due to this virus, which caused notable morbidity and mortality, as in the previous pandemics, drastic actions were taken around the world in a short time and many restrictions were introduced. With the first case seen in Turkey, precautions were taken and as the number of cases increased, these measures were expanded[3-5]. People over the age of 65 were enforced to curfews to prohibit the virus spread and reduce the mortality of the disease, but these restrictions had negative effects on the mental health, functionality and physical health of the elderly[6]. The COVID-19 pandemic, which continues to affect our country as well as all over the world, has affected the geriatric population the most among all age groups. The lethal effect of the virus increases with age[7]. 89% of deaths caused by COVID-19 occur in people aged 65 and over[8]. The elderly, who are frail, have been the individuals most affected by this process, due to the fact that the infection progresses more severely due to the existing chronic diseases of individuals over 65 years of age. The curfew is the most stringent within the scope of COVID-19 measures among elderly in Turkey. For such reasons, it is important to deal with all aspects of the epidemic process, especially in elderly. Practices carried out preventing the rapid spread of the virus however they caused physical, mental, social and economic adverse effects. The unavoidable increases in the number of infected people and mortality lead to fear, a psychological aspect of the COVID-19 epidemic[9]. COVID-19 has formed a complex, constantly evolving, changing and unpredictable environment around the world. This situation has led to the fear of dying or losing of relatives, as well as the fear of not being able to reach health institutions, the fear of food shortages, and the

fear of being infected at any moment[10]. In this process, it is thought that COVID-19 social isolation of elderly individuals will trigger various psychosocial problems and reduce the quality of life. Therefore, it is important to explore the effect of COVID-19 social isolation on elderly individuals, as a part of public health. Viral infections affect many systems and organs, including the central nervous system (CNS) and peripheral nervous system (PNS)[11]. Considering the studies, it has been reported that COVID-19, albeit limited, can cause cognitive disorders[12]. However, there are few studies that reveal cognitive changes that may occur after COVID-19 infection, and there are not many studies conducted in the Turkish population[13]. The purpose of this research is to evaluate the impact of COVID-19 social isolation on fear of COVID-19, quality of life and cognitive functions.

## MATERIALS AND METHODS

The Hamidiye University Faculty of Medicine Ethics Committee approved the study protocol on August 6, 2021 (project no. 2021/478) and informed consent was obtained from the participants. This study was performed between 01.05.2021 and 01.10.2021 with individuals who made an appointment for the CoronaVac vaccine at home via appointment system and voluntarily agreed to participate in the study. This study is descriptive and cross-sectional research. The data of the study were collected using the face-to-face interview technique. The data of this study were collected by family medicine assistants working in the field in Konya in charge of vaccination of people aged 65 and over. A total of 840 elderly individuals were interviewed, and those who could not answer the questions asked during the interview and those who left unanswered questions were excluded from the study. The study included individuals aged 80 and over who made an appointment for the CoronaVac vaccine via appointment system and volunteered to participate in the research, and 603 individuals residing in these houses, who wanted to have the vaccine, gave informed consent for the vaccine and agreed to participate in the study. Individuals aged 65 and over who did not want to participate in our survey for any reason, and people who changed their minds after the research started and did not want to participate in the work were not included in the research.

The sample size of our study was calculated with the OpenEpiversion 3.01 program and it was found to be

580 at 5% significance level, 95% confidence interval, 80% power.

## Data collection tools

### Socio-demographic form

This form includes the socio-demographic, clinical status, personal and COVID-19 information of the patients participating in the study, and the answers to the questions asked by talking with the patients or their relatives are recorded.

### Coronavirus 19 Phobia (CP19-S) Scale

This scale was advanced by Arpaci, Karataş, and Baloğlu in 2020 by considering the specific phobia diagnostic criteria available in DSM 5[14]. The scale is applied to people over the age of 18 and measures the phobia levels of individuals against COVID-19. Abnormal reactions, when faced with situations or objects that other individuals would not be afraid of in usual circumstances are considered extreme fear. In this situation, the person knows that it is pointless to be afraid, but still avoids the fear object. The measure is a 5-point Likert-type self-evaluation scale. The scale consists of 20 items and 4 factors in total and is determined by calculating how much individuals agree with the statements stated in the items in the past week, graded according to the answers "strongly disagree" and "strongly agree". The sub-dimensions of the scale, consist of a total of 4 factors; It consists of psychological, somatic, social and economic dimensions. The Cronbach Alpha value of the scale was determined as .92. Psychological sub-dimension; It is obtained by adding the 1st, 5th, 9th, 13th, 17th, 20th items. The somatic sub-dimension is found by summing the 2nd, 6th, 10th, 14th, and 18th items. Social sub-dimension; it is obtained by summing the 3rd, 7th, 11th, 15th, and 19th items. The economic sub-dimension is; It is evaluated by the sum of the 4th, 8th, 12th, 16th items. The total CP19-S score is calculating the sum of all sub-dimensions. This score ranges from the lowest 20 to the highest 100.

### Mini-Mental State Exam (MMSE)

The test consisting of 11 questions in total was developed by Folstein et al. in 1975 and standardized by Molly and Standish in 1997[15,16]. The Turkish validity and reliability of the test was carried out in 2002 by Günden et al[16]. This test; consists of 19 items under 5 main headings. Although the highest score that can be obtained from the test is 30; 5 points are taken from calculation and attention, 10 points from orientation, 3 points from recording memory, 3 points from remembering, and 9 points from language. While 24-30 points are considered normal; persons with a score of less than 24 should be considered for dementia. People with a total score of 17 or less should be considered severe dementia[16].

### Short Form 36 Quality of Life Scale (SF-36)

This dial, which questions the quality of life of individuals in the last four weeks; was advanced by Ware et al. in 1992 and the Turkish validity and reliability of the scale was performed by Koçyiğit et al. in 1999[17,18]. This scale consists of 36 separate items in total. The scale has 8 different sub-dimensions. There are 10 items that measure physical function. There are 2 different items that measure social function. There are 4 items assessing physical role difficulty. Role limitations due to sentimental problems consist of 3 items. Mental health is evaluated with 5 items. Energy/vitality is evaluated with a total of 4 items. Pain is calculated with 2 items. The general perception of health is evaluated with 5 items. Except for only the 2nd question, all other questions question the quality of life in the last 4 weeks. The second question measures the general perception of change in people's health in the last 1 year. While the 4th and 5th questions in the scale are answered as yes/no, the other items are answered with a Likert type rating. This scale does not have a total score. The scores of the sub-dimensions of the measure are; It varies between 0-100 points. A score of 100 on the scale indicates that the person is in good health, and a score of 0 indicates that the person's health is bad.

### Statistical analysis

Analysis of the results obtained from the research was carried out using the Statistical Package for Social Sciences (SPSS), version 21.0 computer package program for Windows. One of the descriptive statistical methods in statistical evaluation analysis; frequency (n), percentage (%), plus-minus standard deviation, minimum and maximum values were used. The Kolmogorov-Smirnov test was used to test the normal distribution of the data. We used Mann–Whitney U test for testing continuous data. Mann-Whitney U test was used in 2 groups and Kruskal-Wallis tests were used in more than two groups for mean comparison in independent groups. Pearson Correlation test was used to calculate the correlation between data. To identify independent predictors of

COVID-19 disease transmission; univariate and multivariate logistic regression analysis was used. In the regression analysis, the variables included in the model were determined by taking p<0.05 in univariable. Categorical data were expressed as numbers and %. P value <0.05 was noted statistically significant.

## RESULTS

Of the patients included in our study, 63.0% were female (n=380) and 37.0% were male (n=223). The mean age of the study population was 77.65±8.05 (min:65, max:97) years. The average body mass index (BMI) of the participants; was found to be 27.95±5.39 (min:16.73, max:57.02) kg/m2. While 12.8% (n=77) of the participants stated that they had COVID-19 disease, 87.2% (n=526) stated that they did not have COVID-19 disease. Elderly participants

stated that 63% (n=380) of their relatives did not have COVID-19 disease, while 37% (n=223) reported that their relatives had COVID-19 disease (Table 1).

Table 2 shows the relationship between the sub-dimensions of SF-36 and BMI, age, cognitive function, and COVID-19 fear levels. A weak positive correlation was found between cognitive function and physical function, pain, vitality/energy, social function, and mental health sub-dimensions and this relationship was found to be statistically significant. A weak negative and statistically significant relationship were found between the level of fear of COVID-19, emotional difficulty and age. A moderate and significant positive correlation was found between SF-36 sub-dimension mental health and physical function. A negative correlation was found between COVID-19 total fear level and cognitive function.

**Table 1. Sociodemographic characteristics of patients**

| Characteristics | Value | n | % |
|---|---|---|---|
| Gender | Female | 380 | 63.0 |
|  | Male | 223 | 37.0 |
| Age Mean±SD (min-max) | 77.65±8.05 (65-97) | | |
| Age (years) | 65-79 Years | 356 | 59.0 |
|  | 80 ve ↑Years | 247 | 41.0 |
| Marital status | Married | 318 | 52.7 |
|  | Single/divorced | 285 | 47.3 |
| Education level | Illiterate | 187 | 31.0 |
|  | Literate | 136 | 22.6 |
|  | Elementary s. | 237 | 39.3 |
|  | High school | 26 | 4.3 |
|  | University/↑ | 17 | 2.8 |
| Smoking status | Smoker | 53 | 8.8 |
|  | Non-smoker | 475 | 78.8 |
|  | Ex-smoker | 75 | 12.4 |
| BMI (kg/m²) Mean±SD (min-max) | 27.95±5.39 (16.73-57.02) | | |
| BMI categorical | 18.5-24.9 | 164 | 27.2 |
|  | 25.0-29.9 | 280 | 46.4 |
|  | 30,0-34,9 | 101 | 16.7 |
|  | 35,0-39,9 | 35 | 5.8 |
|  | ≥40,0 | 23 | 3.8 |
| Have you had a COVID-19 disease? | Yes | 77 | 12.8 |
|  | No | 526 | 87.2 |
| Have any of your relatives had COVID-19 disease? | Yes | 223 | 37.0 |
|  | No | 380 | 63.0 |
| Total |  | 603 | 100.0 |

Values are presented as number (%) or mean±standard deviation (range). Mean±SD: Mean±standard deviation; BMI: Body mass index; Elementary s: Elementary school.

**Table 2. Relationship between Cognitive Function, COVID-19 Fear Levels with short form-36 quality of life sub-dimensions**

| SF-36 subscales | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Physical function | 1 | | | | | | | | | | | |
| Physical role difficulties | 0.445** | 1 | | | | | | | | | | |
| Ache | 0.231** | 0.498** | 1 | | | | | | | | | |
| General health | 0.361** | 0.076 | 0.060 | 1 | | | | | | | | |
| Vitality/Energy | 0.195** | 0.076 | 0.241** | 0.531** | 1 | | | | | | | |
| Social function | 0.279** | 0.234** | 0.128** | 0.290** | 0.336** | 1 | | | | | | |
| Emotional difficulty | 0.320** | 0.236** | 0.153** | 0.326** | 0.333** | 0.476** | 1 | | | | | |
| Mental health | 0.474** | 0.261** | 0.059 | 0.444** | 0.218** | 0.469** | 0.447** | 1 | | | | |
| MMSE | 0.275** | 0.159** | 0.301** | 0.116* | 0.267** | 0.291** | 0.073* | 0.231** | 1 | | | |
| BMI | -0.104* | -0.032 | 0.060 | -0.010 | -0.038 | -0.012 | -0.107* | -0.098* | -0.103* | 1 | | |
| Age | -0.374** | -0.248** | -0.104** | -0.156** | -0.078* | -0.274** | -0.030 | -0.311** | -0.294** | -0.008 | 1 | |
| CP19-S T | 0.192** | 0.136** | -0.102* | -0.004 | -0.211** | -0.164** | -0.281** | 0.048 | -0.148** | -0.063- | 0.225** | 1 |

SF-36: Short form-36, MMSE: Mini Mental State Exam; BMI: Body mass index, CP19-S T: Coronavirus 19 Phobia (CP19-S) Scale Total, * Correlation shows significance at the 0.05 level, ** Correlation shows high significance at the 0.01 level.

**Table 3. Cronbach's alpha, mean ± standard deviation, minimum and maximum values**

| Parameters | Cronbach's alfa | Mean±SD | Min - Max |
|---|---|---|---|
| Physical function | .61 | 47.90±26.63 | 0-100 |
| Physical role difficulties | .63 | 51.98±40.42 | 450 |
| Ache | .68 | 57.32±39.47 | 0-100 |
| General health | .66 | 53.23±18.89 | 0-100 |
| Vitality/Energy | .66 | 59.69±15.15 | 16-100 |
| Social function | .65 | 58.84±21.95 | 0-100 |
| Emotional difficulty | .65 | 56.83±22.53 | |
| Mental health | .64 | 49.09±18.07 | 0-100 |
| MMSE | .67 | 20.06±8.30 | 0-95 |
| CP19-S Psychological | .68 | 16.11±6.34 | 0-30 |
| CP19-S Somatic | .68 | 10.87±5.48 | 6-30 |
| CP19-S Social | .68 | 12.64±5.31 | 5-25 |
| CP19-S Economic | .68 | 8.79±4.52 | 1-20 |
| CP19-S Total | .69 | 48.40±18.66 | 20-100 |

SF-36: Short form 36, MMSE: Mini Mental State Exam; CP19-S: Coronavirus 19 Phobia; Mean±SD: Mean±standard deviation, Min-Max: Minimum-Maximum.

Table 3 represents the mean, standard deviation (SD) and minimum-maximum values of the participants' subscales of SF-36. Accordingly, the results of the sub-dimensions of SF-36 were obtained, the patients had the highest mean score from the vitality (energy) (59.69±15.15) subscale, while the lowest mean score was from the physical function (47.90±26.63) subscale. The total average score they had from the COVID-19 fear scale; was determined as 48.40±18.66 and they had an average of 20.06±8.30 points from the mini-mental state test (Table 3).

When the mini-mental states of the patients were compared according to their gender; cognitive functions of female patients were found to be statistically lower than male patients (p=0.019). When the cognitive functions of the participants were compared according to the age groups, the cognitive functions of the group aged 80 and over were significantly lower, and a significant relationship was found between the two age groups (<0.001). When the COVID-19 fear levels of the participants were compared according to age groups, a significant relationship was found between the 65-79 age group and the 80 and over age group, and the fear levels of the participants in the 65-79 age group were found to be statistically higher than the other group (p< 0.001). When the cognitive functions of the participants were

compared according to their marital status, the cognitive function levels of the single+widows were found to be significantly lower than the married ones (p<0.001). A statistically significant difference was found when the education and smoking status of the participants were compared according to their cognitive functions and COVID-19 fear levels (p<0.001). When the BMI status of the participants was compared according to their cognitive functions and COVID-19 fear levels, a significant difference was found (p<0.001, p=0.001, respectively). The COVID-19 fear levels of the participants who had COVID-19 disease were found to be significantly higher than the group who did not have the disease (p=0.001). The cognitive function status of the participants whose relatives had COVID-19 disease

was found to be significantly higher than those whose relatives did not have the disease (p<0.001) (Table 4).

Table 5 shows the logistic regression analysis of independent predictors of COVID-19 disease transmission. Age, place of residence, number of siblings, education level of the father, COVID-19 status of the relatives of the participants, COVID-19 status of the spouses of the participants, physical function, physical role difficulty, social function, mental health, and COVID-19 sub-dimensions of SF-36. The somatic and economic dimensions of the 19 phobia scale and the total score obtained from the scale are important predictors of the state of having COVID-19 disease. (Table 5).

**Table 4. Comparison of MMSE and CP19-S total score averages according to some characteristics of the patients**

| Variable | Category | n | MMSE Mean±SD | $x^2$ f/z | p | CP19-S Total Mean±SD | $x^2$ f/z | p |
|---|---|---|---|---|---|---|---|---|
| Gender [¥] | Female | 380 | 22,15±5,77 | -2,348 | **0,019\*** | 45,54±15,11 | | |
| | Male | 223 | 25,27±5,25 | | | 42,35±16,31 | -1,542 | 0,123 |
| Age (years) [&] | 65-79 years | 356 | 24,89±5,55 | -4.586 | **<0.001** | 48,05±16,12 | -3.370 | **0.001** |
| | 80+ years | 247 | 21,91±5,59 | | | 39,28±13,77 | | |
| Marital [¥] status | Married | 305 | 24,58±5,86 | -5,534 | **<0.001** | 46,84±16,77 | -0,727 | 0,467 |
| | Single/divorced | 268 | 21,72±5,08 | | | 39,25±12,24 | | |
| Education level[&] | Illiterate[a] | 187 | 22.16±5.03 | 36,283 | **<0,001[ac]** **<0,001[bc]** **<0,001[ae]** **0,002[be]** | 39.16±12.65 | 19,711 | 0,013[ab] **<0,001** **0,02[ae]** |
| | Literate[b] | 136 | 20.40±5.59 | | | 45.52±13.81 | | |
| | Elementary s.[c] | 237 | 25.03±5.36 | | | 39.22±15.85 | | |
| | High school[d] | 17 | 26.36±6.32 | | | 55.27±18.85 | | |
| | University/↑[e] | 26 | 28.13±1.55 | | | 58.75±6.38 | | |
| Smoking [&] status | Smoker | 53 | 26.78±2.38 | 26,78 | **<0,001\*** | 53.11±18.70 | 13,282 | **0,001\*** |
| | Non-smoker | 475 | 22.53±5.85 | | | 45.24±15.08 | | |
| | Ex-smoker | 75 | 27.83±3.61 | | | 29.91±6.77 | | |
| BMI categorical[&] | 18.5-24.9[a] | 5 | 21.32±4.26 | 19,038 | **<0.001[bc,c] [d]** | 42.35±16.81 | 21,63 | **0.001[bc,bd,de]** |
| | 25.0-29.9[b] | 159 | 26.38±4.82 | | | 48.71±17.87 | | |
| | 30,0-34,9[c] | 280 | 22.54±6.08 | | | 42.17±15.34 | | |
| | 35,0-39,9[d] | 101 | 23.96±5.32 | | | 40.56±13.45 | | |
| | ≥40,0[e] | 58 | 21.30±5.10 | | | 51.50±14.43 | | |
| Have you had a COVID-19 disease?[¥] | Yes | 77 | 26.56±5.38 | -1,837 | 0.066 | 62.77±5.26 | -3.411 | 0.001\* |
| | No | 526 | 23.25±5.71 | | | 42.26±15.13 | | |
| Have any of your relatives had COVID-19 disease?[¥] | Yes | 223 | 26.56±5.38 | -4.581 | **<0.001\*** | 62.77±5.26 | -0.208 | 0.835 |
| | No | 380 | 23.25±5.71 | | | 42.26±15.13 | | |

Mean±SD: Mean±standard deviation; MMSE: Mini Mental State Exam; BMI: Body mass index; Literate d: Not literate; \*= denotes significance at the p<0.05 level; &: Kruskal Wallis H test was performed; ¥: Mann Whitney U test was performed.

**Table 5. Logistic regression analysis of independent predictors of COVID-19 disease transmission**

| Variable | Univariate analysis | | Multivariate analysis | |
|---|---|---|---|---|
| | OR (%95 Cl) | p | OR (%95 Cl) | p |
| Age | 0.94 (0.91-0.97 | <0.001 | | |
| Living place | 2.28 (1.00-5.19) | 0.013 | | |
| Siblings | 0.82 (0.71-0.94) | 0.005 | | |
| Father education | 1.32 (1.07-1.62) | 0.009 | | |
| Relatives Covid + | 0.97 (0.05-0.17) | <0.001 | 0.69 (0.02-0.16) | <0,001 |
| Partner Covid + | 1.16 (1.10-1.21) | <0.001 | | |
| SF-36 FF | 1.02 (1.01-1.03) | <0.001 | | |
| SF-36 FRD | 1.00 (1.00-1.01) | 0.034 | | |
| SF-36 SF | 1.02 (1.00-1.03) | 0.001 | 1.02 (1.00-1.03) | 0,015 |
| SF-36 MH | 1.02 (1.01-1.04) | <0.001 | 1.02 (1.00-1.04) | 0,048 |
| CP19-S S | 1.05 (1.01-1.10) | 0.010 | | |
| CP19-S E | 1.11 (1.05-1.17) | <0.001 | 1.26 (1.10-1.45) | <0,001 |
| CP19-S T | 1.01 (1.00-1.03) | 0.008 | 0.95 (0.90-0.99) | 0.024 |

OR: odds ratio; SF-36 FF: Short form 36 physical functions; SF-36 FRG: Short form 36 physical role difficulties; SF-36 SF: Short form 36 social functions; SF-36 MS: Short form 36 mental health; CP19-S: Coronavirus 19 Phobia Somatic; CP19-S E: Coronavirus 19 Phobia Economic; CP19-S T: Coronavirus 19 Phobia Total.

## DISCUSSION

In this study, the effect of COVID-19 social isolation on fear of COVID-19, quality of life and cognitive functions in the elderly was investigated. However, as the current pandemic continues worldwide and the number of studies examining its effects on the elderly are limited, the results are discussed in conjunction with the available literature. According to the results of the study, the status of the participants' relative being COVID-19, the social function status of SF-36, the mental health status of SF-36, the economic dimension of CP19-S and the total score of CP19-S, having suffered from COVID-19 disease were determined as the multivariate predictors affecting the state of health. It was observed that as the total score of the COVID-19 phobia scale increased, their cognitive functions also significantly decreased. It was determined that there was a significant positive correlation between all sub-dimensions of SF-36 and the cognitive functions of the participants.

Studies in the literature have shown that gender is associated with mental health and quality of life[19,20]. In the study conducted by Yang et al. in 2021, it was established that women with COVID-19 had more severe psychological symptoms than men, and these symptoms also significantly affected the quality of life[21]. According to findings obtained from many epidemiological studies, women carry a higher risk in terms of psychological consequences[22]. In the study, the cognitive functions of women were found to be statistically lower than men, and it was determined that gender did not affect the state of having COVID-19 disease. While these results highlight the difference between male and female patients with COVID-19, they also reflect the higher need for psychological support services in women.

According to many studies, the mental well-being of married people was found to be significantly better than those who were never married[23]. In addition, studies have shown that married women/men consume less alcohol and have fewer alcohol problems than single/divorced people[24]. In the study, it was seen that marital status affected cognitive function, and the cognitive functions of married people were better than the other single/widowed groups. These results show that sharing life with each other in a beneficial way creates mental comfort and this stress-reducing situation positively affects cognitive functions of both individuals.

Yang et al. evaluated the quality of life and mental health of patients diagnosed with COVID-19, and compared the physical function, mental function, vitality/energy, social function sub-dimensions of especially SF-36 patients with COVID-19 compared to healthy individuals. found that it was lower[21]. In the study, a significant positive correlation was found between all sub-dimensions of SF-36 and cognitive functions. Social function status, mental health status and economic dimension of SF-36 were determined

as multivariate predictors affecting the state of having COVID-19 disease.

Our study had some strengths and limitations. This study is one of the few studies that offers a unique chance to explore the effects of social isolation experienced during the pandemic on COVID-19 fear levels, quality of life and cognitive functions. The data obtained as a result of the study are some of the first data reflecting the effects of the pandemic process on the elderly. In addition, the fact that information has been collected about whether the participants have a spouse/relative/friend who has contracted the virus, that no similar information has been found in the literature regarding this situation, and that this situation has been determined as multivariate predictors of the state of having COVID-19 disease will contribute greatly to the literature. However, due to the fact that the sample of the study consisted of the elderly, the study could not be applied due to the problems related to old age, even though all the elderly interviewed in the field were reached. In addition, the possible recall bias of the participants may have confused our findings. One of the other weaknesses of our study is that we do not have the test results in which the health histories and cognitive functions of the participants who contracted COVID-19 were evaluated before the COVID-19 epidemic. Since this study was collected at the time of the COVID-19 outbreak, we did not have data on the quality of life and cognitive functions of elderly individuals before the COVID-19 outbreak. Performing a similar study by taking the appropriate control group in the next step will strengthen the findings.

This study offers important research areas for future studies to evaluate the effects of the COVID-19 pandemic on humans. As the COVID-19 pandemic still continues, the findings obtained in larger sample groups need to be confirmed and investigated.

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