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Psychological Evaluation of the First Quarantined People due to COVID-19 in Turkey

Türkiye'de COVID-19'a Bağlı İlk Karantina Uygulamasına Alınan Kişilerin Psikolojik Yönden Değerlendirilmesi

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Öz

Yeni koronavirüs salgını 2019 yılında ortaya çıkmaya başlamış ve bir salgın haline gelmiştir. Geçmişte psikolojik olarak olumsuz etkileri olduğu bildirilen karantina uygulamaları yaygınlaşmıştır. Bu çalışmada amacımız karantina altına alınan bireylerin psikolojik durumlarını incelemekti. Bu çalışmanın örneklemini Wuhan'dan gelen ve karantinaya alınan 42 kişi oluşturmaktadır. İhtiyaç duyan kişilere psikolojik destek sağlamak için bu süreçte tüm bireyler anketlerle değerlendirilmiştir. Anketler gönüllülük temelli olarak uygulanmış olup 30 anket değerlendirilmiştir. İzlem grubunda, karantina stresinden çok enfeksiyon riskinin neden olduğu zorluk anksiyete ve peritravmatik dissosiyasyon semptomları üzerinde etkili görünmüş ve karantina sonunda izlem grubunda karantina başlangıcına kıyasla travmatik stres düzeyleri ve anksiyete puanları açısından fark görülmemiştir. Karantina uygulamaları sırasında bulaşıcı hastalık riskine bağlı psikolojik etkilenme nedeniyle psikososyal destek ihtiyacı ortaya çıkabilir.

Anahtar Kelimeler: Anksiyete, COVID-19, Depresyon, Dissosiyasyon, Karantina, Koronavirus

Abstract

The outbreak of the novel coronavirus has started to appear in 2019, and has become an epidemic. Practices of quarantine, reported to have negative psychological effects in the past, have become widespread. In this study our aim was to examine the psychological conditions of individuals who were taken under quarantine. The sample of this study consisted of 42 individuals who came from Wuhan and were quarantined. All individuals were evaluated through questionnaires to provide psychological support to those in need during that process. Questionnaires were applied to all individuals on a voluntary basis and 30 questionnaires were evaluated. In the monitoring group, the difficulty caused by the risk of infection rather than quarantine stress appeared to be effective on anxiety and peritraumatic dissociation symptoms and at the end of quarantine, no difference has been observed in terms of traumatic stress levels and anxiety scores in the monitoring group compared to the beginning of quarantine. A need for psychosocial support may arise due to psychological impact related to risk of infectious diseases during quarantine practices.

Keywords: Anxiety, Coronavirus, COVID-19, Depression, Dissociation, Quarantine

Introduction

A new type of coronavirus (2019-nCoV) infection started to appear in Wuhan, China, in 2019, and the number of people becoming infected and dying is increasing by the day (1). Due to the increased risk of coronavirus infection, quarantining has begun and individuals who came to Turkey from China in February 2020 were also quarantined. This quarantine practices for public health may have serious psychological, economic, and financial implications (2).

There is growing literature data on the psychosocial effects of quarantine practices and most studies report negative psychological effects on the mental health such as post-traumatic stress disorder, depression, anxiety, anger, isolation, frustration and confusion, mentioning numerous stressors related with this process and that quarantine itself can be perceived as traumatic independent from the risk of infection (2-6). In contrast, there are also data showing that quarantine during outbreak had no negative psychological effects (7).

Regular mental and physical examinations are recommended for both patients and healthcare professionals, because the symptoms of infection and possible adverse effects of treatments can increase anxiety and mental distress, and because resistant depression, anxiety, panic attacks, delirium, psychotic symptoms, and even suicide have been reported in past outbreaks (8).

Available literature data show that infection risk and related quarantine practices can have negative affection on mental health. The first aim of this study was to evaluate the psychological conditions of individuals like their anxiety and depression levels, dissociative experiences, and perceived traumatic stress levels who came to Turkey from Wuhan due to the risk of coronavirus infection and were taken under quarantine, by examining questionnaires that they completed during quarantine. Secondly, it is planned to investigate the relationship between individuals' traumatic stress levels and

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psychopathology. With this study, it was aimed to increase our knowledge about mental health effects of both quarantine and risk of COVID-19 infection and to help the determination of the psychosocial needs for possible future quarantine practices in Turkey.

Material and Method

The sample this study consisted of 42 individuals who came from Wuhan and were quarantined in hospital for 14 days, in February 2020. The individuals were evaluated through questionnaires to provide psychological support to those in need by employees of Ankara Training and Research Hospital during their quarantine period. The completion of the questionnaires was voluntary and informed written consent of the participants of the research has been obtained. Due to deficiencies in 4 forms they were excluded, only 30 forms were evaluated. They were re-evaluated prior to the end of the quarantine. There were no exclusion criteria in the study. Approval was obtained from the Ethics Committee of Diskapi Yildirim Beyazit Training and Research Hospital (IRB Approval No: 84/19-16.03.2020).

A sociodemographic data form, Peritraumatic Dissociation Experiences Questionnaire (PDEQ), State-Trait Anxiety Inventory (STAI), Hospital Anxiety and Depression Scale (HADS), and the Impact of Event Scale-Revised (IES-R) were given to the all individuals. Evaluation of perceived quarantine stress is done with visual analog scale. The IES-R is used to evaluate the fear of infection, as individuals were asked to indicate how distressing each difficulty (described in the form) had been for them with respect to being quarantined due to nCoV-2019 infection risk, at the beginning of the form. The PDEQ, IES-R, and the state sub-inventory of STAI (STAI-1) were again given to the monitoring group just prior to the end of the quarantine process to re-evaluate their situation.

The Sociodemographic Data Form: This form included features such as age, sex, marital status, education level, occupation, presence of psychological symptoms, and perceived quarantine-related stress level.

The Peritraumatic Dissociation Experiences Questionnaire (PDEQ): This questionnaire was developed by Marmar et al. (1997) (9). It questions the dissociative symptoms that the person feels themselves at the moment of trauma and immediately after trauma. A high questionnaire score means that the psychological symptom level is high. The Turkish validity and reliability study of the questionnaire was performed by Geyran et al. in 2005 (10).

The State-Trait Anxiety Inventory (STAI): This is an inventory of self-assessment consisting of short statements developed by Spielberger et al. (1983) and comprises two separate inventories (11). The State Anxiety Inventory is intended to describe how an individual feels at a given moment and in certain circumstances, and to describe the feelings related to the situation they are in, whereas the Trait Anxiety Scale requires that the individual describes how they feel generally. Its adaptation and standardization into Turkish was made by Öner and Le Compte (12).

The Hospital Anxiety and Depression Scale (HADS): It was developed by Zigmond and Snaith (1983) to determine the risk of anxiety and depression, to measure their level, and changes in their severity (13). In Turkey, the validity-reliability study was conducted by Aydemir et al. (1997) and the cut-off values of the Turkish form of HADS were 10 for the anxiety subscale (HADS-A) and 7 for the depression subscale (HADS-D) (14).

Visual Analog Scale (VAS): The evaluation of perceived quarantine stress is done with VAS. The VAS was graded from 0 to 10 cm, where 0 represented “no stress at all” and 10 represented “extreme stress”. VAS was validated for stress assessment in clinical practice (15).

The Impact of Event Scale-Revised Form (IES-R): This scale was developed by Weiss and Marmar (1997) (16). It consists of 3 subscales including intrusion, avoidance and hyperarousal. It is widely used to measure people's levels of stress in the face of traumatic events. The Turkish reliability-validity study showed that sensitivity and specificity values were higher than 70% when the cut-off value was between 24 and 33 (17).

Statistical Analysis: The statistical analysis of the data was made using the SPSS 25 program. The analysis was made with 95% confidence levels. While comparing data from individuals from abroad, nonparametric statistical methods were used in the study due to the small number of individuals. The correlation between scale scores in the study was analyzed using the Spearman correlation test. The difference between repeated measurements was analyzed using the Wilcoxon test. We considered a “p” value of <0.05 statistically significant.

Results

The mean age of the monitoring group was 33.23 ± 9.89 years. Individuals are asked what helps them to cope with the stress caused by the situation. Their responses are: family (50%), friends (46.7%), physicians and nurses (40%), knowing that the individual is not alone in the quarantine (33.3%), spiritual faith (26.7%), and social media (10%), respectively. The distribution of demographics is reported in Table 1.

The relationships between quarantine stress, anxiety and depression, impact of events scale and its subscales’, peritraumatic dissociation experiences scale and state-trait anxiety inventory scores are given in Table 2. There was a positive correlation

between the Quarantine Stress score and intrusion subscale score of IES-R (r=0.494, p=0.006), hyperarousal subscale of IES-R (r=0.510, p=0.004), IES-R total score (r=0.425, p=0.019), and PDEQ score (r=0.391, p=0.033). There was a positive correlation between the anxiety subscale score of HADS and depression subscale score of HADS (r=0.629, p<0.001), avoidance (r=0.391, p=0.033), intrusion (r=0.575, p=0.001), hyperarousal (r=0.667, p<0.001) subscale scores of IES-R, IES-R total score (r=0.606, p<0.001), PDEQ score (r=0.434, p=0.017), and trait anxiety sub-inventory score of STAI (r=0.596, p=0.001). There was a positive correlation between depression subscale score of HADS and intrusion (r=0.396, p=0.030) and hyperarousal (r=0.598, p<0.001) subscale scores of IES-R, IES-R total score (r=0.431, p=0.017), and PDEQ score (r=0.390, p=0.033). There was a positive correlation between IES-R total score and PDEQ score (r=0.737, p<0.001) and trait anxiety sub-inventory score of STAI (r=0.749, p<0.001). There was a positive correlation between PDEQ score and trait anxiety sub-inventory score of STAI (r=0.622, p<0.001). See Table 2 for details.

There was no significant evidence that shows a statistical difference between the subscale scores of IES-R, IES-R total score, PDEQ score, and state anxiety sub-inventory score of STAI in the monitoring group in the beginning and at the end of follow-up (p>0.05) (Table 3).

Discussion

In this study, the data of 30 individuals who lived abroad and came from the outbreak region were evaluated. It was aimed to investigate the psychological status of these people in this process. In our study we've explored that the difficulty caused by the risk of infection rather than quarantine stress appeared to be correlated with anxiety and peritraumatic dissociation symptoms for individuals in the monitoring group and at the end of quarantine, no difference has been observed in terms of traumatic stress levels and anxiety scores in the monitoring group compared to the beginning.

It was observed that most of the individuals were male (75%), graduate or post-graduate (86.3%), and married (56.8%). Since the study sample was small, no comparison has been made in terms of the effect of gender differences.

Individuals from abroad were likely to be experiencing difficulties with both the risk of the outbreak and with the quarantine process. Most (97.7%) individuals had no psychiatric diagnosis/treatment processes in the past. Of the individuals in the quarantine monitoring group, 20% declared that they wanted to receive psychological support during the quarantine process, even though some of them reported that they had no psychological symptoms. This suggests that the need for psychological support may exist beyond psychiatric complaints. It is stated that individuals affected by quarantine identify distress due to their fears and perceptions of risk associated with the situation and identifying stressors for individuals and normalizing their effects as much as possible can help the process (18). It was found that individuals receive the most help from family and friends (50%) to cope with the stress caused by the situation. The data obtained were in line with the recommendations of WHO to remain in contact with friends and family during the periods of isolation and quarantine (19).

In terms of quarantine stress, which had a low average in this study, was evaluated by visual analog scale. On the other hand, the stress of being quarantined due to nCoV-2019 infection risk was evaluated by using IES-R. Different results have been obtained in the literature on the effect of quarantine itself on mental health, and in this sample it was thought that the risk of infection might be more effective on psychological symptoms than quarantine (2,3,5,7). In the monitoring group, the difficulty caused by the risk of infection rather than quarantine stress appeared to be effective on anxiety and peritraumatic dissociation symptoms in accordance with the literature (20). Although the sample size is small, it's remarkable that the correlation between these parameters is medium to strong. Cross-sectional assessment made it difficult to comment on the direction of correlation, but considering that the majority of individuals (96.7%) reported no history of psychiatric disorders or treatment in the past, it was concluded that asking about stress levels in psychosocial evaluations might be important (8).

There was an association between peritraumatic dissociation symptoms and anxiety, depressive symptom levels and traumatic stress levels in our study which mean individuals who experience more dissociative symptoms are prone to feel more anxious and depressed, moreover may feel more distress due to the situation as well, consistent with previous literature data suggesting that closer follow-up of individuals in terms of PTSD would be appropriate later in the process (2,5,21).

There was no difference in terms of peritraumatic dissociation, state-trait anxiety and stress the monitoring group had in quarantining due to the risk of nCoV-2019 infection between the beginning of the quarantine period and immediately before they were removed. It was thought that the absence of improvement or worsening of symptoms could be explained by the fact that the risk of getting infected did not disappear after the end of the quarantine. In addition, literature findings showing that psychosocial effects can persist even long after outbreaks (22).

It was observed that traumatic stress increased with increasing trait anxiety rather than state anxiety as expected. Factors such as childhood traumas,

Table 1. Demographic characteristics of the participants

		n (%)
Sex	Female	18 (60)
	Male	12 (40)
Education	Primary school	2 (6.7)
	Secondary school	0 (0)
	High school	4 (13.3)
	Graduate	19 (63.3)
	Post-graduate	5 (16.7)
Occupation	Working	11 (36.7)
	Student	13 (43.3)
	Not working	6 (20)
	Retired	0 (0)
Marital status	Single	16 (53.3)
	Married	13 (43.3)
	Widow	1 (3.3)
Past psychiatric admission	No	29 (96.7)
	Yes	1 (3.3)
Having psychological symptoms	No	26 (86.7)
	Yes	4 (13.3)
Desire to receive psychological support	No	24 (80)
	Yes	6 (20)

Table 2. Correlations between scale scores in the monitoring group

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Quarantine Stress (1)	1	0.293	0.300	0.156	0.494**	0.510**	0.425*	0.391*	-0.288	0.206
Anxiety (HADS) (2)		1	0.629**	0.391*	0.575**	0.667**	0.606**	0.434*	-0.149	0.596**
Depression (HADS) (3)			1	0.214	0.396*	0.598**	0.431*	0.390*	-0.068	0.328
IES-R Avoidance (4)				1	0.549**	0.378*	0.782**	0.658**	0.194	0.497**
IES-R Intrusion (5)					1	0.643**	0.906**	0.665**	0.011	0.722**
IES-R Hyperarousal (6)						1	0.740**	0.477**	0.152	0.614**
IES-R Total Score (7)							1	0.737**	0.150	0.749**
PDEQ (8)								1	0.072	0.622**
STAI-State Anxiety (9)									1	0.199
STAI-Trait Anxiety (10)										1

****p<0.01, *p<0.05 significant relationship, p>0.05 no significant relationship, strength of correlation coefficient; 0<r<0.299 low 0.300<r<0.599 medium, 0.600<r<0.799 strong, 0.800<r<0.999 very strong. (Spearman correlation)** (HADS: Hospital Anxiety and Depression Scale, IES-R: Impact of Event Scale-Revised, PDEQ: Peritraumatic Dissociation Experience Questionnaire, STAI: State-Trait Anxiety Inventory)

Table 3. Comparison of end of follow-up scale scores

		n	**Mean rank**	**Z**	**p**
Avoidance 2 – Avoidance 1 (IES-R)	Negative ranks	12	14.92	-0.446	**0.656**
	Positive ranks	13	11.23		
	Equivalent ranks	5			
Intrusion 2 – Intrusion 1 (IES-R)	Negative ranks	13	11.15	-1.499	**0.134**
	Positive ranks	7	9.29		
	Equivalent ranks	10			
Hyperarousal 2 - Hyperarousal 1 (IES-R)	Negative ranks	7	10.21	-0.654	**0.513**
	Positive ranks	8	6.06		
	Equivalent ranks	15			
Total score 2- Total score 1 (IES-R)	Negative ranks	14	14,71	-1.172	**0.241**
	Positive ranks	11	10.82		
	Equivalent ranks	5			
PDEQ 2 - PDEQ 1	Negative ranks	14	10.36	-1.499	**0.134**
	Positive ranks	6	10.83		
	Equivalent ranks	10			
STAI State Anxiety 2 – STAI State Anxiety1	Negative ranks	12	17.33	-0.459	**0.647**
	Positive ranks	15	11.33		
	Equivalent ranks	3			

***p<0.05 significant difference, p>0.05 no significant difference; Wilcoxon negative: 2<1 positive:2>1** (IES-R, Impact of Event Scale-Revised Form; PDEQ, Peritraumatic Dissociation Experience Questionnaire; STAI, State-Trait Anxiety Inventory)

personality traits, inadequate support system, and accompanying psychiatric disorders have been shown to be vulnerability factors in trauma-related symptoms, which may be helpful to explain this finding (23).

This study has several limitations. One of the limitations of this study was that the sample number was small and it was a single-center study. This created a limitation in terms of generalization of the data. Another limitation was not performing face-to-face interviews and psychiatric evaluations which were not possible during that process. In addition, because the evaluations were based on volunteerism, not all individuals under quarantine were evaluated was a limitation.

In conclusion, together with its limitations, this study provides data evaluating the process with self-report scales on the first known quarantine practice in Turkey and it contains leading data for studies in our country. We've found that the risk of infection affects individuals psychologically more than quarantine process and ending quarantine did not affect individuals' stress levels. Our study draws attention to the need for psychosocial evaluation for quarantined individuals.

Ethics Committee Approval: Ethics Committee Approval was obtained from Diskapi Yildirim Beyazit Training and Research Hospital (IRB Approval No: 84/19-16.03.2020).

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