Journal of Acute Disease

Original Article

Centralization and perceived control of COVID−19 during the pandemic: A cross−sectional study

Çiğdem Samancı Tekin[1✉], Selma İnfal Kesim[2]

[1]*Niğde Ömer Halisdemir University, Faculty of Medicine, Internal Medical Sciences, Department of Public Health, Niğde, Turkey*

[2]*Selçuk University, Akşehir Kadir Yallagöz School of Health, Public Health Nursing Department, Konya, Turkey*

ABSTRACT

Objective: To uncover the impact of centralization of COVID-19 and perceived control of COVID-19 on society during the pandemic.

Methods: We recruited a total of 1 041 people in this cross-sectional study. The data were collected using a questionnaire booklet covering demographics, a COVID-19-related information form, the Centrality of Event Scale, and the Perception of Control of COVID-19 Scale. We utilized independent samples *t*-test, *chi−square* test, and one-way analysis of variance to analyze the data.

Results: 1 041 questionnaires were collected and no questionnaire were excluded from our study. Slightly more than half of the participants (51.2%) stated that social isolation impaired public mental health, while 30.1% reported adverse impacts of the pandemic on their sleep quality. Participants with changes to their sleep patterns were found to centralize COVID-19 more. Moreover, measures against COVID-19 and constant announcements of the daily number of cases in the media brought both positive and negative effects on people and further contributed to the participants' centralization of COVID-19. Individuals with low centralization scores were concluded to perceive COVID-19 as a minor disease. Healthcare professionals without a relative diagnosed with COVID-19 and those satisfied with treatment opportunities had a higher perceived control of COVID-19, while those who were not interested in statistical data on COVID-19 and who had difficulty complying with the rules had a lower perceived control of COVID-19. Besides, poorer perceived control of COVID-19 was found to adversely affect sleep quality. Furthermore, healthcare professionals scored higher on the inevitability subscale of the Perception of Control of COVID-19 Scale. Finally, among the participants, most COVID-19 survivors thought COVID-19 to be an avoidable disease.

Conclusion: In addition to its physical impacts, COVID-19 adversely impacts on mental health, and these effects are closely linked to a society's centralization of COVID-19 and perceived control of COVID-19.

KEYWORDS: COVID-19; Public health; Centrality of events; Perception of control of COVID-19; Turkey

Significance

The COVID-19 pandemic has imposed both physical and mental impacts on society. The relativity of perceived pandemic-related impacts (positive or negative) is closely related to the level of perceived control and centralization of COVID-19. We concluded that the centralization and perceived control of COVID-19 lead to both adverse (*e.g.*, disrupted sleep) and desirable (*e.g.*, caring about health more) outcomes.

✉To whom correspondence may be addressed. E-mail: cigdemstekin@hotmail.com

1. Introduction

The whole world inevitably suffers from COVID-19 as it has affected almost all domains of life, as well as healthcare. Therefore, it is reasonable to assert that it has become the most far-reaching outbreak in the history of medicine[1].

Infectious diseases leading to an outbreak are known to bring an extensive and wide-ranged psychosocial impact at individual, social, and international levels[2]. Centrality of events is a concept that describes how central an emotionally positive or negative experience is central to one's identity and life story[3]. In this context, understanding what kind of alterations an outbreak leads to in one's life and whether it is personally centralized seems to offer substantial evidence to uncover social attitudes toward and perceived control of the disease in society and, thus, to conclude appropriate public health policies. People's adoption of pandemic-related measures might vary depending on whether they put the disease at the center of their lives or their perception of being able to control it. Although the fight against the pandemic is considered vital for governments and healthcare professionals, it is also important to know how it is projected in society. Ultimately, the present study attempted to uncover what centralization of COVID-19 and perceived control of COVID-19 brought to society during the pandemic.

2. Patients and methods

2.1. Study design and setting

We employed a cross-sectional design in this study and recruited a total of 1 041 individuals using the snowball sampling technique. Since the Republic of Turkey recommended minimizing face-to-face interaction and maintaining social isolation at home during the pandemic, we generated a questionnaire booklet covering relevant measurement tools using Google Forms. Initially, we sent the questionnaire booklet to 486 undergraduate students *via* class groups on WhatsApp and asked them fill out the survey form. Then, we encouraged them to resend the survey form to others (family member, friends, *etc.*). The participants included both Niğde Ömer Halisdemir University and Konya Selçuk University students and non-student population across Turkey as a result of social media's effectiveness in wide-range dissemination. We obtained informed consent from all participants and collected the data between December 4-7, 2020.

2.2. Ethical approval

The Research Ethics Committee of Niğde Ömer Halisdemir University granted ethical approval to the study (2020/09-04).

2.3. Inclusion criteria

We included all individuals aged 18 years and above who agreed to participate in the study. Those not satisfying with the criteria were excluded from the scope of this research. There were no missing data as the online survey system did not allow any questions to be left unmarked; therefore, we were able to analyze the data from all participants.

2.4. Data collection

The data were collected using the Centrality of Event Scale (CES) and the Perception of Control of COVID-19 Scale (PCo-COVID-19). Moreover, we designed a 38-item form to know the impacts of the pandemic on the participants. The items in the form inquired about the participants' sociodemographic characteristics, their thoughts on the treatment efficiency, specific measures they took against COVID-19, changes to their lifestyles, and whether they followed the up-to-date information about the pandemic.

CES was designed to measure to what extent an emotionally positive or negative experience is central to one's identity and life story[3]. The scale consists of 20 items, and responses to the items are scored on a five-point Likert-type scale ranging between 1 (strongly disagree) and 5 (strongly agree). In the original study, its internal consistency was reported to be 0.94[4]. Boyacıoğlu and Aktaş adapted the scale and its short version (CES-S) into Turkish in 2018. Higher scores on the 7-item short form of the CES-S indicate higher centralization of the events. In the adaptation study, the authors concluded high internal consistency for both positive (α=0.89) and negative emotionally charged autobiographical memories (α=0.82)[5]. In this study, we calculated Cronbach's alpha of the CES-S to be 0.79.

PCo-COVID-19 was developed by Ekiz *et al.* in 2020[6], the scale consists of three subscales [macro control, personal (micro) control, and inevitability (items are reversely scored)] with four items in each. One may obtain a minimum of 12 points and a maximum of 60 points on this 5-point Likert-type scale. We calculated Cronbach's alpha for the total score to be 0.72 in the present study.

2.5. Statistical analysis

The population of this cross-sectional research consists of people aged 18 years and over living in Turkey. According to the 2019 data from the Turkish Statistical Institute, the population aged 18 years and over living in Turkey was 60 287 199[7]. Accordingly, we calculated the sample size using the OpenEpi Version 3 program based on unknown prevalence to be 385 at 50% prevalence and 95% confidence interval.

While categorical variables were shown as numbers and percentages, we presented the continuous variables as means and standard deviations. We compared the participants' scores on the mentioned scale using independent samples *t*-test for binary groups

and one-way analysis of variance for more than two groups. The statistically significant models in one-way analysis of variance were further explored to reveal the source(s) of significant differences using a *post–hoc* test (Bonferonni). Besides, the categorical variables were compared using the *chi–square* test. Finally, we performed Pearson's correlation analysis to uncover the relationships between the participants' scores. We performed all statistical analyses on SPSS and considered a *P*-value <0.05 to be statistically significant.

3. Results

The cross-sectional study contains 1 041 questionnaires collected and analyed from the participants between December 4-7, 2020 (Figure 1).

3.1. Participants' sociodemographic characteristics

The mean age of the participants was (30.68±11.58) years. Among them, 80.6% were females, 40.1% were married, 38.4% had a child(ren), 62.6% were urban residents, 72.7% held an undergraduate degree, 55.4% received vocational healthcare training, 14.9% were employed as a healthcare professional, and 16.9% suffered a chronic disease. The rate of those employed was 54.2%, and 76.1% were civil servants. Of them, 43.3% reported no changes to their work routines compared to the pre-pandemic period (Table 1).

3.2. Participants' COVID–19–related characteristics

While 65.1% of the participants thought that COVID-19 is a critical disease, 5.0% thought that it is too exaggerated, and 9.5% thought that it is a flu-like condition. About one-tenth (8.5%) believed that the measures taken would not change the course of the disease, and about half (51.2%) believed that the quarantine measures would impair public mental health. We discovered sleep patterns of 30.1% of participants were adversely affected by the pandemic. Besides, 69.8% believed that adequate precautions could prevent the disease, while 25.4% found current treatment options to be sufficient. About three-fourths of the participants (71.7%) started to take care of their health more after the pandemic. Frequent announcements of the measures taken against COVID-19 in media were found to positively affect 61.6% of the participants, while it was *vice versa* for 12.4%. We also noticed that 39.4% used to follow the statistics of confirmed cases and mortalities. Furthermore, the rate of those not following any COVID-19-related data was 4.9%, whereas 29.4% reported following such data regularly. The increased numbers of cases and deaths were found to have an adverse impact on 80.4% of the participants. When asked about the measures they had the most difficulty implementing, 54.5% perceived all measures as easy to follow, but 3.4% had difficulty implementing all measures.

3.3. Participants' scores on the CES–S

The participants' mean CES-S score was 22.43±5.91. The findings showed that the females (22.65±5.76) scored significantly higher on the CES-S than the males (21.52±6.43, t=2.437, P<0.05). Yet, the centrality of events showed no significant differences by age, educational attainment, marital status and child status, place of residence, being a healthcare professional, disease status, assessment of treatment sufficiency, COVID-19 diagnosis of self and family member(s), taking care of personal health before COVID-19, living alone or with one in the risk group, and receiving vocational healthcare training.
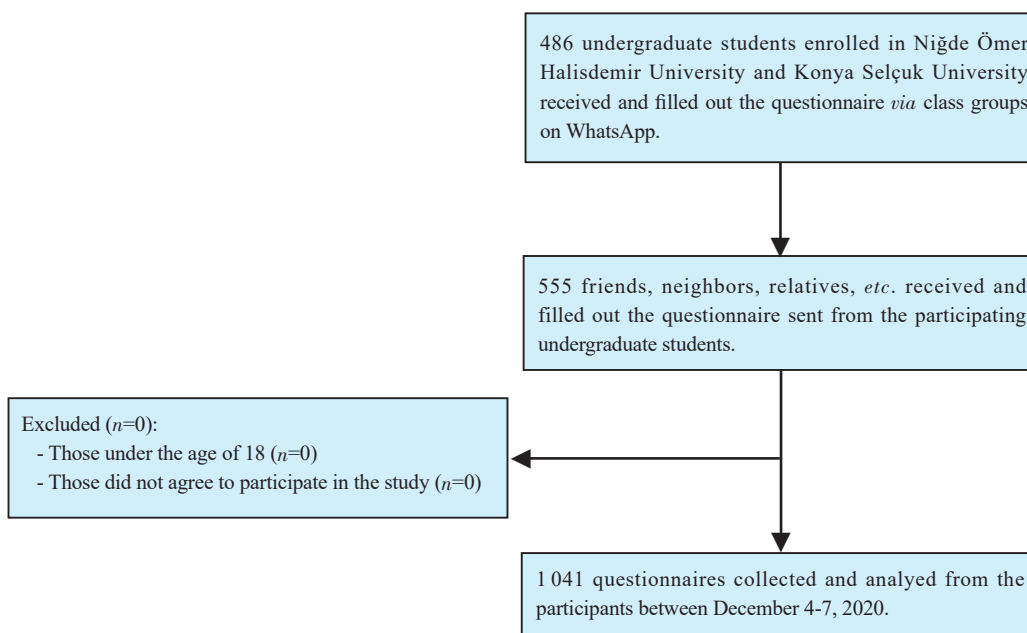

Figure 1. The study flowchart.

Table 1. Demographic and clinical baseline characteristics.

Variables	n, %
Sex	
Female	839 (80.6)
Male	202 (19.4)
Age (years)	
18-29	571 (54.9)
29-40	249 (23.9)
41-52	156 (15.0)
53-61	59 (5.7)
62-73	6 (0.6)
Marital status	
Married	417 (40.1)
Single	587 (56.4)
Divorced/widowed	37 (3.6)
Child status	
Yes	399 (38.4)
No	642 (61.6)
Place of residence	
City center	652 (62.6)
District	328 (31.5)
Town	10 (1.0)
Village	51 (4.9)
Educational attainment	
Primary school	33 (3.2)
High school	126 (12.1)
Undergraduate	757 (72.7)
Postgraduate	125 (12.0)
Vocational healthcare training	
Yes	577 (55.4)
No	464 (44.6)
Healthcare professional	
Yes	155 (14.9)
No	886 (85.1)
Chronic disease	
Yes	176 (16.9)
No	865 (83.1)
Employment status	
Yes	545 (52.4)
No	496 (47.6)
Industry	
Public	415 (76.1)
Private	130 (23.9)
Employment type in the pandemic	
Unchanged	236 (43.3)
Remote	141 (25.9)
Shift	71 (13.0)
Part-time	57 (10.5)
Other	40 (7.3)

Moreover, we concluded that those considering COVID-19 a critical, non-exaggerated, and not like a flu-like disease had significantly higher CES-S scores than their counterparts, (P<0.001), respectively, (Table 2). Also, those who took care of their health after the pandemic, who were affected by frequent announcements of the measures taken against COVID-19 in the media, who regularly followed COVID-19-related statistics, who were affected by increased numbers of cases and mortality, and who had no changes to their sleep patterns during the pandemic had higher centralization of COVID-19 (Table 3).

3.4. Participants' scores on the PCo−COVID−19

We found the mean PCo-COVID-19 score to be 33.99±7.26, indicating that the participants adopted a moderate perceived control of COVID-19 (31-40 points). The scores were discovered to be similar by sex, age, educational attainment, place of residence, marital and child status, disease status, COVID-19 diagnosis, taking care of personal health before and after COVID-19, living alone or with one(s) in the risk group, using herbal products, and receiving vocational healthcare training. Nevertheless, healthcare professionals, those who found treatment options for COVID-19 sufficient, and those who did not have any relatives or friends diagnosed with COVID-19 had significantly higher perceived control of COVID-19 (Table 4).

Those who were positively affected by frequent announcements of the measures taken against COVID-19 in the media had significantly higher perceived control of COVID-19, whereas those who did not follow COVID-19-related statistics, those who had difficulty complying with COVID-19 measures, and those with distorted sleep patterns during the pandemic had poorer perceived control of COVID-19 (Table 5).

As mentioned before, the scale has three subscales: macro control (items 1-4), personal control (items 5-8), and inevitability (items 9-12). There was a moderate positive correlation between the macro control and personal control subscales (Table 6). We caught significant differences in only some variables on the inevitability subscale. For example, healthcare professionals and those living with individuals with chronic disease were found to have significantly

Table 2. Centrality of Event Scale short version (CES-S) scores by views on COVID-19.

Items	n, %	mean±SD	t	P
COVID−19 is a critical disease				
Yes	679 (65.2)	23.62±5.48	8.835	<0.001
No	362 (34.8)	20.24±6.07		
COVID−19 is exaggerated				
Yes	52 (5.0)	19.37±6.45	−3.862	<0.001
No	989 (95.0)	22.59±5.85		
It is a flu−like disease				
Yes	99 (4.5)	20.91±5.81	−2.703	<0.001
No	942 (90.5)	22.59±5.91		

Table 3. Centrality of Event Scale short version (CES-S) scores by some COVID-19-related variables.

Items	n, %	mean±SD	F	P
Taking care of health after COVID−19				
Increased	746 (71.7)	23.42±5.44[a]	40.462	<0.001
Unchanged	276 (26.5)	19.96±6.32[b]		
Decreased	19 (1.8)	18.53±6.95[b]		
Frequent announcements of COVID−19−related measures in the media				
Negatively affects	129 (12.4)	23.05±6.01[a]	18.690	<0.001
No effect	255 (24.5)	20.53±5.85[b]		
Positively affects	657 (63.1)	23.09±5.72[a]		
Following COVID−19−related statistical data				
Every day	312 (30.0)	24.14±5.64[a]	19.520	<0.001
Sometimes	271 (26.0)	22.06±5.66[b]		
Never	458 (44.0)	21.51±6.01[b]		
Increase in the number of cases and deaths due to COVID−19				
Negatively affects	839 (80.6)	23.15±5.47[a]	53.382	<0.001
No effect	172 (16.5)	18.49±6.27[b]		
Positively affects	30 (2.9)	25.60±6.58[a]		
Changes to sleep patterns during the pandemic				
Negatively affects	319 (30.6)	23.22±5.75[a]	10.926	<0.001
No effect	669 (64.3)	21.88±5.99[b]		
Positively affects	53 (5.1)	25.00±4.98[a]		

[a,b] *Post−hoc* (Bonferroni) test showed that there are significant differences among the groups with different letters.

Table 4. Perception of Control of COVID-19 Scale (PCo-COVID-19) scores by some COVID-19-related variables.

Items	n, %	mean±SD	t	P
Healthcare professional				
Yes	155 (14.9)	35.62±7.82	2.848	0.005
No	886 (85.1)	33.71±7.13		
Treatment options for COVID−19 are sufficient				
Yes	264 (25.4)	36.96±7.15	8.027	<0.001
No	777 (74.6)	32.90±7.04		
Having a relative diagnosed with COVID−19				
Yes	193 (18.5)	32.82±7.51	−2.489	0.013
No	848 (81.5)	34.26±7.18		
Having an acquaintance diagnosed with COVID−19				
Yes	418 (40.2)	33.08±7.56	−3.319	0.001
No	623 (59.8)	34.63±7.00		

Table 5. Perception of Control of COVID-19 Scale (PCo-COVID-19) scores by some COVID-19-related variables.

Items	n, %	mean±SD	F	P
Frequent announcements of COVID−19−related measures in the media				
Negatively affects	129 (12.4)	33.95±7.14[ab]	8.738	<0.001
No effect	255 (24.5)	32.42±7.47[b]		
Positively affects	657 (63.1)	34.64±7.11[a]		
Following COVID−19−related statistical data				
Every day	312 (30.0)	34.79±7.61[a]	8.257	<0.001
Sometimes	271 (26.0)	34.82±6.81[a]		
Never	458 (44.0)	32.97±7.19[b]		
Having difficulty complying with COVID−19 measures				
Mask	174 (16.7)	32.59±7.33[ab]	5.150	<0.001
Physical distance	251 (24.1)	33.88±7.17[ab]		
Hygiene	15 (1.4)	32.20±6.39[ab]		
None	566 (54.3)	34.72±7.24[a]		
All	35 (3.4)	30.69±6.84[b]		
Changes to sleep patterns during the pandemic				
Negatively affects	319 (30.6)	32.94±7.50[a]	4.788	0.009
No effect	669 (64.3)	34.45±7.06[b]		
Positively affects	53 (5.1)	34.53±7.95[b]		

[a,b] *Post−hoc* (Bonferroni) test showed that there are significant differences among the groups with different letters.

Table 6. Correlations among three subscales.

Variables	mean±SD	1	2	3	4
PCo–COVID–19 Macro control	10.76±3.38	-	0.477[**]	0.070[*]	0.298[**]
PCo–COVID–19 Personal Control	11.31±3.11	0.477[**]	-	0.166[**]	0.208[**]
PCo–COVID–19 Inevitability	11.92±3.95	0.070[*]	0.166[**]	-	−0.113[**]
CES	22.43±5.92	0.298[**]	0.208[**]	−0.113[**]	-

[*]$P<0.05$, [**]$P<0.01$. 1: PCo-COVID-19 Macro control; 2: PCo-COVID-19 Personal Control; 3: PCo-COVID-19 Inevitability; 4: CES; PCo-COVID-19: Perception of Control of COVID-19 Scale; CES: Centrality of Event Scale.

Table 7. Inevitability scores by some COVID-19-related variables.

Items	n, %	mean±SD	t	P
Healthcare professional				
Yes	155 (14.9)	12.79±4.20	2.971	0.003
No	886 (85.1)	11.77±3.89		
Living with patients with a chronic disease				
Yes	205 (19.7)	12.49±3.95	2.319	0.021
No	836 (80.3)	11.78±3.94		
Being diagnosed with COVID–19				
Yes	115 (11.0)	10.67±4.11	−3.620	<0.001
No	926 (89.0)	12.08±3.91		
Difficulty complying with all COVID–19 measures				
Yes	35 (3.4)	9.83±3.49	7.641	<0.001
No	1 006 (96.6)	12.22±3.97		

higher COVID-19 inevitability scores, whereas the COVID-19 inevitability scores of those previously diagnosed with COVID-19 and those who had difficulty complying with the measures were significantly lower (Table 7). Finally, the rate of participants who experienced alterations to their lifestyles after the COVID-19 pandemic was 60.8%, and these participants had higher scores on both scales than others (CES-S: 23.67±5.44, t=8.445, $P<0.001$; PCo-COVID-19: 34.61±7.20, t=3.432, $P<0.001$).

4. Discussion

The CES, whose short form was utilized in this study, is a widely adopted tool in many different areas and groups, including social events affecting the public[8]. However, the literature hosts no study employing the CES for COVID-19. As demonstrated in previous research, females are often more adversely affected by undesirable events and tend to adopt negative events as a part of their identity more[9-11]. Consistent with the previous findings, we found the female participants to have been affected by COVID-19 mentally more than the male participants and to have made COVID-19 more central in their lives. This finding may be explained by (i) the vulnerability of women against any negative experience because confronting more negative experiences in adolescence and experiencing adolescent depression, (ii) poor defense mechanism in women due to their traditional roles, and (iii) greater risk of hopelessness and depression among women[9].

The participants who thought COVID-19 to be exaggerated and a flu-like disease had lower CES-S scores, but it was *vice versa* for

those believing that COVID-19 is a critical disease. Thus, we claim that perception and expression of the disease may be directly linked with the centralization of COVID-19. In other words, participants with lower CES-S scores perceived and expressed the disease as if it was normal, while those with higher CES-S scores seemed to comprehend the importance of the disease.

The COVID-19 pandemic is still threatening communities as an ongoing crisis. Stressful events such as natural disasters and human-induced traumas are known to initiate undesirable conditions in mental health (*e.g.*, post-traumatic stress disorder) and depression. Similarly, the research on the SARS outbreak in 2003 documented that each segment of society experienced psychological difficulties, such as fear and anxiety, in varying degrees[12]. It should be noted that the incidence of post-traumatic stress disorder and depression symptoms may appear higher among those prone to centralizing negative events[3,4,13]. Although the adverse consequences of the COVID-19 pandemic on mental health have not been fully predicted yet, it is estimated that the pandemic would bring more mental damage than physical effects[14]. We did not explore the participants' mental problems in this study; nevertheless, the scholarly evidence showed that the pandemic ruined individuals' mental health. Similarly, more than half of our participants reported that social isolation impaired public mental health. Besides, sleep quality is known to be closely related to physical and psychological well-being. In the present study, nearly one-third of the participants stated that the pandemic negatively affected their sleep patterns. Participants centralizing COVID-19 in their lives were found to be adversely affected by the media on the pandemic and the increased numbers of cases and deaths.

Traumatic experiences can interestingly lead some to adopt a positive perspective on adverse events. Consistent with the previous research[15], we concluded that centralizing an event embodies positive aspects too. In this study, individuals who centralized COVID-19 followed COVID-19 statistics regularly. In a study, it was reported that frequent coverage of COVID-19-related news on social media increases the risk perception of COVID-19[16]. Then, it is prudent to assert that increased risk perception may contribute to centralizing COVID-19. Overall, individuals centralizing COVID-19 more were found to make positive changes to their lifestyles after COVID-19, be positively affected by the domination of COVID-related news in the media, take care of their health more after COVID-19 (*e.g.*, using vitamins, minerals, and herbal supplements to fortify immunity against COVID-19), and improved sleep quality.

The participants had a moderate perceived control of COVID-19. Those who were positively affected by the COVID-19 agenda of the media and who regularly followed the COVID-19-related statistics had a higher perceived control of COVID-19. In a study, the news was found to reinforce public health[17]. Similarly, posts from official social media accounts were reported to increase people's perceived control of COVID-19[18]. In this study, we also found that those having difficulty complying with the pandemic measures and experiencing disruptions in their sleep patterns had a lower perceived control of COVID-19. Despite scoring higher on the PCo-COVID-19, healthcare professionals considered COVID-19 to be unavoidable, which may be because they may have developed insensitivity to the pandemic-related issues due to uninterrupted exposure to COVID-19 cases and mortalities. In addition, those agreed treatment options for COVID-19 are sufficient and those with an acquaintance (a family member or a friend) diagnosed with COVID-19 had a higher perceived control of COVID-19.

On the other hand, the participants who had already tested positive for COVID-19 had lower inevitability scores than those who had not. In other words, individuals surviving COVID-19 believed it to be an avoidable disease. It needs to be highlighted that compliance with precautions becomes prominent at this point since those who consider COVID-19 an avoidable disease and, thus, have difficulty complying with measures against COVID-19 may experience extra issues when catching the disease. Finally, those living with patients with chronic diseases thought that COVID-19 is unavoidable. A higher risk of catching COVID-19 among those with chronic diseases may have contributed to the perception of the inevitability of individuals living with such patients.

The major limitation of the study is that only those with a social media account or e-mail address along with internet access were recruited for the study since all the data were collected using an online questionnaire booklet.

5. Conclusion

Increased perceived control of COVID-19 and internalizing the pandemic are of great importance in fighting the pandemic. Moreover, centralizing the pandemic is likely to enhance the implementation of personal protective measures. Although frequent announcements of COVID-19-specific measures and statistics in the media negatively affected a certain part of society, our findings implied that they might also positively contribute to the internalization of the pandemic and perceived control of COVID-19. From this point of view, governments need to maintain consistent and transparent policies on pandemic-related rules and data. Besides, it is now undeniable that the pandemic has brought many negative impacts on mental health. Thus, governmental measures against the pandemic become critical to hinder the psychological impacts of the pandemic from persisting in post-pandemic. In this regard, the continuous provision of psychological support services free of charge should become an essential part of preventive health services. In addition, positive reinforcements for those following protective measures, as well as criminal sanctions for those who do not, can boost the motivation to comply with the rules. The pandemic may also be an opportunity for governments to promote public health and add planned health promotion activities to preventive health services.

Conflict of interest statement

The authors report no conflict of interest.

Funding

This study received no extramural funding.

Authors᾽ contributions

ÇST: data collection, drafting, literature review; SİK: research design, reviewing. All authors have reviewed and approved the final version of the manuscript.

References

[1] İnce F, Yağmur Evcil F. COVID-19'un Türkiye'deki ilk üç haftası-The first three weeks of the COVID-19 in Turkey. *Süleyman Demirel Üniversitesi Sağlık Bilim Derg* 2020; **11**(2): 236-241. [in Turkish].

[2] Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health* 2020; **17**(5): 1729.

[3] Zaragoza Scherman A, Salgado S, Shao Z, Berntsen D. Event centrality of positive and negative autobiographical memories to identity and life story across cultures. *Memory* 2015; **23**(8): 1152-1171.

[4] Berntsen D, Rubin DC. The centrality of event scale: A measure of integrating a trauma into one's identity and its relation to post-traumatic stress disorder symptoms. *Behav Res Ther* 2006; **44**(2): 219-231.

[5] Boyacıoğlu İ, Aktaş Ç. The centrality of events scale: A study of reliability and validity. *Türk Psikol Yazıları* 2018; **21**(41): 27-29.

[6] Ekiz T, Ilıman E, Donmez E. Comparison of health anxiety level and control perception of COVID-19. *Int J Heal Manag Strateg Res* 2020; **6**(1): 139-154. [in Turkish].

[7] Turkish Statistical Institute. Statistics on child. [Online] Available from: https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2019-3373. [Accessed on September 10, 2020].

[8] Gehrt TB, Berntsen D, Hoyle RH, Rubin DC. Psychological and clinical correlates of the Centrality of Event Scale: A systematic review. *Clin Psychol Rev* 2018; **65**: 57-80.

[9] Boughton S, Street H. Integrated review of the social and psychological gender differences in depression. *Aust Psychol* 2007; **42**(3): 187-197.

[10] Boals A. Events that have become central to identity: Gender differences in the centrality of events scale for positive and negative events. *Appl Cogn Psychol* 2010; **24**(1): 107-121.

[11] Olff M, Langeland W, Draijer N, Gersons BP. Gender differences in post-traumatic stress disorder. *Psychol Bull* 2007; **133**(2): 183-204.

[12] Tang W, Hu T, Hu B, Jin C, Wang G, Xie C, et al. Prevalence and correlates of PTSD and depressive symptoms one month after the outbreak of the COVID-19 epidemic in a sample of home-quarantined Chinese university students. *J Affect Disord* 2020; **274**: 1-7.

[13] Rubin DC, Boals A, Berntsen D. Memory in post-traumatic stress disorder: Properties of voluntary and involuntary, traumatic and nontraumatic autobiographical memories in people with and without post-traumatic stress disorder symptoms. *J Exp Psychol Gen* 2008; **137**(4): 591-614.

[14] Pietrabissa G, Simpson SG. Psychological consequences of social isolation during COVID-19 outbreak. *Front Psychol* 2020; **11**: 2201.

[15] Broadbridge CL. Is the centralization of potentially traumatic events always negative? An expansion of the Centrality of Events Scale. *Appl Cogn Psychol* 2018; **32**(3): 315-325.

[16] Huynh TL. The COVID-19 risk perception: A survey on socioeconomics and media attention. *Econ Bull* 2020; **40**(1): 758-764.

[17] Bridgman A, Merkley E, Loewen PJ, Owen T, Ruths D, Teichmann L, et al. The causes and consequences of COVID-19 misperceptions: Understanding the role of news and social media. *Harvard Kennedy Sch Misinformation Rev* 2020; **1**(3): 10.37016/mr-2020-028.

[18] Sentürk E, Genis B, Menkü BE, Cosar B. The effects of social media news that users trusted and verified on anxiety level and disease control perception in COVID-19 pandemic. *Turkish J Clin Psychiatry* 2021; **24**: 23-32.

Publisher's note