



RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Relationship of Cognitive Control and Flexibility with Anxiety among Nursing Students in the Times of COVID-19 Pandemic: A Cross-sectional Study

Covid - 19 Pandemisinde Hemşirelik Öğrencilerinde Bilişsel Kontrol ve Esneklik ile Anksiyete İlişkisi: Kesitsel Bir Çalışma

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Abstract:

Evaluating nursing students' cognitive control and flexibility levels during the COVID-19 pandemic may be the first step in increasing their ability to cope with the pandemic and reducing their anxiety. The main purpose of this study is to determine the relationships between cognitive control and flexibility and anxiety in the times of the COVID-19 pandemic in nursing students. The study was conducted with 275 nursing students. Data were collected using an information form, the Cognitive Control and Flexibility Questionnaire (CCFQ) and the Generalized Anxiety Disorder-7 Scale (GAD-7). According to the results of the research, the participants mean Cognitive Control and Flexibility Questionnaire and Generalized Anxiety Disorder-7 scores were found as 84.40±14.81, 7.86±4.66, respectively. There was a negative significant relationship between the mean CCFQ, and GAD-7 scores. The male had significantly higher the cognitive control over emotion sub-dimension of the CCFQ scores, while female had significantly higher the GAD-7 Scale. In the study, it was concluded that there was a negative significant relationship between the cognitive control and flexibility levels of the students and their generalized anxiety levels. It can be suggested that interventions to increase the cognitive control and flexibility levels of nursing students and nurses to cope with the Covid-19 pandemic.

Keywords: COVID-19 pandemic, cognitive control, flexibility, anxiety, nursing students

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Öz:

Hemşirelik öğrencilerinin COVID-19 pandemi sürecinde bilişsel kontrol ve esneklik düzeylerinin değerlendirilmesi, pandemi ile baş etme becerilerini artırma ve kaygılarını azaltmada ilk adım olabilir. Bu çalışma, hemşirelik öğrencilerinde COVID-19 sürecinde bilişsel kontrol ile esneklik ve anksiyete düzeyleri arasındaki ilişkileri belirlemek amacıyla yapılmıştır. Araştırma 275 hemşirelik öğrencisi ile yürütülmüştür. Veriler bilgi formu, Bilişsel Kontrol ve Esneklik Ölçeği ve Yaygın Anksiyete Bozukluğu-7 Ölçeği kullanılarak toplanmıştır. Katılımcıların Bilişsel Kontrol ve Esneklik Ölçeği ortalamaları 84.40 ± 14.81 , Yaygın Anksiyete Bozukluğu-7 puan ortalamaları 7.86 ± 4.66 olarak bulundu. Bilişsel Kontrol ve Esneklik Ölçeği ortalamaları ile Yaygın Anksiyete Bozukluğu-7 puanları arasında negatif yönde anlamlı bir ilişki olduğu sonucuna ulaşıldı. Bilişsel Kontrol ve Esneklik Ölçeği puanlarının duygu üzerinde bilişsel kontrolü erkeklerde anlamlı düzeyde yüksekken, kadınlarda yaygın anksiyete bozukluğu-7 Ölçeği puan ortalaması anlamlı olarak daha yüksek belirlendi. Araştırmada öğrencilerin bilişsel kontrol ve esneklik düzeyleri ile genel anksiyete düzeyleri arasında negatif yönde anlamlı bir ilişki olduğu sonucuna varılmıştır. Hemşirelik öğrencilerinin ve hemşirelerin Covid-19 pandemisi ile baş etmede bilişsel kontrol ve esneklik düzeylerini artırmaya yönelik müdahaleler önerilebilir.

Anahtar Kelimeler: COVID-19 pandemisi, bilişsel kontrol, esneklik, kaygı, hemşirelik öğrencileri

Introduction

Covid-19 is a viral disease that started in Wuhan, China and caused the pandemic (Islam, Ferdous & Potenza, 2020; Salari et al., 2020). Covid-19 has symptoms such as fever, fatigue, cough and sore throat. It can cause death by pneumonia (Salari et al., 2020; Wang et al., 2020). In addition, postdischarge symptoms and sequelae have been identified in Covid-19 patients (Halpin et al., 2021). Therefore, the pandemic has physical and psychological effects (Halpin et al., 2021; Knowles & Olatunji, 2021; Silva, de Sampaio Brito & Pereira, 2021). Long treatment period, isolation, separation from loved ones, loneliness, lifestyle changes in Covid-19 can lead to psychiatric disorders such as stress, anxiety, and depression (Burtscher, Burtscher & Millet 2020; McCracken, Badinlou, Buhrman & Brocki, 2021; Zheng et al., 2021). Zhao et al., (2020), determined that health professionals in the front line in the fight against COVID-19 have high levels of anxiety, depression and insomnia. The increase in the speed of the epidemic and the mutation negatively affect the life of individuals as a cause of chronic stress (Sher, 2020; van Oosterhout, Hall, Ly & Tyler, 2021). At the time of COVID-19, individuals may experience difficulties such as mask, distance, and vaccination and can be an important cause of stress (Polizzi, Lynn & Perry, 2020; Zhang et al., 2021). Reducing stress in the time of COVID-19 could prevent future psychiatric disorders (Polizzi et al., 2020). Maintaining cognitive control and increasing flexibility in stressful situations can make it facilitates for individuals to cope with stress and decreases the incidence of psychiatric disorders (McCracken et al., 2021; Polizzi et al., 2020).

Cognitive control is the process of defining and managing the information an individual needs in order to control behaviour in accordance with the individual's internal goals (Pruessner, Barnow, Holt, Joermann & Schulze, 2020). While cognitive control supports the focus and use of information necessary for the individual to achieve her goal, it obstacles information that is not useful to the individual and appropriate for the individual's situation (Gabrys, Tabri, Anisman & Matheson, 2018). Cognitive

flexibility is the ability to adapt to certain situations, the ability to switch from one thought to another, or the capacity to look at different problems with versatile strategies (Braem & Egner, 2018). Cognitive flexibility means that the individual is aware of different solutions and options in the face of a stressful situation, adapts to changing situations and has self-efficacy (Braem & Egner, 2018; Lange, Seer & Kopp, 2017). For this reason, cognitive control and flexibility are important in protecting the mental health of individuals and preventing psychiatric disorders during the time of the Covid-19 outbreak. Cognitive control and flexibility facilitate targeted behaviors, regulate individuals' emotions, and reduce anxiety levels (Gabrys et al., 2018).

Anxiety is a disorder that negatively affects an individual's thoughts, feelings and physical condition. It occurs when there are concerns about future situations, and if left untreated, it can cause anxiety disorders (Bandelow, Michaelis & Wedekind, 2017). In the COVID-19 pandemic, the increasing number of infected individuals and new mutations increase panic and anxiety among individuals (Islam et al., 2020). Roy et al. (2020), found that individuals have high anxiety levels in Indian population during COVID-19, Özdin and Bayrak Özdin (2020), determined that Turkish individuals have high anxiety, depression and health anxiety in during COVID-19 pandemic. Hu et al. (2020) stated that nurses fighting Covid 19 experience high fear, emotional fatigue, anxiety and burnout. Similarly, Akman, Yıldırım and Sarıkaya (2020), also reported that the pandemic increased nursing students' anxiety.

Evaluating nursing students' cognitive control and flexibility levels during the COVID-19 pandemic may be the first step in increasing their ability to cope with the pandemic and reducing their anxiety. Therefore, it was aimed to examine the relationship between students' cognitive control and flexibility and anxiety levels in the study.

Methods

Study design

This was a cross-sectional study, and conducted in December 2020-January 2021.

Study sample

The population of the study consists of a total of 423 students studying at Bilecik Şeyh Edebali University, Health Sciences Faculty, Nursing Department in Turkey. This study did not perform a sampling and aimed to reach all of the population. The study was completed with 275 students who met the inclusion criteria of the study.

Inclusion criteria

Students over the age of 18 who volunteer and have internet access were included in the study.

Data Collection

COVID-19 has prevented traditional face-to-face surveys due to its rapid spread. In contrast, online surveys have become safer and more feasible. So the data was collected via Google-Form between December 2020- January 2021. A questionnaire via Google Forms was sent to the undergraduate students of the faculty of nursing as a mobile phone message. The students who clicked the link to access the questionnaire encountered an informative text containing the purpose of the study. After reading this text, the students who accepted to participate in the study carried out the study by marking the confirmation button that they agreed to participate in the study. It takes 10-15 minutes for the participants to fill in the data collection instruments. Students filled out the questionnaires in about 1 week.

Data Collection Tools

An Information form, the Cognitive Control and Flexibility Questionnaire (CCFQ), and the Generalized Anxiety Disorder-7 Scale (GAD-7) were used to collect the data.

Information form: This form includes the student's gender, age, class, reasons for choosing a nursing career, living with the family, questions about Covid-19 infections in students and their family members.

Cognitive Control and Flexibility Questionnaire (CCFQ): The CCFQ is a scale developed by Gabrys, Tabri, Anisman and Matheson (Gabrys et al., 2018). The validity and reliability of the scale in Turkish was made by Demirtaş (Demirtaş, 2019). The scale is in 7-point Likert type with 18 items. The total score obtained from the scale is between 18-126.

The scale has two factors: Cognitive Control over Emotion with 9 items and Appraisal and Coping Flexibility with 9 items (Demirtaş, 2019). The scale measures the ability of the individual to gain control over intrusive, negative thoughts and emotions and to cope with a stressful situation flexibly. It also evaluates participants' negative thoughts and emotions in stressful situations in general, what they think, feel, and do when their emotions are triggered. The Cronbach's alpha coefficient of the scale was 0.89 in this study.

Generalized Anxiety Disorder-7 Scale (GAD-7): The GAD-7 was developed by Spitzer, Kroenke, Williams and Löwe, that evaluates generalized anxiety disorder (Spitzer, Kroenke, Williams & Lowe, 2006). The Turkish validity and reliability of the scale was made by Konkan, Şenormancı, Güçlü, Aydın and Sungur (Konkan, Şenormancı, Güçlü, Aydın & Sungur, 2013). The scale is a 7-item four-point Likert scale (0 = none, 1 = many days, 2 = more than half of the days, 3 = almost every day), which evaluates the experiences asked in the scale items in the last 2 weeks. The total score obtained from the scale is between 0-21 (Şenormancı, Konkan & Şenormancı, 2017). The Cronbach Alpha coefficient of the scale was 0.85 in this study.

Ethical Approval

This study was conducted in compliance with the principles of the Helsinki Declaration. Ethical approval was granted by the Bilecik Şeyh Edebali noninterventional Clinical Research Ethics Committee (Dated November 02, 2020, Numbered 26611).

Data Analysis

The data analysis was used a statistical software program. Frequencies, percentages, mean and standard deviation values were calculated. Mann-Whitney U and Kruskal Wallis tests were used to compare groups. Also, the Spearman's correlation test was used to evaluate the variation of the variables. $p \leq 0.05$ was admitted as statistically significant in results.

Results

The mean age of the students was 20.55 ± 2.15 . Of the students, 74.5% ($n=205$) were female, 91.3% ($n=251$) were not infected with Covid-19. At least one of the family members of 76.7% ($n=211$) of the students were infected with virus (Table 1).

Table 1. Characteristics of students

		n	%
Gender	<i>Female</i>	205	74.5
	<i>Male</i>	70	25.5
Class	<i>1st</i>	85	30.9
	<i>2nd</i>	65	23.6
	<i>3th</i>	70	25.5
	<i>4th</i>	55	20.0
Reasons for choosing a nursing career	<i>Family wants</i>	7	2.5
	<i>Helping people</i>	150	54.5
	<i>Easy job finding</i>	87	31.6

	<i>Good salary</i>	2	0.7
	<i>University admission score</i>	15	5.5
	<i>Other reasons</i>	14	5.1
Living with the family	<i>Yes</i>	257	93.5
	<i>No</i>	18	6.5
Covid-19 infection in students	<i>Yes</i>	24	8.7
	<i>No</i>	251	91.3
Covid-19 infection in students' family members	<i>Yes</i>	211	76.7
	<i>No</i>	64	23.3

The participants mean CCFQ and GAD-7 scores were found as 84.40±14.81, 7.86±4.66, respectively (Table 2).

Table 2. Average scores of the scales

Scales	$\bar{X} \pm (SD)$	Min	Max
<i>Cognitive Control and Flexibility Questionnaire</i>	84.40±14.81	18	126
<i>Appraisal and Coping Flexibility</i>	49.74±6.71	9	63
<i>Cognitive Control over Emotion</i>	34.65±10.44	9	63
<i>Generalized Anxiety Disorder-7 Scale</i>	7.86±4.66	0	21

There was a negative significant relationship between the mean CCFQ and GAD-7 scores ($p < .01$). GAD-7 had a negative significant relationship with the Cognitive

Control over Emotion and Appraisal and Coping Flexibility sub-dimensions of CCFQ ($p \leq .01$).

Table 3. Correlations among scales

	A	A1	A2	B
<i>Cognitive Control and Flexibility Questionnaire (A)</i>	1			
<i>Appraisal and Coping Flexibility (A1)</i>	0.775**	1		
<i>Cognitive Control over Emotion (A2)</i>	0.991**	0.467**	1	
<i>Generalized Anxiety Disorder-7 Scale (B)</i>	-0.458**	-0.257**	-0.505**	1

Spearman Correlation * $p \leq .05$ ** $p \leq .01$

There was a relationship between the gender of the students and their cognitive control over emotions sub-dimension of CCFQ and GAD-7. The male students had higher the cognitive control over emotion scores ($p \leq .05$), while female students had higher the GAD-7 scores ($p \leq .05$). There was a statistically significant relationship between the total and appraisal and coping flexibility sub-dimension of CCFQ scores and students' class ($p \leq .05$) (Table 4). In the comparison made to determine which grade the difference stems from, the first class students' score is higher than the third class ($p \leq .05$).

There was a statistically significant relationship between the scales and the reason why students choose a nursing career ($p \leq .05$). When the reason for the difference was examined, there was a statistically significant relationship between the students who choose a nursing career because of good salary and family wants. The cognitive control over emotion sub-dimension scores were higher for students who chose a nursing career because their parents wanted it ($p \leq .05$). In addition, there was a statistically significant relationship between the students who choose a

nursing career because of helping people and family wants ($p \leq .05$). There was a significant relationship between the total and appraisal and coping flexibility sub-dimensions of CCFQ scores of the students who chose a nursing career because of good salary and university admission score. The scores of the students who chose because of university admission score had higher ($p \leq .05$). The GAD-7 scores of the students who chose a nursing career because of good salary had higher than the students who chose for other reasons ($p \leq .05$). The total and appraisal and coping flexibility sub-dimension of CCFQ scores of students who choose because of helping people are higher than those who chose because of good salary, and their GAD-7 scores are lower ($p \leq .05$). Students who chose because of university admission score had higher total, cognitive control over emotion and appraisal and coping flexibility sub-dimensions of CCFQ scores than students who chose because of easy job finding ($p \leq .05$). The cognitive control over emotion and appraisal and coping flexibility sub-dimensions of CCFQ scores of the students who chose because of helping people had higher than the students who chose because of easy job finding ($p \leq .05$) (Table 5).

Table 4. Relationship between characteristics of students and scales

	Gender		Z	Class				χ^2 p
	$\bar{X} \pm(SD)$							
	Female	Male		1	2	3	4	
<i>Cognitive Control and Flexibility Questionnaire</i>	83.27±13.61	87.70±17.55	-1.685 0.092	88.65±16.77	82.18±14.84	81.92±13.71	83.60±11.43	8.169 0.043
<i>Appraisal and Coping Flexibility</i>	49.49±6.41	50.48±7.51	-0.615 0.539	51.72±6.95	48.15±6.69	48.51±6.01	50.12±6.51	14.591 0.002
<i>Cognitive Control over Emotion</i>	33.78±9.68	37.21±12.14	-2.006 0.045	36.92±11.69	34.03±10.54	33.41±10.22	33.47±7.98	4.435 0.218
<i>Generalized Anxiety Disorder-7 Scale</i>	8.11±4.49	7.14±5.11	-1.912 0.056	7.32±4.52	8.18±4.87	8.54±4.50	7.47±4.81	3.769 0.288

Z Mann Whitney U test χ^2 Kruskal Wallis test**Table 5.** Relationship between reasons for choosing a nursing career of students and scales

	<i>Family wants</i> $\bar{X} \pm(SD)$	<i>Helping people</i> $\bar{X} \pm(SD)$	<i>Easy job findin</i> $\bar{X} \pm(SD)$	<i>Good salary</i> $\bar{X} \pm(SD)$	<i>University admission score</i> $\bar{X} \pm(SD)$	<i>Others</i> $\bar{X} \pm(SD)$	χ^2 p
<i>Cognitive Control and Flexibility Questionnaire</i>	84.42±9.88	87.31±15.15	78.86±13.24	64.50±50	88.20±13.07	86.42±14.50	22.986 0.000
<i>Appraisal and Coping Flexibility</i>	50.85±4.52	50.70±6.46	47.71±6.46	42.00±1.41	51.80±6.47	50.50±7.75	17.168 0.004
<i>Cognitive Control over Emotion</i>	33.57±8.28	36.61±10.78	31.14±9.12	22.50±7.77	36.40±9.73	36.40±9.73 35.92±9.73	16.639 0.005
<i>Generalized Anxiety Disorder-7 Scale</i>	11.14±6.96	7.02±4.31	8.87±5.00	13.50±0.70	7.73±3.86	8.42±3.95	13.046 0.023

 χ^2 Kruskal Wallis

Discussion

According to the results of this study, which examined the relationship between the cognitive control and flexibility levels of 275 nursing students and their anxiety levels during in time of the COVID-19 pandemic, it was determined that most of students were lived with their families. At least one of the family members of 76.7% (n=211) of the students were infected with virus. But, 91.3% of the students were not infected with Covid-19. This result shows that students have applied personal protection measures against virus and they have successfully coped with the Covid-19. In the literature, it is stated that personal precautions such as hand washing, mask and distance compliance are important for protection in Covid-19 (Kang, 2020).

According to another result of this study, the CCFQ score of the students is 84.40 ± 14.81 (Min: 18, Max: 126). It can be said that nursing students can provide cognitive control and flexibility in coping with stressful situations. Although the Covid-19 pandemic affects all people, it can be an important source of stress for nursing students. Because, nurses continue at the forefront of the Covid-19 patient care and they will be pandemics in the future.

Zhao et al. (2020) determined that nurses have high levels of anxiety, depression and insomnia because they have been at the forefront of the fight against the Covid-19 pandemic. Zheng et al. (2021), reported that nurses experienced many difficulties in the Covid-19, and this process negatively affected their coping skills and caused psychiatric disorders. Landi, Pakenham, Boccolini and Tossani (2020), stated that people who are stressed and faced with difficulties were affected by past life experiences, coping strategies and personality traits. Lorente, Vera and Peiró (2021), stated that if nurses can improve their flexibility skills, they will be able to cope more easily with the stress they experience in the time of Covid-19 and adapt to new situations, and they can increase the adaptability of both themselves and patients. Therefore, the implementation of strategies that will improve the cognitive flexibility and control of nursing students during their education will enable them to cope more successfully with the stressful situations they encounter in their professional lives.

It is possible to say that the participants have moderate anxiety according to their GAD-7 score averages and they can control the anxiety of students in the Covid-19 process (7.86 ± 4.66 Min: 0, Max: 21). This result is similar to the

results of the study conducted by Savitsky, Findling, Erel and Hendel (2020), with nursing students. In a study the causes of stress, fear and anxiety in nursing students during the Covid-19 process were identified as contamination, socioeconomic difficulties, traumatic stress and compulsions (Medina Fernández et al., 2021). Sampaio, Sequeira and Teixeira (2021), and Salari et al. (2020), stated that protecting individuals' mental health is as important as protecting physical health in the Covid-19 process.

According to the results of this study conducted with nursing students at the time of Covid-19, it was concluded that there was a negative relationship between students' CCFQ total scores and subscales and GAD-7 scores (Table 3). This result shows that as the students' cognitive control over emotions and their ability to cope with their cognitive control increases, their anxiety decreases. Similarly Turan, Durgun, Kaya, Ertaş and Kuvan (2019), determined that as the cognitive flexibility levels of students increase, their perceived stress levels decrease. Yu, Yu and Lin (2020), concluded that low cognitive flexibility is associated with high anxiety and depression. In another study have also shown that better cognitive flexibility is associated with low anxiety and stress (Han et al., 2011).

In the literature, there are no studies investigating cognitive control and flexibility in individuals affected during in time of the Covid 19. Based on the results of other studies conducted independently of the pandemic time, it can be said that the result obtained from this study is compatible with the literature and that the students participating in the study have the ability to control sudden negative emotions and can cope with stressful situations, and have less anxiety in such situations.

In the study, the relationship between gender and class and scales was examined (Table 4), it was found that there was a significant difference in cognitive control over emotions sub-dimension of CCFQ and GAD-7 of the with the gender of the students, and male students had higher the cognitive control over emotion scores. GAD 7 scores of female students are higher than male. Yelpaze and Yakar (2019), determined that the mean scores of male students on cognitive flexibility was higher than female. Contrary to these results, Yu et al. (2020), stated that men exhibited slightly higher levels of anxiety and depression and lower levels of cognitive flexibility compared to women. Similar to the results of this study conducted before the pandemic time, another study conducted with nursing students during the pandemic found that the anxiety level of female students was higher than that of male students (Kalkan Uğurlu, Mataracı Değirmenci, Durgun & Gök Uğur, 2021). Savitsky et al. (2020), also found that anxiety levels of female students were higher than male. In the literature, there are studies showing that there is no statistically significant difference between gender and cognitive flexibility (Bertz & Karoglu, 2020; Chen, He & Fan, 2019). Regardless of whether the pandemic is in time or not, when these results in the literature are evaluated, it can be said that it is caused by cultural differences. Because, the sociocultural characteristics of every society are different. Therefore, gender is affected by this characteristics in the efforts made at the time of the pandemic.

According to the results of this study, while the anxiety level of most of the students who chose a nursing career because of helping people was low, the anxiety level of most of the students who chose the career due to the ease

of finding a job was high. The anxiety scores of the students who chose a nursing career because of good salary were higher than the students who chose the nursing profession for other reasons (Table 5). Although there are no studies in the literature investigating the reason for choosing a nursing career and anxiety during the pandemic period, it is possible to reach results that show that students who willingly choose the nursing department, who love their profession and who stated that they will work as a nurse after graduation have lower anxiety and stress levels regardless of the pandemic time (Açıksöz, Uzun & Arslan, 2016; Akkaya, Gümüş & Akkuş, 2018; Arabacı, Korhan, Tokem & Torun, 2015;). The cognitive control and cognitive flexibility scale total score and assessment and coping sub-dimension scores of the students who chose a nursing career because of helping people were found to be higher than the students who chose because of good salary and easy job finding, and their anxiety scores were lower (Table 5). In another study investigating the anxiety and coping strategies of nursing students, resilience and self-esteem were associated with low anxiety levels, and it was thought that students with high flexibility and self-confidence probably took positive and active attempts to cope with stressors (Savitsky et al., 2020). The pandemic process is experienced as a difficult process that creates stress due to the constraints and risks it creates on lives. Nurses are one of the professionals who experience the biggest difficulties in this process. With this result obtained in the study, it is possible to say that students who prefer a nursing career with positive emotions are those who have a better ability to adapt to changing environments and adapt targeted behaviors despite the difficulties in the pandemic process.

Conclusions

In the study, it was concluded that there was a negative significant relationship between the cognitive control and flexibility levels of the students and their generalized anxiety levels. The cognitive control over emotions scores were determined to be high in male students. Female students had significantly higher generalized anxiety scale scores. It was found that the students who chose a nursing career with positive emotions had high levels of cognitive control and cognitive flexibility and low anxiety levels. In addition, in this study, it was concluded that the students were not affected by the fact that their family members were diagnosed with Covid-19. Based on these results, it is recommended that government and universities should collaborate to solve this problem in order to provide a high-quality, timely, and crisis-oriented psychological services to university students. Also to organize activities promoting the nursing program for students who are preparing for university, so that students can make a choice willingly in the selection of the nursing department. In this way, members of the profession with low anxiety and ability to control in difficult and stressful situations will be gained.

Limitations

This study was not conducted face-to-face. Therefore, a formal environment could not be created during data collection. In addition, the different physical, psychological, cultural and other effects of the pandemic on nursing students could not be controlled. Since the study was conducted in a single center and with volunteers, it cannot be generalized to other national and international nursing students.

Declarations

Ethics Approval and Consent to Participate

This study was conducted in compliance with the principles of the Helsinki Declaration. Ethical approval was granted by the Bilecik Şeyh Edebali noninterventional Clinical Research Ethics Committee (Dated November 02, 2020, Numbered 26611).

Consent for Publication

Not applicable.

Availability of Data and Materials

Not applicable.

Competing Interests

The author declares that no competing interests in this manuscript.

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Authors' Contributions

BBK, SM and AA worked on the concept of the study, gathering data. SM analyzed the data. All authors write and made the critical revisions about the article. BBK and SM supervised this study. All authors have read and approved the final article.

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