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# Investigation of psychiatric symptoms in individuals in Turkey during the COVID-19 outbreak

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## Abstract

**Purpose:** The aim of this study was to determine the psychiatric symptoms and the effective factors in individuals in Turkey during COVID-19 outbreak.

**Design and Methods:** The descriptive study was conducted on individuals aged 18 and older living in Turkey. The questionnaire was prepared in Google form, and individuals were invited electronically.

**Findings:** The pandemic has affected the mental health of society adversely. Anxiety, depression, negative self, hostility, and somatization levels are higher in women, individuals under the age of 40, and those without children.

**Practice implications:** These results will shed light on the planning of community mental health services.

**KEYWORDS**

COVID-19, mental health, outbreak, psychiatric symptoms

## 1 | INTRODUCTION

The new Coronavirus Disease-19 (COVID-19) emerged in Wuhan, China, in December 2019 and spread rapidly to the world. The COVID-19 pandemic has taken over the world and has become the only agenda of humanity.[1] Pandemic not only affects human physical health negatively but also causes many adverse effects on mental health in the short and long term. In the past, it was seen that outbreaks led to many mental problems.[2-4]

While the COVID-19 outbreak has affected people's lives in many ways, it has had a negative impact on their mental health. It is acknowledged that the epidemic causes many psychological problems such as anxiety, depression, somatization, and sleep disorders.[1,52,14] Causes such as uncertainty, desperation, social isolation, restrictions, quarantine impair people's mental health, and lead to psychiatric diseases during the epidemic period.[7-9] In the study conducted on the psychological effects of the Coronavirus outbreak, it was reported that 16.5% of individuals showed symptoms of moderate and severe depression, 28.8% of them showed moderate and severe anxiety, and 8.1% showed symptoms of moderate and acute stress.[6] In their study, Yin et al.[10] stated that the level of anxiety increased by 15% during the Coronavirus pandemic.[10] In the survey conducted during the epidemic period in Spain, it was found that 15.8 of the

individuals had posttraumatic symptoms, 18.7 of them had depression, and 21.6% had anxiety symptoms.[11]

The transmission and spread rate of the Coronavirus is faster than other viral infections encountered to date. In addition, the virus has spread all over the world because it spreads very quickly.[2,4] Research data are required to develop evidence-based strategies to reduce adverse psychological effects and psychiatric symptoms during the outbreak. For this reason, it is essential to identify the mental problems caused by the COVID-19 outbreak in humans. This study aimed to determine the psychiatric symptoms and the effective factors in individuals in Turkey.

## 2 | MATERIAL AND METHODS

This descriptive study was carried out to determine psychiatric symptoms and the effective factors in individuals in Turkey during COVID-19 outbreak. The study conducted involved individuals aged 18 or above living in Turkey. To calculate the number of samples, the sample calculation formula with known universe was used. The required sample size was calculated as 384 with 95% confidence interval and ±5% sampling error for the study. However, more people should be sampled to compare the subgroups. Since it was not possible to meet with the public face-to-face due to the pandemic

situation, the questions were prepared in Google form, and people were invited electronically (e-mail, WhatsApp, Facebook, Instagram). People were informed about the study with the informed volunteer consent form before responding to the questions. The data were collected between April 10, 2020 and April 30, 2020. One thousand people were invited to the study, and 738 people participated in the study.

## 2.1 | Data collection tools

"Personal Information Form", "General Health Questionnaire-12", and "Brief Symptom Inventory (BSI)" were used.

## 2.2 | Personal information form

The personal information form, which was developed in line with the purpose of the study, consists of 11 questions. These questions are related to gender, age, education, marital and financial status, having children, having a psychiatric illness, and COVID-19.

## 2.3 | General Health Questionnaire-12 (GHQ-12)

In 1979, Goldberg and Hillier created the 28-question GHQ, and in 1988, the 12-question GHQ was developed by Golberg and Williams. It is a measurement tool that provides screening of anxiety and depression symptoms in a nonpsychiatric society. It is a short, easy-to-apply, and practical scale successfully used in community screening and different clinical settings. It was adapted to Turkish by Kılıç in 1996. In the reliability study, the Cronbach's alpha coefficient was found as 0.84. Each item consists of four choices, ranging from "less than usual" to "more than usual". In the Likert-type evaluation in the scoring of GHQ-12, 0, and 1 are scored as 0, and 2 and 3 are scored as 1. Accordingly, the lowest score to be taken is 0 and the highest score is 12. Those who score less than 2 on the scale are grouped as low, those who scored between 2 and 3 as moderate, and those who score 4 or more are grouped as high. Those who get high and moderate scores from the scale are evaluated in terms of psychological and physical disorders.[12] In this study, the Cronbach's alpha coefficient of the scale was found as 0.85.

## 2.4 | Brief symptom inventory (BSI)

It is a 53-item scale developed by Derogatis (1997) to screen various psychological symptoms, and it is scored between 0 and 4.[13] Turkish validity and reliability of the scale were performed by Dağ (2001).[14] The score range is 0–212, and a high total score obtained from the scale indicates the frequency of the individual's symptoms. BSI includes the subscales of anxiety, depression, negative self, somatization, and hostility. Practitioners are asked to choose and mark one of the 4 score options of "0" not at all, "1" a little bit, "2" moderately, "3" quite a bit, and "4" extremely for each item. In this study, the internal consistency coefficient calculated for the BSI subscales was calculated as 0.82 for anxiety, 0.86 for depression, 0.85 for negative self, 0.76 for somatization, 0.65 for hostility.

## 2.5 | Ethical permission

Permissions to conduct the study were obtained from the Republic of Turkey, Ministry of Health on May 6, 2020, and on May 8, 2020, from Ethic Committee (25403353-050.99-E.46817).

## 2.6 | Evaluation of the data

Frequency tables and descriptive statistics were used to interpret the findings. "Mann-Whitney U" test (Z-table value) was used in the comparison of the two independent groups with the measured values in the data without normal distribution, and "Kruskal-Wallis H" test ($\chi^2$-table value) statistics were used to compare three or more independent groups. According to the expected value levels in the examination of the relations of two qualitative variables,

"Pearson-$\chi^2$" or "continuity correction" cross tables are used.

## 3 | FINDINGS

A total of 62.3% (460) of the individuals participating in the study were female, and 38.1% (281) were between the ages of 21–30. A total of 80.1% (591) of the individuals were university graduates, 56.2% (415) were single, and 38.2% (282) had children. A total of 70.2% (522) of the individuals in the study had a moderate economic level, 5.6% (41) had a psychiatric disease, and 7.6% (56) had a diagnosis of COVID-19 in themselves or their family (Table 1). In Table 2, the average and standard deviation minimum and maximum values of scales and subscales are given.

In the study, the mean score obtained by the participants from the General Health Questionnaire (GHQ) was found to be $2.94 \pm 2.19$ (Min = 0.00; Max = 12.00). According to the GHQ classification, 257 individuals (34.8%) had a low level of health, 211 individuals (28.6%) had moderate health, and 270 individuals (36.6%) had a high level of health. A statistically significant relationship was determined between GHQ categories and gender ($\chi^2 = 21.063$; $p < 0.001$). It was determined that 189 individuals (70.0%) with high mental health were female, and 125 individuals (48.6%) with low mental health were male. It was discovered that females were predominantly at a high health level, while males predominantly had a low level of health. A statistically significant relationship was detected between GHQ categories and age group ($\chi^2 = 10.328$; $p = 0.002$). It was determined that 119 people (44.1%) with low mental health were in the 21–30 age group, and 82 people (31.9%) with high mental health were in the 31–40 age group. It was found that individuals in the age group 21–30 were predominantly at a low health level, while individuals in the age group 31–40 were predominantly at a high health level. A statistically significant relationship was found between GHQ categories and marital status ($\chi^2 = 24.1006$; $p < 0.001$). It was determined that 170 people (63.0%)

**TABLE 1** Descriptive features of individuals (738)

| Variable | n | % |
| --- | --- | --- |
| Gender | | |
| Female | 460 | 62.3 |
| Male | 278 | 37.7 |
| Age | | |
| 18–20 | 112 | 15.2 |
| 21–30 | 281 | 38.1 |
| 31–40 | 203 | 27.5 |
| 40 over | 142 | 19.2 |
| Education level | | |
| Primary/secondary | 24 | 3.3 |
| High school | 123 | 16.7 |
| Degree/over | 591 | 80.1 |
| Marital status | | |
| Married | 415 | 56.2 |
| Single | 323 | 43.8 |
| Child presence | | |
| Yes | 282 | 38.2 |
| No | 456 | 61.8 |
| Economic level | | |
| Bad | 22 | 3.0 |
| Middle | 522 | 70.7 |
| Good | 194 | 26.3 |
| Psychiatric diagnosis | | |
| Yes | 41 | 5.6 |
| No | 697 | 94.4 |
| Contact/diagnosis with COVID-19 | | |
| Yes | 56 | 7.6 |
| No | 682 | 92.4 |

**TABLE 2** Descriptive statistics

| Sub and total scale | n | X ± SD | Min–max |
| --- | --- | --- | --- |
| Brief symptom inventory (BSI) | | | |
| Anxiety | 738 | 12.05 ± 9.46 | 0–51 |
| Depression | 738 | 12.68 ± 10.41 | 0–48 |
| Negative self | 738 | 9.41 ± 8.88 | 1–38 |
| Somatization | 738 | 6.25 ± 4.72 | 0–35 |
| Hostility | 738 | 8.02 ± 5.46 | 0–24 |
| General health | 738 | 2.94 ± 2.19 | 0–12 |

with high mental health were married and 114 people (56.0%) with low mental health were single. It was found that married individuals were predominantly at a high health level, and single individuals were predominantly at a low health level. A statistically significant relationship was found between GHQ categories and having children ($\chi^2 = 27.573$; $p < .001$). It was determined that 148 people (70.1%) with moderate mental health did not have children, and 131 people (51.0%) with low mental health had children. It was found that individuals with children were predominantly at a low health level, while individuals without children were predominantly at a moderate health level. A statistically significant relationship was detected between GHQ categories and the status of being diagnosed with a psychiatric disease ($\chi^2 = 7.394$; $p = 0.025$). It was determined that 250 people (97.3%) with a low mental health did not have any psychiatric diagnosis, and 22 people (8.1%) with a high mental health had a psychiatric diagnosis. It was determined that those with a psychiatric diagnosis were predominantly in the high health group, and those without a psychiatric diagnosis predominantly had a low health level. There was no statistically significant relationship between GHQ categories and education and economic level, COVID-19 contact/diagnosis ($p > 0.05$). There was no statistically significant relationship between GHQ categories and education and economic level, COVID-19 diagnosis/contact ($p > 0.05$) (Table 3).

In Table 4, a comparison of the BSI mean scores was made according to the sociodemographic characteristics of the individuals. There was a statistically significant difference in terms of "Anxiety", "Depression", "Negative Self", "Somatization", and "Hostility" scores according to the gender of the individuals ($p < 0.001$). Females' anxiety, depression, negative self, somatization, and hostility scores were statistically significantly higher than those of males. A statistically significant difference was found in terms of anxiety, depression, negative self, somatization, and hostility scores according to the age groups of the individuals participating in the study ($p < 0.001$). The anxiety, depression, and hostility scores of the 18–20, 21–30, and 31–40 age groups were statistically significantly higher than the age group of 40 over. Depression and hostility scores of the 18–20 age group were statistically significantly higher compared to the 31–40 age group. The negative self and somatization scores of the 18–20 and 21–30 age group were statistically significantly higher than the 41 over age group. There was a statistically significant difference in terms of "Anxiety", "Depression", "Negative Self", "Somatization", and "Hostility" scores according to the marital status of the individuals ($p < 0.001$). Anxiety, depression, negative self, and hostility scores of single individuals were found to be statistically significantly higher than the scores of the married individuals. A statistically significant difference was found in terms of anxiety, depression, negative self, somatization, and hostility scores according to the status of having children for the individuals in the study ($p < 0.001$). All subscale scores of individuals without children were statistically significantly higher than the scores of the individuals without children. There was a statistically significant difference in terms of "Anxiety", "Depression", "Negative Self", "Somatization", and "Hostility" scores according to the economic status of the individuals ($p < 0.001$). Anxiety scores of

**TABLE 3** Examination of the relationship between GHQ classification according to the sociodemographic characteristics of individuals

| Variable (N = 405) | Low <2 (n = 257) | | Medium 2–3 (n = 211) | | High >3 (n = 270) | | Total (N = 738) | | Statistical analysis |
|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | |
| Gender | | | | | | | | | |
| Male | 132 | 51.4 | 139 | 65.9 | 189 | 70.0 | 460 | 62.3 | $\chi^2$ = **21.063** |
| Female | 125 | 48.6 | 72 | 34.1 | 81 | 30.0 | 278 | 37.7 | $p$ = 0.000 |
| Age | | | | | | | | | |
| 18–20[1] | 28 | 10.9 | 42 | 19.9 | 42 | 15.6 | 112 | 15.2 | $\chi^2$ = 20.557 |
| 21–30[2] | 83 | 32.3 | 79 | 37.4 | 119 | 44.1 | 281 | 38.1 | **$p$ = 0.002** |
| 31–40[3] | 82 | 31.9 | 54 | 25.6 | 67 | 24.8 | 203 | 27.5 | |
| 40 over[4] | 64 | 24.9 | 36 | 17.1 | 42 | 15.6 | 142 | 19.2 | |
| Education level | | | | | | | | | |
| Primary/secondary | 12 | 4.7 | 5 | 2.4 | 7 | 2.6 | 24 | 3.3 | $\chi^2$ = 10.328 |
| High school | 46 | 17.9 | 23 | 10.9 | 54 | 20.0 | 123 | 16.7 | $p$ = 0.335 |
| Degree/over | 199 | 77.4 | 183 | 86.7 | 209 | 77.4 | 591 | 80.1 | |
| Marital status | | | | | | | | | |
| Married | 113 | 44.0 | 132 | 62.6 | 170 | 63.0 | 415 | 56.2 | $\chi^2$ = 24.1006 |
| Single | 114 | 56.0 | 79 | 37.4 | 100 | 37.0 | 323 | 43.8 | $p$ = 0.000 |
| Child presence | | | | | | | | | |
| Yes | 131 | 51.0 | 63 | 29.9 | 88 | 32.6 | 282 | 38.2 | $\chi^2$ = 27.573 |
| No | 126 | 49.0 | 148 | 70.1 | 182 | 67.4 | 456 | 61.8 | $p$ = 0.000 |
| Economic level | | | | | | | | | |
| Bad | 7 | 2.7 | 5 | 2.4 | 10 | 3.7 | 22 | 3.0 | $\chi^2$ = 4.771 |
| Middle | 171 | 66.5 | 155 | 73.5 | 196 | 72.6 | 522 | 70.7 | $p$ = 0.312 |
| Good | 79 | 30.7 | 51 | 24.2 | 64 | 23.7 | 194 | 26.3 | |
| Psychiatric diagnosis | | | | | | | | | |
| Yes | 7 | 2.7 | 12 | 5.7 | 22 | 8.1 | 41 | 5.6 | $\chi^2$ = 7.394 |
| No | 250 | 97.3 | 199 | 94.3 | 248 | 91.9 | 697 | 94.4 | $p$ = 0.025 |
| Contact/diagnosis with COVID-19 | | | | | | | | | |
| Yes | 15 | 5.8 | 19 | 9.0 | 22 | 8.1 | 56 | 7.6 | $\chi^2$ = 1.849 |
| No | 242 | 94.2 | 192 | 91.0 | 248 | 91.8 | 682 | 92.4 | $p$ = 0.398 |

individuals with moderate economic status were statistically significantly higher than those with good economic status. Depression, negative self, somatization, and hostility scores of those with poor and moderate economic status were statistically significantly higher than those with good economic status. A statistically significant difference was found in terms of Anxiety, Depression, Negative Self, Somatization, and Hostility scores according to the status of having a psychiatric diagnosis ($p < 0.001$). All subscale scores of the individuals with a psychiatric diagnosis were statistically significantly higher than those without a psychiatric diagnosis. In our study, a statistically significant difference was found in terms of "Somatization" scores according to the status of being diagnosed with COVID-19, or the presence of COVID-19 in someone in close contact ($p < 0.05$).

**TABLE 4** Comparison of the mean scores of the BSI according to the sociodemographic characteristics of the individuals

| Variable | Anxiety | Depression | Negative self | Somatization | Hostility |
|---|---|---|---|---|---|
| **Gender** | | | | | |
| Female | 11.0 [2.0–52.0] | 12.0 [0.0–48.0] | 8.0 [0.0–48.0] | 5.0 [2.0–33.0] | 7.0 [1.0–30.0] |
| Male | 7.0 [2.0–48.0] | 7.0 [0.0–43.0] | 6.0 [0.0–40.0] | 4.0 [2.0–26.0] | 6.0 [1.0–23.0] |
| Statistical analysis | Z = −5.574 | Z = −6.642 | Z = −3.513 | Z = −4.048 | Z = −4.00 |
| | p = 0.000 | p = 0.000 | p = 0.000 | p = 0.000 | p = 0.000 |
| **Age** | | | | | |
| 18–20[1] | 10.0 [2.0–46.0] | 13.0 [0.0–44.0] | 8.0 [1.0–42.0] | 5.0 [2.0–26.0] | 10.0 [1.0–30.0] |
| 21–30[2] | 11.0 [2.0–48.0] | 11.0 [0.0–46.0] | 8.0 [0.0–40.0] | 5.0 [2.0–28.0] | 7.0 [1.0–30.0] |
| 31–40[3] | 9.0 [2.0–52.0] | 10.0 [0.0–48.0] | 7.0 [0.0–48.0] | 5.0 [2.0–33.0] | 6.0 [1.0–25.0] |
| 40 over[4] | 6.0 [6.0–41.0] | 6.0 [0.0–37.0] | 5.0 [0.0–43.0] | 4.0 [2.0–18.0] | 5.0 [1.0–23.0] |
| Statistical analysis | $\chi^2$ = 31.062 | $\chi^2$ = 37.882 | $\chi^2$ = 17.176 | $\chi^2$ = 14.920 | $\chi^2$ = 52.117 |
| | p = 0.000 [1,2,3–4] | p = 0.000 [1,2,3–4]-[1–3] | p = 0.000 [1,2–4] | p = 0.002 [1,2–4] | p = 0.000 [1,2,3–4]-[1–3] |
| **Education level** | | | | | |
| Primary/secondary | 6.5 [2.0–36.0] | 7.0 [0.0–40.0] | 6.0 [1.0–38.0] | 5.5 [2.0–26.0] | 6.5 [1.0–30.0] |
| High school | 9.0 [2.0–52.0] | 10.0 [0.0–48.0] | 8.0 [1.0-48.0] | 6.0 [2.0–33.0] | 9.0 [1.0–25.0] |
| Degree/over | 9.0 [2.0–46.0] | 10.0 [0.0–46.0] | 7.0 [0.0–43.0] | 4.0 [2.0–28.0] | 6.0 [1.0–30.0] |
| Statistical analysis | $\chi^2$ = 1.357 | $\chi^2$ = 1.075 | $\chi^2$ = 3.764 | $\chi^2$ = 6.653 | $\chi^2$ = 7.613 |
| | p = 0.507 | p = 0.584 | p = 0.152 | p = 0.036 | p = 0.022 |
| **Marital status** | | | | | |
| Married | 10.0 [2.0–46.0] | 12.0 [0.0–46.0] | 8.0 [0.0–42.0] | 5.0 [2.0–28.0] | 8.0 [1.0–30.0] |
| Single | 8.0 [2.0–52.0] | 8.0 [0.0–48.0] | 6.0 [0.0–48.0] | 4.0 [2.0–33.0] | 6.0 [0.0–25.0] |
| Statistical analysis | Z = −2.854 | Z = −5.754 | Z = −3.986 | Z = −1.581 | Z = −4.744 |
| | p = 0.004 | p = 0.000 | p = 0.000 | p = .114 | p = 0.000 |
| **Child presence** | | | | | |
| Yes | 7.0 [2.0-52.0] | 8.0 [0.0-48.0] | 6.0 [0.0-48.0] | 4.0 [2.0-33.0] | 6.0 [1.0-25.0] |
| No | 10.0 [2.0–48.0] | 12.0 [0.0–46.0] | 7.0 [0.0–42.0] | 5.0 [2.0–28.0] | 8.0 [1.0–30.0] |
| Statistical analysis | Z = 4.606 | Z = 6.255 | Z = 3.413 | Z = 2.530 | Z = 4.908 |
| | p = 0.000 | p = 0.000 | p = 0.001 | p = 0.011 | p = 0.000 |
| **Economic level** | | | | | |
| Bad[1] | 11.5[2.0–48.0] | 18.5 [0.0–43.0] | 13.5 [0.0–40.0] | 7.5 [2.0–21.0] | 11.0 [1.0–23.0] |
| Middle[2] | 9.0 [2.0–46.0] | 11.0 [0.0–46.0] | 7.0 [1.0–43.0] | 5.0 [2.0–28.0] | 7.0 [1.0–30.0] |
| Good[3] | 8.0 [2.0–52.0] | 7.0 [0.0–48.0] | 5.0 [1.0–48.0] | 2.0 [0.0–33.0] | 5.0 [0.0–25.0] |
| Statistical analysis | $\chi^2$ = 9.545 | $\chi^2$ = 27.221 | $\chi^2$ = 17.070 | $\chi^2$ = 7.649 | $\chi^2$ = 23.350 |
| | p = 0.008 [2–3] | p = 0.000 [1–2,3] | p = 0.000 [1–2,3] | p = 0.022 [1–2,3] | p = 0.000 [1,2–3] |
| **Psychiatric diagnosis** | | | | | |
| Yes | 14.0 [4.0–46.0] | 19.0 [3.0–43.0] | 12.0 [0.0–42.0] | 8.0 [2.0–26.0] | 12.0 [1.0–30.0] |
| No | 9.0 [2.0–52.0] | 9.0 [0.0–48.0] | 7.0 [0.0–48.0] | 5.0 [2.0–33.0] | 7.0 [1.0–30.0] |
| Statistical analysis | Z = −4.493 | Z = −4.511 | Z = −3.626 | Z = −4.661 | Z = −3.068 |
| | p = 0.000 | p = 0.000 | p = 0.000 | p = 0.000 | p = 0.000 |

(Continues)

**TABLE 4** (Continued)

| Variable | Anxiety | Depression | Negative self | Somatization | Hostility |
|---|---|---|---|---|---|
| Contact/diagnosis with COVID-19 | | | | | |
| Yes | 10.0 [2.0–52.0] | 11.5 [0.0–48.0] | 8.0 [0.0–48.0] | 6.5 [2.0–33.0] | 8.0 [1.0–25.0] |
| No | 9.0 [2.0–48.0] | 10.0 [0.0–46.0] | 7.0 [0.0–43.0] | 5.0 [2.0–28.0] | 7.0 [1.0–30.0] |
| Statistical analysis | $Z = -0.720$ | $Z = -1.099$ | $Z = -0.886$ | $Z = -2.097$ | $Z = -1.872$ |
| | $p = 0.472$ | $p = 0.472$ | $p = 0.375$ | $p = 0.036$ | $p = 0.061$ |

Somatization scores of individuals who were diagnosed with COVID-19 or who had an acquaintance diagnosed with COVID-19 were statistically significantly higher than individuals who were not diagnosed with COVID-19 or who did not have a close person diagnosed with COVID-19.

# 4 | DISCUSSION

This study was carried out to determine psychiatric symptoms and the effective factors in individuals living in Turkey during the COVID-19 pandemic process. Pandemics are generally believed to influence mental health negatively. However, no study on the effect of the COVID-19 pandemic on the mental health of individuals in Turkey has been encountered by the researcher. Furthermore, this study used the General Health Questionnaire-12, which provides information about mental health in general, and the BSI to examine various psychiatric symptoms.

In a study conducted, the General Health Questionnaire (GHQ) mean score was determined as $4.60 \pm 3.32$ (Min = 0.00; Max = 12.00).[15] According to the GHQ classification, 257 people (34.8%) had low health, 211 people (28.6%) had moderate health, and 270 people (36.6) had a high level of health. More than half (65.2%) of the individuals participating in the study were at a level to be qualified as risky in terms of mental. In a study evaluating mental health in healthy individuals in 2016, 47.6% of individuals were found to be at risk in terms of mental health.[16] In our study, the fact that the risk was high may be due to the pandemic affecting people's mental health negatively. Yin et al.[10] found that anxiety and depression symptoms increased during the COVID-19 pandemic process.[10] Another study found that psychiatric symptoms increased during the COVID-19 pandemic period.[8] The uncertainty, desperation, and fear brought about by the pandemic have impaired the mental health of individuals. Also, the secondary causes brought by the pandemic such as changing the routines, changes in work and education life and loneliness have negatively affected the mental health of individuals.[8,17]

In our study, females were found to be at more risk in terms of mental health compared to males. In addition, females were found to have higher levels of anxiety, depression, negative self, somatization, and hostility than males. In a survey conducted during the COVID-19 pandemic process, it was found that the risk of anxiety was three times higher in females than in males.[18] Similar results were obtained in studies conducted during the pandemic process.[6,8,19] The study was looking at the many psychiatric symptoms unlike other studies. The reason why females were at risk in terms of mental health and had high levels of anxiety, depression, negative self-esteem, somatization, and hostility could be that they are more susceptible to illness than males, have more responsibility in the family and are more cautious about obeying the rules to protect themselves against the epidemic.[20–22]

In our study, individuals under the age of 40 were at more risk in terms of mental health, and their anxiety, depression, negative self, and somatization levels were higher than the age group above 40. When we examined the literature, young individuals were found to have higher psychological symptoms.[5,11,17,23] Social isolation may have affected young people more due to pandemic. It is also acknowledged that young people spend more time on social media. This situation may have adversely affected their mental health, as this caused young people to be constantly confronted with information about the pandemic.[24,25] In this study, it was discovered that the level of education did not affect the mental health of individuals. When we examined the studies conducted during the pandemic period, it was discovered that those with higher education level displayed more psychiatric symptoms[6,7,17]

Married individuals were found to be in the high-risk group predominantly in terms of mental health compared to single individuals. Married individuals have more responsibilities than single individuals. Worrying about the health of the individuals in the family other than themselves in the pandemic process may have affected them negatively.[6] It was also determined in our study that single individuals' anxiety, depression, negative self, and hostility levels were higher than married people. Another study found that divorced individuals or widows showed more psychiatric symptoms.[17] In the social isolation process of single individuals during the pandemic period, the lack of social support may have made them feel lonely. The different results on two scales may be because the symptoms of other psychiatric diseases were not examined.

In this study, it was discovered that individuals who did not have children were at more risk in terms of mental health and had higher levels of anxiety, depression, negative self, and hostility than individuals who had children. In a study conducted by Shevlin et al.[21] during the COVID-19 outbreak process, it was stated that having a child increased anxiety.[21] In the study, individuals with moderate economic status had higher anxiety levels than those with good economic status. Depression, negative self, somatization, and hostility scores of those with poor economic status were found to be higher than those with good economic conditions. The poor financial situation is a significant risk factor in terms of mental illnesses.[26]

Individuals with a psychiatric diagnosis were found to be at more risk in terms of mental health. Also, individuals with a psychiatric diagnosis were found to have higher levels of anxiety, depression, negative self, and somatization compared to individuals without a psychiatric diagnosis. When we examined the literature, it was discovered that the most sensitive group in terms of mental health during the pandemic period were individuals with psychiatric illnesses.[19,27]

Somatization scores of individuals who were diagnosed with COVID-19 or who had someone close diagnosed with COVID-19 were statistically significantly higher than individuals who were not diagnosed with COVID-19 or who did not have someone close diagnosed with COVID-19. Fear of getting sick may have increased the level of somatization for the individuals who were diagnosed with COVID-19 or who had someone close diagnosed with COVID-19.

## 5 | CONCLUSION

The pandemic has affected the mental health of society adversely. Anxiety, depression, negative self, hostility, and somatization levels are higher in females, individuals under the age of 40, and individuals without children. Somatization levels of individuals diagnosed with COVID-19 or who had someone close diagnosed with COVID-19 were found to be high.

## 6 | LIMITATIONS

Findings are based on individuals' self-reports. Therefore, the generalizability of the results obtained represents a limitation of this study.

## 7 | IMPLICATIONS FOR NURSING PRACTICES

During the epidemic, mental health professionals should plan their mental health services by considering risky groups. The public should be made aware of the common psychological effects of an epidemic and online education services should be provided. It is recommended to raise the awareness of the public about coping with stress and problem solving strategies during the epidemic process.

### CONFLICT OF INTERESTS
The authors declare that there are no conflict of interests.

### DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from the author upon reasonable request.

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