The relationship between individuals' sources of information, perceptions, and anxiety regarding the COVID-19 pandemic in Turkey

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Abstract

The Coronavirus Disease 2019 (COVID-19) pandemic has led individuals to experience psychological distress as a result of their perceptions of the disease. This study aimed to determine the factors associated with these perceptions, the sources of information about the pandemic that may have contributed to them, and the level anxiety felt by adults living in Turkey in the initial phase of COVID-19, with a primary focus on generalized anxiety. The study had a web-based cross-sectional survey design 482 (327 female, 155 male) Turkish responders completed the Generalized Anxiety Disorder-7 (GAD-7) self-reported questionnaire, a measurement tool related to their perceptions of COVID-19 and questions about their sources of information about the pandemic between 3 and 19 April, 2020. Women experienced higher levels of anxiety than men. Those with severe symptoms of generalized anxiety disorder (GAD) believed that the COVID-19 pandemic would have a long duration, stated that the risk of transmission had had serious effects on their lives, felt little personal control with regard to the risk of transmission and did not believe that existing treatments would be effective against the risk of transmission. Moreover, those with severe GAD symptoms had little comprehension of how the disease was transmitted. Finally, it was concluded that those with severe GAD symptoms used the internet and, in particular, Instagram as their main sources of information about the pandemic. Although the anxiety levels were found to be moderate in general, women were more vulnerable. Using the internet and, in particular, Instagram as sources of information affected individuals' perceptions of the pandemic, and led to psychological distress.

Keywords COVID-19 pandemic · Anxiety · Perception · Information sources · Turkey

Introduction

The Coronavirus Disease 2019 (COVID-19) was publicly categorized as a pandemic by the World Health Organization (WHO) on 11 March 2020 (WHO, 2020). On 1 April 2020, the Ministry of Health of the Republic of Turkey announced that COVID-19 had spread over of Turkey (The Republic of Turkey, Ministry of Health, 2020). Similar to the measures in the rest of the world, in order to prevent the spread of the coronavirus (SARS-CoV-2), Turkey put quarantine measures, specific restrictions and a variety of other measures into place. Following the closure of local schools, a curfew was imposed on citizens who were between 0 and 20 years old or above 65. Furthermore, a full weekend curfew was put into effect in 40 cities. These restrictions have, as of the date of this writing, begun to be lifted to a certain extent. For example, hairdressers have been allowed to open if they follow specific requirements, and citizens between 0 and 20 years old and over 65 have been allowed to go outside on specific days of the week.

During epidemics, individuals tend to react emotionally, among the causes of this reactivity are the perception that they will be harmed, the losses that they experience and the changes that occur (Taylor, 2019). For example, various studies have found that during the Severe Acute Respiratory Syndrome (SARS) in 2003, the H1N1 pandemic in 2009, and the Ebola outbreak in 2014, psychological distress was felt by many members of the public(Blakey et al., 2015; Lee et al., 2008; Taha et al., 2014). Drawing on the results of these studies, Taylor (2019) stated that the psychological effects of the next pandemic would be more pronounced, more widespread, and would last longer than those of past epidemics. As

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a matter of fact, in studies conducted with a large sample in China, where COVID-19 was first seen, one-third of the participants reported that they were experiencing psychological distress such as depressive symptoms, anxiety and disturbed sleep (Huang & Zhao, 2020; Kwok et al., 2020; Qian et al., 2020; Qiu et al., 2020a; Wang et al., 2020). Similar findings were found in studies conducted in other countries (Cerami et al., 2020; Gritsenko et al., 2020; Shigemura et al., 2020; Sorokin et al., 2020).

In addition, Taylor (2019) states that individuals' behavioral and emotional responses to the danger of being infected by a virus are determined by their personal perceptions of the threat to health. In the cases of SARS, swine flu, and H1N1, it was reported that perceptions regarding susceptibility to the disease, its severity, and the risk of being infected had an effect on the preventive and protective behaviors that individuals engaged in (Bish & Michie, 2010; Bults et al., 2015; Raude & Setbon, 2009; Seale et al., 2010; Tang & Wong, 2004). These perceptions have been reported to be related to levels of anxiety and fear (Leung et al., 2005; Karademas et al., 2013). The most comprehensive framework for perceptions and beliefs related to the process of illness threats of illness is the common-sense model of illness self-regulation (CSM), which examines illness representations approach with illness representations (Benyamini & Karademas, 2019; Leventhal et al., 1998). Illness representations are considered to be cognitive structures which are formed in order to make sense of diseases and their progression (Hagger & Orbell, 2003). Illness representations consist of five substantive cognitive representations or attributes: cause, consequences, identity, personal control, and timeline. The "cause" dimension reflects whether a disease or illness is believed to be genetic or a result of infection. The "consequences" dimension includes the individual's beliefs about the severity of the disease and its possible physical, social, and psychological effects. "Identity" involves the symptoms or labels given to the disease or condition. The "personal control" dimension indicates the individual's perception of their control over the duration, course, and treatment of the disease. "Timeline" refers to an individual's perceptions about the duration of their illness or condition. Subsequently, in studies on psychometric properties and control of treatment, dimensions were added that addressed the individual's beliefs about the effectiveness of the treatment administered, and "illness coherence", which focuses on how and to what extent an individual understands or grasps the disease and its threat to health (Hagger et al., 2017; Hagger & Orbell, 2021).

The relation of illness representations in past pandemics to emotional and behavioral changes has been well studied. The illness representations that led to the recommended changes in behavior with regard to swine flu involved the perception that swine flu was severe, the belief that the outbreak would last for a long time, and the perception that individuals had personal control over their actions (Rubin et al., 2009). In the study of public reactions to the H1N1, it was reported that the perception of control was associated with protective behaviors, infection management behaviors, and emotional detachment (Karademas et al., 2013).

Social networks are another factor that affects beliefs and fears about epidemics. The sharing of information and observational learning that occur in social networks contribute to the development of specific beliefs and increase fear and anxiety. In pandemics, the news media and social media are the primary sources of information, acting as sources of ideas and information, as well as potentially increasing the fear and anxiety in the population (Taylor, 2019). This view is also supported by the conclusion that exposure to social media in Wuhan, China in the initial stage of the COVID-19 pandemic was high and that this caused a high level of anxiety (Gao et al., 2020).

The aim of the current study was to determine the factors associated with perceptions of COVID-19 and anxiety about COVID-19 in Turkey, focusing specifically on generalized anxiety. The study first examined the differences in perceptions about the pandemic, the timeline of the virus outbreak, the consequences of infection, the sense of personal control with regard to the infection risk, treatment control about contamination risk, and the coherence of ideas about becoming infected and the progress of the disease. Second, the study aimed to reveal the differences between those with and without high levels of anxiety and how these were related to individuals' sources of information about COVID-19. In addition, the differences in the socio-demographic characteristics of those with and without high levels of anxiety were examined.

Methods

Participants and Procedures

A web-based cross-sectional survey was used to measure the response to the initial phase of COVID-19 in Turkey. An anonymous free survey was designed by the author using Google Forms, ensuring a broad and easy access. Study announcements containing brief information about the study and a webpage link to the study were shared on social media platforms including Facebook, WhatsApp, and Instagram. The eligible participants were gathered from the general population in Turkey, aged at least 18 years old, and speak Turkish as their first language. The participants were kindly asked to share the study through their networks. They were not allowed to submit their responses until all questions are answered. Before participating in the survey, informed consent was obtained from the participants, which included the aims, possible benefits, and risks of the study. No participant was dropped out of the study due to these procedures... The

study was conducted according to the guidelines in the World Medical Association's Declaration of Helsinki (2013). Informed consent was obtained from all the participants before they answered the survey form.

Data were collected from 482 people over the age of 18 between 3 and 19 April, 2020. When the demographics of the participants were examined, it was observed that 68.7% of the participants were women, 23.2% were between 18 and 24 years old, 16.4% were between 25 and 34 years old, 29% were between 35 and 44 years old, 24.1% were between 45 and 54 years old, and 7.3% were 55 or more years old. In terms of marital status, 57.7% were single. 2.3% of the participants had only elementary or secondary (middle school) education, 9.1% had graduated highschool, 70.5% had an undergraduate degree, and 18% had a postgraduate degree. 80.7% of the participants lived in metropolitan districts, 9.1% in urban (city) centers, 10,2% in suburban/rural areas. 16.2% of the participants were university students and 51.5% were employed, while 32.4% were not employed (were unemployed, housewives or retired (Table 1).

Measures

The Sociodemographic Information Form

The sociodemographic variables were gender, place of residence, marital status, age, educational level, employment status. The age ranges were divided into 18–24 years old, 25–34 years old, 35–44 years old, 45–54 years old, and 55 years old and above. Marital status was divided into two categories, married and single. In order to examine the educational level, participants were categorized as being at elementary/secondary-school, high-school, undergraduate, and graduate levels. The places of residence were defined as metropolitan districts, urban centers, and suburban/rural areas. Employment status was given as university student, employed, and non-employed (unemployed, housewife or retired).

Sources of Information about COVID-19 Questionnaire

The questions regarding the individuals' sources of information about COVID-19 included which media were used to get news about the pandemic, and how often they had accessed them in the previous 14 days. The specific sources of information consisted of newspapers/magazines, radio, television, the internet in general, and specific applications/websites such as WhatsApp, Facebook, Instagram, and Twitter. This questionnaire was a 4-point Likert-type scale with possible answers ranging from "Never" to "Always".

The COVID-19 Perceptions Questionnaire

The COVID-19 Perceptions Questionnaire was adapted by the researcher based on the Turkish version of the Revised Illness Perception Questionnaire (IPQ-R) (Moss-Morris et al., 2002), in order to measure perceptions about coronavirus and infections risk. The questionnaire had nine subdimensions, with possible answers ranging from "Strongly Disagree" to "Strongly agree". These subdimensions were: Identity, Timeline (acute/chronic), Consequences, Personal control, Treatment control, Illness coherence, Timeline (cyclical), Emotional Representations and Causes. Each subdimension is considered an aspect of the overall cognitive representation (Hagger & Orbell, 2003). In this study, the subdimensions of Timeline, Consequences, Personal Control, Treatment Control, and Illness Coherence were adapted in order to be specific to COVID-19. The items were reviewed by three experts and then finalized.

The Timeline subdimension was used to measure individuals' perception of the duration of the virus outbreak. It consisted of six items and high scores indicated a strong belief that the pandemic would last for a long time. In the original scale, this subdimension consists of items such as "My illness will last for a long time". In this study, this item was converted to "This virus outbreak will last for a long time". The Cronbach's alpha was found to be $\alpha = .71$.

The Consequences subdimension examined the effect of the risk of infection on social and psychological functionality. This subdimension consisted of six items and high scores indicated that the potential risk of transmission was perceived to be high. Original items were adapted for COVID-19. For example, the item "My illness has major consequences on my life" was converted to "The risk of transmission of the virus has serious effects on my life". The internal consistency of this subdimension was $\alpha = .73$.

Table 1 Demographic characteristics of study sample ($N = 482$)

Characteristics		n	(%)
Gender	Female	327	67,7
	Male	155	32,3
Marital Status	Single	204	57,7
	Married	278	42,3
Place of residence	Metropolitan districts	389	80,7
	Urban centers	44	9,1
	Suburban/rural areas	49	10,2
Age	Between 18 and 24 years old	112	23.2
	Between 25 and 34 years old	79	16,4
	Between 35 and 44 years old	140	29
	Between 45 and 54 years old	116	24,1
	Above 55 years old	35	7,3
Education level	Primary-secondary school	11	2,3
	High school	44	9,1
	Undergraduate	340	70,5
	Graduate	87	18
Employment status	University Students	78	16,2
	Working	248	51,5
	Not Working	156	32,4

The Personal Control subdimension, which also consisted of six items, it was adapted to measure the participants' perceptions of their control over the risk of being infected withCOVID-19. High scores indicated that they perceived themselves to have a high degree of control. Items were adapted for COVID-19. For example, "There is a lot which I can do to control my symptoms" was converted to, "There is a lot I can do to prevent the risk of infection," and the Cronbach's alpha was found to be $\alpha = .78$.

The Treatment Control subdimension consisted of five items and high scores indicated that there was a strong belief in the effectiveness of treatments. Items were rewritten as discussed. For example, the items "My treatment can control my illness" became "The treatment can control the virus outbreak". The Cronbach's alpha of this subdimension was found to be $\alpha = .77$.

The Coherence subdimension, on the other hand, included individuals' understanding of COVID-19, and how well they understood the process by which COVID-19 is transmitted. It had six items, and high scores indicated that the means of transmission were understood. Items were likewise amended, so that, for example "I don't understand my illness" in the original was converted to "I don't understand how the new coronavirus disease is transmitted" (Cronbach's $\alpha = .82$).

The Generalized Anxiety Disorder-7 Scale (GAD-7) The Generalized Anxiety Disorder-7 Scale (GAD-7) is a four-point Likert-type scale developed by Spitzer et al. (2006), asking how often individuals have experienced each symptom in the items in the previous two weeks (from 0 = "Not at all" to 3 = "Nearly every day"). The scores obtained from the scale are between 0 and 21 and high scores indicate a higher level of anxiety. When a cut-off score of 10 was selected for a diagnosis of GAD, the sensitivity was observed to be 89%, while the specificity was 82%. The scale has good reliability. For this study the Turkish form of the scale was used. A GAD 7-total score of 9 points or greater was considered to indicate the presence of generalized anxiety symptoms in the Turkish sample group (Konkan et al., 2013). Thus, in this study those with scores between 0 and 9 were defined as "those without GAD" and those with scores between 10 and 21 were defined as "those with GAD". The reliability of the scale was also found to be high in this study: Cronbach's $\alpha = .91$.

Data Analysis

The sociodemographic data were analyzed using descriptive statistics. The univariate normality assumption was examined by skewness and kurtosis values and it was observed that they were between +1 and − 1. Kurtosis and skewness values of between −1.5 and + 1.5 are assumed to indicate a normal distribution (Tabachnick & Fidell, 2013). To test the differences between sociodemographic data and anxiety scores, the

independent t-test and one-way ANOVA were performed. Effect sizes were measured with d and eta square. Two different MANOVA analyses were used to examine the differences between the COVID-19 Perceptions Questionnaire and the sources of information of those with GAD and those without GAD. Multivariate outliers were examined through Mahalanobis Distance ($\chi2$). It was observed that there were six cases of multivariate outliers from 482 participants toward the critical value of 36.125 (df = 14. $p = .001$). Assumptions for normality, linearity, multicollinearity, and homogeneity of variance/covariance matrices were not found to be violated in the present analysis. A Bonferroni's adjustment factor was applied. The analysis of the data was carried out using the IBM SPSS 21.0 package program.

Results

In order to compare anxiety scores by gender and marital status, an independent samples t-test was separately conducted. The results of this test were found to be statistically significant in terms of gender: $t(480) = -2.24, p < .05; d = .22$, CI [0.14, 2.07]. The effect size was small ($d = .022$). These results indicated that females ($M = 7.69$, SD = 5.02) experienced higher anxiety than males ($M = 6.57$, SD = 5.14). For marital status, there was no significant differences in the scores for single ($M = 7.20$, SD = 5.06) and married individuals ($M = 7.49$, SD = 5.04); $t(480) = -.616, p > .05; d = .057$, CI [−1.21, .63] (Table 2).

A series of one-way MANOVA test were conducted to compare anxiety in terms of place of residence, age, educational level, and employment status. There was no significant difference in anxiety for place of residence, age, educational level, and employment status: $F(2, 479) = 1.21, p > .05, \eta2 = .005; F(4, 477) = 1.12, p > .05, \eta2 = .095; F(3, 478) = .48, p > .05, \eta2 = .001; F(2, 479) = 2.82, p > .05, \eta2 = .001$, respectively (Table 2).

With regard to the scores for the Timeline, Consequences, Personal Control, Treatment Control, and Coherence subdimensions, one-way MANOVA results showed a statistically significant difference between those without GAD and those with GAD in the overall model: $F(5, 470) = 11.27, p < .05$, Wilks's $\lambda = .893$, partial $\eta2 = .107$. The effect size indicated that 11% of the variance in overall anxiety was explained by group membership. For the Timeline scores, significant univariate main effects were found: $F(1, 474) = 15.07, p < .01$, partial $\eta2 = .031$, power = .972. The average score in the Timeline subdimension for those without GAD ($M = 16.07$, SD = .19) was lower than for those with GAD ($M = 17.29$, SD = .25). For the Consequences scores, significant univariate main effects were found: $F(1, 474) = 10.31, p = .01$ partial $\eta2 = .021$, power = .893. Specifically, those without GAD ($M = 21.25$, SD = .17) scored lower than those with

Table 2 Comparison of demographic characteristics and anxiety scores (n = 482, M = 7.33)

Characteristics		n	Mean ± SD	t	d	F	η2	p
Gender	Female	327	7.69 ± 5.02	2.24	.22			.026*
	Male	155						
Marital Status	Single	204	7.20 ± 5.06	−.616	.06			.539
	Married	278	7.49 ± 5.04					
Place of residence	Metropolitan districts	389	7.24 ± 5.09			1.21	.005	.301
	Urban centers	44	6.88 ± 4.81					
	Suburban/rural areas	49	8.34 ± 5.21					
Age	Between 18 and 24 years old	112	7.87 ± 4.92			1.12	.009	.349
	Between 25 and 34 years old	79	7.83 ± 5.57					
	Between 35 and 44 years old	140	6.82 ± 4.69					
	Between 45 and 54 years old	116	6.92 ± 5.20					
	Above 55 years old	35	7.74 ± 5.48					
Education level	Primary-secondary school	11	7.63 ± 5.29					
	High school	44	6.50 ± 4.73			.48	.001	.698
	Undergraduate	340	7.44 ± 5.15					
	Graduate	87	7.21 ± 4.96					
Employment status	University Students	78	8.46 ± 5.14			2.82	.01	.61
	Working	248	6.91 ± 5.12					
	Not Working	156	7.41 ± 4.93					

Note: *p < .05

GAD (*M* = 22.17, *SD* = .23). For Personal Control, significant univariate main effects were found: $F(1,474) = 17.71, p < .01$, partial η2 = .036 power = .987. The average score on Consequences subdimension for those without GAD was (*M* = 19.91, *SD* = .19) higher than those with GAD (*M* = 18.56, *SD* = .25). In Treatment Control and Coherence, significant univariate main effects were also found for $F(1,474) = 10.08$, $p > .01$, partial η2 = .021, power = .886 and $F(1, 474) = 10.09$, $p > .01$, partial η2 = .021, and power = .887, respectively. Those without GAD scored higher than those with GAD on both Treatment Control subdimension (*M* = 15.84, *SD* = .14 for those without GAD and 15.10, *SD* = .19 for those with GAD) and Coherence subdimension (*M* = 16.37, *SD* = .16 for those without GAD and 15.51, *SD* = .22 for those with GAD) (Table 3).

With regard to sources of information, the one-way MANOVA results showed a statistically significant difference between those without GAD and those with GAD in the overall model consisting of newspaper/magazine, radio, television, the internet, WhatsApp, Facebook, Instagram and Twitter: $F(8,467) = 3.317, p < .05$, Wilks's Wilks' *λ* = .946, partial η2 = .054. The effect size indicated that 5% of the variance in overall anxiety was explained by group membership. In this test significant univariate main effects were only found for Instagram ($F(1, 474) = 18.542, p < 006$, partial η2 = .038, power = .990) and for the internet: $F(1,474) = 7.991, p < .006$, partial η2 = .0017, power = .803. More specifically,

those without GAD scored lower than those with GAD on both Instagram (*M* = 2.52, *SD* = 1.14 for those without GAD and 2.98, *SD* = 1,04 for those with GAD) and internet (*M* = 3.69, *SD* = .61 for those without GAD and 3.83, *SD* = .54 for those with GAD). The other universal effects were not found to be significant. These were: for newsletter/magazine: $F(1, 474) = .125, p > .006$, partial η2 = .000, power = .064; for radio: $F(1, 474) = .478, p > .006$, partial η2 = .001, power = .106; for television: $F(1, 474) = 2128, p > .006$, partial eta square = .004, power = .307; for WhatsApp: $F(1, 474) = .535, p > .006$, partial η2 = .001, power = .113; for Facebook: $F(1, 474) = 1.091, p > .006$, partial η2 = .002, power = .181; for Twitter: $F(1,474) = .210, p > .006$, partial η2 = .000, power = .074 (Table 3).

Discussion

The purpose of this study was to examined the effect of COVID-19 related perceptions and sources of information about the pandemic on generalized anxiety. The analysis of the results showed that women were more anxious than men during the initial phases of the COVID-19 pandemic. This result supports those of other studies reporting that the level of anxiety was higher among women than among men during the COVID-19 pandemic (González-Sanguino et al., 2020; Mazza et al., 2020; Özdin & Bayrak-Özdin, 2020; Qiu et al.,
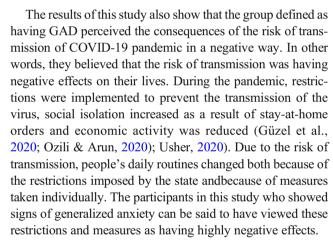
Table 3 One-way MANOVA results for COVID-19 perceptions and sources of information according to GAD categories

Measures	Those without GAD (n = 302) Mean(SD)	Those with GAD (n = 174) Mean(SD)	F(1.474)	Statistic p	Partial η2
Timeline	16.07 (.19)	17.29(.25)	15.07	.000*	.031
Consequences	21.25(.17)	22.17(.23)	10.31	.001*	.021
Personal control	19.91(.19)	18.56(.25)	17.71	.000*	.036
Treatment control	15.84(.14)	15.10(.19)	10.08	.002*	.021
Coherence	16.37(.16)	15.51(.22)	10.09	.002*	.021
Newsletter/magazine	2.18(1.18)	2.22(1.18)	.125	.724	.000
Radio	1.74(.93)	1.80(1.01)	.478	.490	.001
Television	3.40(.83)	3.51(.74)	2.128	.145	.004
Internet	3.69(.61)	3.83(.54)	7.991	.005**	.017
WhatsApp	3.19(.89)	3.25(.88)	.535	.465	.001
Facebook	2.14(1.10)	2.25(.13)	1.091	.297	.002
Instagram	2.52(1.14)	2.98(1.04)	18.542	.000**	.038
Twitter	2.42(1.18)	2.42(.93)	.210	.647	.000

Note: *p ≤ .01; **p ≤ .006 according to A Bonferroni adjustment factor

2020b; Pappa et al., 2020; Wang et al., 2020). It is possible to relate this result to the fact that the lifetime rates of anxiety disorders in women are higher compared to men (McLean et al., 2011). It is possible that the high level of anxiety in women during the pandemic is a result of the extensive stay-home orders and curfews in Turkey, which may have placed more burdens on Turkish women as the primary caregivers at home and as those traditionally most likely to carry out domestic chores and do housework. However, since the effect size was small, this particular result should be evaluated carefully. Additionally, the results of the study showed that there was no significant relationship between place of residence, marital status, age, educational level, or employment status and anxiety. One of the reasons for the absence of these relations may be due to the fact that the average GAD score of the sample was at a moderate level (M = 7.33). In this sense, it is possible to that a moderate level of anxiety may serve to motivate people to deal with threats to theirs and others' health (Taylor, 2019).

Another finding of the study was those who were above the cut-off score for GAD, believed that the COVID-19 pandemic would last a long time. Studies of the perceptions of other diseases have demonstrated that the belief that an illness is chronic causes individuals' anxiety to increase(Hagger et al., 2017; Pai et al., 2019). The finding of the current study is similar to other findings obtained during this pandemic (Li et al., 2020; Tull et al., 2020; Wang et al., 2020) and previous ones (Wheaton et al., 2012). Pandemic outbreaks are situations involving uncertainty. Increasing uncertainty about the risk of contracting the disease or how long it will continue may disorientate people and trigger GAD (Peitl et al., 2020; Taylor, 2019).

The results of this study also show that the group defined as having GAD perceived the consequences of the risk of transmission of COVID-19 pandemic in a negative way. In other words, they believed that the risk of transmission was having negative effects on their lives. During the pandemic, restrictions were implemented to prevent the transmission of the virus, social isolation increased as a result of stay-at-home orders and economic activity was reduced (Güzel et al., 2020; Ozili & Arun, 2020); Usher, 2020). Due to the risk of transmission, people's daily routines changed both because of the restrictions imposed by the state andbecause of measures taken individually. The participants in this study who showed signs of generalized anxiety can be said to have viewed these restrictions and measures as having highly negative effects.

Another result of the study was that the participants who had serious generalized anxiety symptoms had little sense that they could control the risk of transmission of COVID-19. A perception of personal control perception decreases psychological distress and increase psychological wellbeing, including self-efficacy, with regard to health threats(Hagger et al., 2017). Feeling in control had a protective effect against the development emotional problems during the COVID-19 outbreak (Li et al., 2020). In a study conducted with a large sample in Singapore, China, and Italy, high self-efficacy was associated with low anxiety (Lim et al., 2020).

The participants who showed signs of generalized anxiety seemed to have a little belief that treatments would control the virus. GAD often involves overestimating the potential for negative aspects as well as the financial cost of any outcomes (Andrews et al., 2016). In the Ebola outbreak in 2014, fear of Ebola was reported to lead to a tendency to overestimate the

severity of infection (Blakey, Reuman, Jacoby, & Abramowitz, 2015). Accordingly, those with high level of anxiety are probably more likely to imagine that treatments will not be effective.

The study found that those with GAD had little understanding of COVID-19 and how it is transmitted. In a study conducted in southwestern China, it was reported that a high level of anxiety was associated with a high self-evaluated level of knowledge about COVID-19 (Lei et al., 2020). Similarly, more accurate information about Zika increased Zika-related anxiety (Blakey & Abramowitz, 2017). As Blakey and Abramowitz (2017) stated, information-seeking can be as adaptive as well as maladaptive. As a result of this present study, it can be claimed that believing that they understand how the infection is transmitted may have an adaptive effect on individuals' behavior.

For those respondents with symptoms of GAD in this study, it was observed that the internet and, in particular, Instagram were main sources of information about the pandemic. In health-related crises, the public tends to use the media extensively to get accurate and up-to-date information (Garfin et al., 2020). In April 2020, 35% of internet users used it to follow the latest news (We Are Social, 2020). The internet was the primary source of health information for the COVID-19 epidemic (Wang et al., 2020) However, similar to the result obtained in this study, excessive internet use has been associated with low psychological wellbeing (Ko et al., 2020). Instagram was not only a platform for the exchange of photographs in Turkey during the pandemic, but was also used extensively for live streams. There were programs such as concerts, expert talks, and live physical exercise programs (Webrazzi, 2020). As described in detail in previous studies, maladaptive behaviors associated with GAD include safety behaviors and avoidance behaviors (Mahoney et al., 2018). During the COVID-19pandemic, people with high anxiety may have watched live streams on Instagram or followed status posts to learn what other people were thinking in order to seek reassurance or to see if everything was going well. In addition, live concerts and other entertainment activities on Instagram may have been used to avoid anxiety.

There are certain limitations to this study. First of all, this study was a cross-sectional, online study. Therefore, it is not suitable for making causal inferences and it should be noted that there was a bias in the sample selection. In addition, the percentage of women in the sample is high, and those in middle age were more heavily represented than those in other age groups. This limits the study's generalizability. Finally, the effect sizes were found to be small. Since studies about the COVID-19 pandemic are very new, it is difficult to make comparisons because effect sizes are not available.

Conclusion

In conclusion, the study indicates that women were more vulnerable to experiencing high levels anxiety during the COVID-19 pandemic in Turkey. Those with severe symptoms of GAD believed that the COVID-19 pandemic would last for a long time, that the risk of infection had serious, detrimental effects on their lives, that they had little personal control over the risk of transmission risk, that existing treatments would not help reduce transmission; they also had little comprehension of how the infection was transmitted. Finally, it was concluded that those with severe symptoms of GAD used the internet and, in particular, Instagram as their main sources of information about the COVID-19 pandemic.

The findings of this study have a number of important implications for practice. Considering the results of this study and the impact of the pandemic on the whole World, it is seen that the psychosocial components of the pandemic should be integrated into the planning of the response to health-related emergencies. In addition, reliable and brief information should be provided on an ongoing basis about the risk, severity, and transmission ways of infection and progression of the pandemic, especially on internet platforms. Furthermore, the normalization of psychological reactions should be ensured through the media by informing about the psychological effects of the pandemic, including vulnerable groups, such as women. Finally, at the national level, disaster and crisis counseling services should be offered to those who show serious psychological symptoms through technology-based applications.

Declarations

Compliance with Ethical Standards

Conflict of Interest There is no conflict of interest to declare.

Ethical Approval Approval was obtained from the XXX District National Education Directorate. The procedures used in this study adhered to the tenets of the Declaration of Helsinki.

Informed Consent Informed consent was obtained from all participants in the study.

Dataset The datasets generated during and/or analyzed in the current study are available from the corresponding author on reasonable request.

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