The effects of personality types and coping styles on coronavirus anxiety levels of the healthcare workers

Sağlık çalışanlarının kişilik tipleri ve başa çıkma tarzlarının koronavirüs kaygı düzeylerine etkisi

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Abstract

Purpose: Healthcare workers are exposed to long and stressful work shifts in pandemics. It was aimed to evaluate the coronavirus related anxiety levels of the healthcare workers, and to evaluate the relationship between their personality types and coping strategies.

Materials and methods: Study included 213 medical healthcare workers who were randomly selected and agreed to participate in the study on a voluntary basis. Sociodemographic data form, Coronavirus anxiety scale, Type A Behavior Test, and Coping styles scale were applied to all participants.

Results: The total coronavirus anxiety scores of the participants with type A personality traits were found to be significantly higher than with type B personality traits (p=0.006). The mean scores of helpless approach and seeking social support were found to be significantly higher in participants with Type A personality (p=0.002, p=0.007, respectively). Self-confident and optimistic approach were found to be higher in participants with Type B personality (p=0.041, p=0.023, respectively). Participants with helpless approach had higher anxiety scores (p=0.033). A negative correlation was found between coronavirus anxiety and self-confident approach (p=0.002, r=-0.212) and optimistic approach (p=0.002, r=-0.209), and positive correlation with helpless approach (p=0.044, r=0.138).

Conclusion: The results of this study showed that healthcare workers with type A personality use less self-confidence and optimistic approach, use more helpless approach, and have higher levels of dysfunctional coronavirus anxiety according to B type personality. Following - up the mental health of healthcare workers is crucial to global health in other possible pandemics.

Keywords: Coronavirus anxiety, personality types, coping styles.

Öz

Amaç: Sağlık çalışanları pandemi gibi süreçlerde uzun ve stresli vardiyalara maruz kalmaktadır. Bu çalışmada sağlık çalışanlarının koronavirüse ilişkin işlevsel olmayan kaygı düzeylerinin değerlendirilmesi, aynı zamanda koronavirüs kaygısının bireylerin kişilik tipleri ile başa çıkma stratejileri arasındaki ilişkinin değerlendirilmesi amaçlanmıştır.

Gereç ve yöntem: Çalışmaya rastgele seçilen ve gönüllülük esasına göre çalışmaya katılmayı kabul eden 213 tıbbi sağlık çalışanı dahil edildi. Tüm katılımcılara Sosyodemografik veri formu, Coronavirüs Anksiyete Ölçeği, A Tipi Davranış Testi ve Başa Çıkma Tarzları ölçeği uygulandı.

Bulgular: Çalışmanın sonuçlarına göre A tipi kişilik özelliğine sahip katılımcıların koronavirüs anksiyete puanlarının, B tipi kişiliğe göre anlamlı düzeyde yüksek olduğu saptandı (p=0,006). A Tipi kişiliğe sahip katılımcılarda çaresiz yaklaşım ve sosyal destek arama puanları anlamlı düzeyde yüksek bulundu (sırasıyla p=0,002, p=0,007). B Tipi kişiliğe sahip katılımcılarda kendine güven ve iyimser yaklaşımın daha yüksek olduğu bulundu (sırasıyla p=0,041, p=0,023). Çaresiz yaklaşım sergileyen katılımcıların kaygı puanları daha yüksekti (p=0,033). Coronavirüs kaygısı ile kendine güvenli yaklaşım (p=0,002, r=-0,212) ve iyimser yaklaşım (p=0,002, r=-0,209) arasında negatif, çaresiz yaklaşım (p=0,044, r=0,138) arasında pozitif korelasyon bulundu.

Sonuç: Bu çalışmanın sonuçları, A tipi kişiliğe sahip sağlık çalışanlarının kendine güven ve iyimser yaklaşımı daha az kullandığını, çoğunlukla çaresiz yaklaşım sergilediklerini ve işlevsel olmayan koronavirüs anksiyete düzeylerinin B tipine göre daha yüksek olduğunu göstermektedir. Sağlık çalışanlarının ruh sağlığının izlenmesi ve sağlanması, olası diğer salgınlarda küresel sağlık açısından büyük önem taşımaktadır.

Anahtar kelimeler: Coronavirüs anksiyetesi, kişilik tipi, başetme stratejileri.

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Introduction

The outbreak of Coronavirus-2019 disease (COVID-19) in the city of Wuhan, China, at the end of 2019, spread rapidly across the world with increasing numbers of cases creating global concern, and was declared a pandemic by the World Health Organisation (WHO) on March 2020 [1]. Throughout the world, not only those with infection, but all sections of society were affected by the COVID-19 pandemic.

Previous studies have shown that outbreaks of highly infectious diseases such as COVID-19 cause psychological stress and symptoms of mental health disease [2]. One of the groups most affected in those difficult days, when there was an evident threat to life and mental health integrity, was undoubtedly healthcare workers who were working on the frontline and facing a high risk of becoming infected every day. In addition to the high risk of infection, healthcare workers dealing with COVID-19 were also working long and stressful shifts to meet the health needs of the community [3].

It can be said that healthcare workers were under great stress at that time for many reasons including the working hours and physical fatigue, insufficient personal protective equipment available, fears of becoming infected or infecting family and loved ones after contact with patients, having to remain distant from family, the high mortality rate of the disease, the grieving process for colleagues lost to the disease, and uncertainty of when the pandemic would end [4, 5]. It has been reported worldwide that the vast majority of healthcare personnel who were dealing with COVID-19 experienced psychological problems during the pandemic [6, 7]. The results of previous studies have also shown that depression and anxiety were experienced by healthcare workers during the pandemic at rates ranging from 13% to 47% [8-11].

The sensitivity of individuals, responses to problems experienced, and coping strategies for stress can take various forms. The coping styles of an individual in stressful situations can vary according to many factors such as personal characteristics, age, gender, culture, upbringing, and the disease [12, 13]. It has been reported that the coping styles of individuals in stressful situations or negative life events can mediate some outcomes such as anxiety, depression, psychological distress, and somatic complaints [14, 15]. To be able to be better prepared for future pandemics and increase productivity, it seems to be neceessary to know how beneficial the coping strategies are in conditions of severe stress and which strategies are less stressful for those using them.

In addition, certain personality types also affect the individual's response to stress. For example, Type A personality is a behaviour pattern often encountered in stress research. It has been reported that individuals with Type A personality are those who are organised and perfectionist, and they have less resistance to stress, can perceive even ordinary events as stressful, tend to experience more stress, and experience more burnout [16-18]. According to the classification of personality types, Type A individuals are generally introverted, do not like wasting time, try to do more than one task at once, and are therefore always fussy, are overly meticulous, controlling and competitive at work, forcing themselves and others to finish tasks, and can thus show anger, impatience, and displeasure towards others. Type B personalities do not like competition, are satisfied with their social standing and profession, are calm and tolerant, do not expect approval, are generally not fussy, rest periodically, and have sufficient areas of interest outside work and the home [19-21].

The aim of the current study was to evaluate the anxiety levels experienced related to COVID-19, and the relationships between coping strategies of health care workers who were faced not only with the threat of illness, but also with the threat of illness or loss of their relatives during the COVID-19 pandemic. It was also aimed to determine whether individuals with similar personality types used similar strategies to cope with stress and whether the stress coping strategy used was related to coronavirus anxiety. To be able to understand the potential psychological effects of a highly infectious, rapidly spreading pandemic, and to be prepared for other potential pandemics in the future, the early identificaton of problems is important to be able to prevent these. According to the results of this study, knowing the factors that are effective in coping with stress can be expected to provide guidance for future studies.

Materials and methods

Sample

The study included 213 medical health care workers who were randomly selected and agreed to partcipate in the research on a voluntary basis. The subjects included had no history of psychiatric treatment, and those with a current or previous psychiatric disease were excluded from the study. An online questionnaire was sent by email, and the subjects in the research who completed the questionnaire in full were enrolled in the study. Data were collected from a university hospital between July 2020 and December 2020.

All the study participants completed a Sociodemographic Data Form. The Coronavirus Anxiety Scale (CAS), the Type A Personality Test (TAPT) to determine personality traits, and the Coping Style Scale (CSS) to determine the methods used to cope with stress.

The Coping Style Scale (CSS)

The 30-item Coping Style Scale developed by Folkman and Lazarus (Ways of Coping Inventory) [12] and was adjusted by Şahin and Durak [13] and named the Coping Styles Scale (CSS). The items on the CSS are scored from 0-3 points with 4-point Likert-type responses, and separate scores are obtained for the subscales. Higher subscale points indicate which style is more used. The subscales are the optimistic, self confident, seeking social support, submissive and helpless approaches. Of these, the helpless approach and submissive approach are evaluated as ineffective strategies, and the optimistic, self confident and seeking social support as effective strategies.

Type A Personality Test (TAPT)

This test was developed by Ganster et al. [19], and the Turkish version was tested for validity and reliability by Durna [20]. The test has a total of 7 questions, each scored between 1 and 8 points. The scores for all 7 questions are totalled and then multiplied by 3. A final score of ≥100 points is accepted as a sign of Type A personality and a score of ≤99 points as Type B personality.

Coronavirus Anxiety Scale (CAS)

This scale was developed by Sherman A. Lee et al. [22] to determine cases of potentially dysfunctional anxiety associated with the COVID-19 crisis. The scale has been translated into various languages, including Turkish, and the validity and reliability studies for the Turkish version were performed by Evren et al. [23]. The CAS is a mental health screening scale for dysfunctional anxiety associated with COVID-19. The last 2 days are evaluated, with each item scored from 0 (never) to 4 (almost every day) points. Total CAS points of ≥9 indicate dysfunctional anxiety associated with COVID-19. A subject with high points for a specific item or high total points is evaluated as showing problematic symptoms which would require further evaluation and/or treatment.

Statistical analysis

The study data were analyzed using SPSS vn. 22.0 software. Continuous variables were mentioned as mean ± standard deviation (SD) values and categorical variables mentioned as number (n) and percentage (%). In the comparisons of the differences between independent groups of data, the Significance of the Mean Difference Test and One-Way Variance Analysis were used when parametric test assumptions were met, and the Mann Whitney U-test and Kruskal Wallis Variance Analysis were used when parametric assumptions were not met. Differences between categorical variables were examined with Chi-square analysis. A value of $p<0.05$ was defined as statistically significant.

Permission was obtained from Pamukkale University Non-Interventional Clinical Research Ethics Committee for the study.

Results

Evaluation was made of the data of 213 healthcare workers, comprising 155 (72.8%) females and 58 (27.2%) males. There were 4 separate age ranges of the participants: 86 (40.4%) aged <29 years, 71 (33.3%) aged 30-39 years, 50 (23.5%) aged 40-49 years, and 6 (2.8%) aged ≥50 years. It was seen that 121 (56.8%) participants were married and

92 (43.2%) were single. The educational level was reported as primary school by 3 (1.4%), high school by 12 (5.6%), and university by 198 (93%). Of the total study participants, 97 (45.5%) were resident physicians, 17 (8%) were specialist physicians, 5 (2.3%) were faculty member physicians, 86 (40.4%) were nurses/health technicians, and 8 (3.8%) were patient carers.

The place of residence was reported to be a rural area by 17 (8%) and an urban area by 196 (92%) participants. There was a history of migration for 56 (26.3%) participants and not for 157 (73.7%). A total of 59 (27.7%) participants stated that they lived alone, 150 (70.4%) that they lived together with their family, and 4 (1.9%) stated that they had other living conditions.

During the COVID-19 pandemic, 46 (21.6%) participants stated that they had to make a change in their living arrangements and 167 (78.4%) did not have to make any change. When the working conditions during the pandemic were examined, 5 (2.3%) were not working actively with patients, 42 (19.7%) stated that they were in contact with patients when on call, 127 (59.6%) were during normal working hours and on call, and 39 (18.3%) during flexible working hours.

The CAS scores of the study participants were determined as <9 points in 199 (93.4%) subjects and ≥9 points in 14 (6.6%). The total CAS points of the subjects showing A-type personality characteristics (2.45±3.92) were determined to be higher than those of the subjects showing B-type personality characteristics (1.25±2.30) (*p*=0.006). This showed that individuals with the A-type personality characteristics of being more particular, controlling, and agitated experienced a higher level of COVID-19-related anxiety, meaning that they were more affected by the pandemic.

When the stress coping styles were examined, the mean points of the helpless approach (*p*=0.002) and seeking social support (*p*=0.007) of the healthcare workers showing Type A personality characteristics were determined to be statistically significantly higher. The mean points of the self-confident approach (*p*=0.041) and optimistic approach (*p*=0.023) of the healthcare workers showing Type B personality characteristics were determined to be signficantly higher. These results showed that individuals with type A personaity characteristics used self-confident and optimistic approach stress coping styles less, and the helpless approach to events and need for social support were at a higher level (Table 1) (Figure 1).

Table 1. Coronavirus anxiety levels and coping styles of the groups according to their personality types

	Mean±SD		
	Type A Personality	**Type B Personality**	***p*ᵃ**
CAS Total Score	2.45±3.92	1.25±2.30	**0.006**
Self Confident Approach	22.11±3.56	23.17±3.68	**0.041**
Optimistic Approach	14.14±2.88	15.02±2.55	**0.023**
Helpless Approach	19.71±4.02	17.85±4.33	**0.002**
Submissive Approach	13.39±3.18	13.01±2.61	**0.348**
Seeking social support	11.77±1.46	11.12±1.73	**0.007**

ᵃIndependent samples test, ˚ *p*<0.05 SD: Standart Deviation CAS: Coronavirus anxiety scale
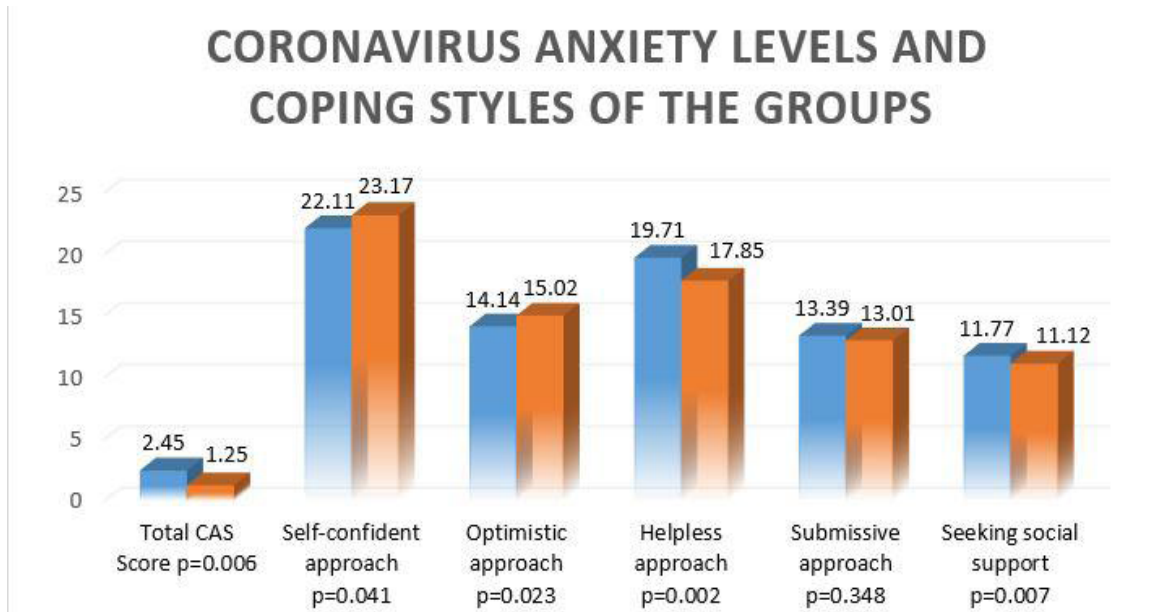
Figure 1. Coronavirus anxiety levels and coping styles of the groups according to their personality types

The relationships were examined between the sociodemographic characteristics and coronavirus anxiety and stress coping strategies, and it was determined that those who lived alone showed the helpless approach more (p=0.025), and those with a history of migration showed less submissive approach (p=0.002). The participants with high CAS points were found to have higher helpless approach points (p=0.033). Even if weak, some correlations were determined between coronavirus anxiety and coping styles. In the corelation analyses, a negative correlation was determined between coronavirus anxiety and the self-confident (p=0.002, r=-0.212) and optimistic approaches (p=0.002, r=-0.209), and a positive correlation was determined with the helpless approach (p=0.044, r=0.138). No

relationship was found between coronavirus anxiety and sociodemographic data such as age, gender, educational level, working year, marital status, living alone or with family, and having any chronic disease.

Of the total study participants, 165 (77.5%) stated that they had burnout during the COVID-19 pandemic.

When coronavirus anxiety was examined according to gender, it was seen that female healthcare workers used the approach of seeking social support more than male healthcare workers, and no other significant difference was determined between the genders in terms of coronavirus anxiety or stress coping styles (Table 2).

Table 2. Coping styles and anxiety levels of male and female healthcare professionals

	Mean±SD		
	Female	**Male**	***p*[a]**
CAS Total Score	2.02±3.46	1.98±3.49	**0.936**
Self Confident Approach	22.57±3.77	22.31±3.26	**0.617**
Optimistic Approach	14.37±2.96	14.72±2.28	**0.363**
Helpless Approach	19.36±4.12	18.17±4.40	**0.078**
Submissive Approach	13.36±3.07	12.96±2.75	**0.368**
Seeking social support	11.76±1.53	10.91±1.60	**0.001**

[a]Independent samples test, * p<0.05 SD: Standart Deviation CAS: Coronavirus anxiety scale

Discussion

The first striking finding of this study was that the coronavirus anxiety points of the participants showing A-type personality characteristics were significantly higher than those of the participants showing B-type personality characteristics. Most findings in the literature have also shown higher anxiety levels sensitive to stress in individuals with an A-type personality [24, 25]. This suggests that because A-type individuals want to accomplish difficult tasks, their exposure to more stressful factors or overreaction to sources of environmental stress means that these are sources of more stress compared to other people.

The healthcare workers forming the sample of this study were selected at randomly, and the results showed a greater number of subjects showing A-type personality characteristics (n:135) than B-type (n:78). As the healthcare sector provides services which require meticulous management with no room for error, it can be expected that those who choose to work in this sector will show more A-type personality characteristics. However, it can also be said that this is a sign that healthcare workers with A-type characteristics who work meticulously are at risk of dysfunctional anxiety in times of crisis such as the COVID-19 pandemic.

No significant difference was found between the male and female participants in the current study with respect to the CAS total points. Some studies in the literature have reported that females are at greater risk in respect of coronavirus anxiety levels [7, 26]. In contrast to data from the general population, the fact that there was no difference between male and female healthcare workers in the current study could be due to the fact that professional skills are similar and a similar professional approach is shown without gender differentiation. Moreover, this could also be related to resilience. It is known that resilience to stress factors has a protective effect, which helps people to cope with difficulties in a positive way [27]. In a study by Liang et al. [28], the resilience of healthcare personnel working on the frontline, most of whom were female, was reported to be higher than that of the general population.

When the stress coping styles were examined in this study, it was seen that the healthcare workers showing A-type personality characteristics had significantly higher helpless approach mean points, and they sought social support more. Those with B-type personality characteristics were determined to have signficantly higher self-confident and optimistic approach mean points. Nuray and Fatih [29] reported positive correlations between A-type personality and ineffective coping strategies rather than effective coping strategies. In the same study, the stress symptoms experienced were found to increase as the A-type personality characteristics intensified. Similar to these findings in the literature, a positive correlation was determined between greater use of the helpless approach and coronavirus anxiety in the healthcare workers in the current study showing A-type characteristics, and a negative correlation between coronavirus anxiety and greater use of the self-confident and optimistic approaches in the healthcare workers showing B-type personality characteristics.

Depression and anxiety symptoms are known to be associated with family functions, social support, and coping style [30]. The helpless approach points were seen to be higher in the study participants with high CAS points, consistent with the literature. In addition, coronavirus anxiety was determined to be negatively correlated with the self-confident approach and the optimistic approach, and positively correlated with the helpless approach.

It has been similarly reported in the literature that in healthcare workers with positive coping strategies and an active coping style focussed on changing a stressful situation, there is typically a correlation with effective mood regulation, and correspondingly, negative coping strategies focussing on social isolation and avoidance of stressful situations are a passive coping style leading to negative evaluations [31]. In parallel with this, when the relationships between sociodemogaphic characteristics and stress coping styles were examined in the current study, those who lived alone were found to use the helpless approach more.

There are a great number of studies in the literature related to the sensitivity of migrants to mental health diseases [32, 33]. However, it has

been shown that positive coping strategies and social support (personal or community support) for individuals who have migrated have positive effects on their physical, psychological, and well-being [34]. The current study population was formed of subjects with no history of mental health disease, in other words in a state of psychological well-being, and consistent with data in the literature, those with a history of migration were found to use a submissive approach less.

The life cycle in which a stressful event occurs can also determine how it will be coped with. It can be considered that younger hospital personnel at the start of their careers will experience less anxiety because of a threat weighted towards the elderly population [35]. However, the results of this study showed no relationship between the level of coronavirus anxiety and the sociodemographic data of age, gender, educational level, and years of professional experience.

There were some limitations of this study, primarily that the relatively small sample prevents generalisation of the results. The stress coping styles questionnaire has forms of 66, 30, 28, and 20 items, and each form has separate subscales. A form of 30 items with 5 subscales was used in this study for the healthcare workers with an intense working tempo to be able to complete it in a short time, and these restricted comparisons with the literature as most other studies of the relationship between coronavirus anxiety and stress coping styles have used other forms. There is a need for further extensive studies to support the findings obtained.

In conclusion, the aim of this study was to determine the personality characteristics and the stress coping styles that are effective in combatting stress for healthcare workers in a global public health crisis, and the results demonstrated that those with A-type characteristics were at greater risk, and those using the self-confident approach and optimistic approach could cope better with stress. Ensuring and monitoring the mental health of healthcare personnel is very important for global health. Education in the areas of resilience and stress management is important for healthcare workers to be able to cope with future crisis situations, such as the COVID-19 pandemic

[36]. The results of this study can be considered to be of guidance for precautions to be taken in the context of mental health protection, such as the education of healthcare personnel about stress management. There is a need for more of these types of studies to be able to be better prepared for future pandemics.

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