

Coping Strategies and Their Effects on Quality Of Life of Cancer Patients during the COVID-19 Pandemic

COVID-19 Pandemisinde Kanser Hastalarının Başa Çıkma Stratejileri ve Yaşam Kalitesine Etkisi

¹Çiğdem ÖKTEN, ²Havva GEZGİN YAZICI

¹Internal Medicine Nursing Department, Kütahya Health Sciences University, Faculty of Health Sciences, Kütahya, Türkiye

²Mental Health Nursing Department, Kütahya Health Sciences University, Faculty of Health Sciences, Kütahya, Türkiye

Çiğdem Ökten: <https://orcid.org/0000-0003-0704-0438>

Havva Gezgin Yazici: <https://orcid.org/0000-0001-8422-9686>

ABSTRACT

Objective: The study aimed to investigate the coping strategies employed by individuals diagnosed with cancer during the COVID-19 pandemic and the effects of these strategies on their quality of life.

Materials and Methods: The present descriptive and cross-sectional study analysed 131 patients from June 1 to July 1, 2021, through the social media networks of several cancer-related associations. Personal information form, coping strategies form and Duke Health Profile were used to collect data via Google forms.

Results: The participants employed the strategies of spiritual beliefs (94.7%), social/emotional support (92.4%) and positive reframing (91.6%) most among all coping strategies. The Duke Health Profile (general health) score of the participants was 57.43±16.20. Multiple linear regression analysis revealed that social/emotional support, hobbies, substance use, and behavioural disengagement coping strategies were effective on the general health score ($p<0.05$).

Conclusions: As a result, most of the patients use many coping strategies, and the coping strategies used seem to be effective in their quality of life. For this reason, oncology nurses should include practices to strengthen coping strategies in patient care.

Keywords: Cancer, coping strategies, COVID-19 pandemic, quality of life

ÖZ

Amaç: Bu çalışmada COVID-19 salgını sırasında kanser tanısı olan bireylerin kullandıkları başa çıkma stratejileri ve yaşam kalitesine etkisinin değerlendirilmesi amaçlanmıştır.

Materyal ve Metot: Tanımlayıcı ve kesitsel türde olan bu çalışma, 01 Haziran 2021- 01 Temmuz 2021 tarihleri arasında derneklerin sosyal medya ağları aracılığıyla 131 hasta ile yapılmıştır. Google formlar aracılığı ile kişisel bilgi formu, başa çıkma stratejileri formu ve Duke Sağlık Profili veri toplamada kullanılmıştır.

Bulgular: Katılımcıların sırasıyla fonksiyonel başa çıkma stratejilerinden en çok Spiritual beliefs (%94,7), Sosyal/Emosyonel Destek (%92,4), Pozitif Yeniden Çerçeveleme (%91,6), Kabullenme (%87,8) stratejilerini, fonksiyonel olmayan başa çıkma stratejilerinden ise en çok Kendi kendine dikkat dağıtma (%84,0) stratejisini kullandıkları bulunmuştur. Katılımcıların Duke sağlık profili genel sağlık skoru 57,43±16,20 olarak belirlenmiş olup Sosyal/Emosyonel Destek, Hobiler, Davranışsal Ayrılma başa çıkma stratejileri ile genel sağlık skoru arasında anlamlı bir ilişkinin olduğu görülmüştür.

Sonuç: Sonuç olarak, hastaların çoğu birçok başa çıkma stratejisini kullanmaktadır ve kullanılan başa çıkma stratejilerinin yaşam kalitesi üzerinde etkili olduğu görülmektedir. Bu nedenle Onkoloji hemşireleri hastanın bakımına başa çıkma stratejilerini güçlendirmeye yönelik uygulamaları da katmalıdır.

Anahtar Kelimeler: Başa çıkma stratejileri, COVID-19 pandemisi, kanser, yaşam kalitesi

Sorumlu Yazar / Corresponding Author:

Çiğdem Ökten

Internal Medicine Nursing Department, Kütahya Health Sciences University, Faculty of Health Sciences, 43000 Kütahya/ Türkiye
Tel: 0090 274 260 00 43

E-mail: cigdem.okten@ksbu.edu.tr; cigdemoktn@hotmail.com

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INTRODUCTION

The COVID-19 pandemic has affected several people worldwide, threatening their physical and mental health.¹ However, interestingly, people who were most affected and vulnerable to COVID-19 were those with comorbid conditions such as cancer, diabetes, and cardiovascular diseases.^{2,3}

The COVID-19 pandemic has created many difficulties for individuals living with cancer. Alongside the physical health, the psychological health of patients whose treatments got interrupted, surgeries got cancelled, and regular oncological check-ups could not be undertaken were adversely affected.^{4,5} Past studies have reported that people with cancer may face the worst consequences, including the higher risk of staying in the intensive care units due to the COVID-19 pandemic, the need for ventilation, and higher mortality relative to patients without cancer.⁵⁻⁷

Cancer is a dangerous disease that poses a risk to life and affects the quality of life. Individuals with cancer are affected by several symptoms related to the disease and the treatment. In addition to the pandemic, these individuals have to deal with several other problems, such as the risk of or fear of infection and postponing the current treatment.^{8,9} Coping can be described as thoughts and behaviours used to manage a stressful situation. People living with cancer experience a variety of social and emotional concerns related to the disease, treatment, and prognosis since the time of diagnosis. They accordingly employ various coping strategies that can be beneficial or harmful regarding compliance and well-being.^{8,10-12} While some coping strategies can be classified as functional, others can be classified as dysfunctional.¹³⁻¹⁷ Strategies such as acceptance are believed to be positive as they are positively related to the quality of life; however, dysfunctional strategies such as denial and self-blame are negatively correlated with the quality of life.^{16,18,19} Adopting certain coping strategies can affect the patient's perception of the disease and the decision related to treatment. This act may have a long-lasting effect on their treatment and survival outcomes.¹⁶ Furthermore, coping strategies can alleviate the negative effects of stressful situations.^{11,20}

The study aimed to determine the coping strategies and their effects on the quality of life of cancer patients during the COVID-19 pandemic.

MATERIALS AND METHODS

Ethical Considerations: This study was conducted following the principles of the Declaration of Helsinki in 2013 (The Code of Ethics of the World Medical Association (Declaration of Helsinki)).²¹ Permission to use the Duke Health Profile was provided by George Parkerson. Ethics committee approval

was received from Kütahya Health Sciences University Non-Interventional Clinical Research Ethics Committee (Date: 15.04.2021; decision No: 2021/07-07), and consent from the participants who agreed to participate in the study was obtained before they filled out the forms.

Design and Study Population: This descriptive and cross-sectional study was conducted on 131 patients from June 1 to July 1, 2021. To determine the participants, e-mails were sent to three associations and members of these associations were invited to participate in the study. Cancer patients and patients with cancer in the past was eligible to become a member of these associations. After obtaining the ethics committee's approval, a consent form for participation in the study, a personal information form, a coping strategies form, and the Duke Health Profile prepared using Google Forms were distributed online through the social media networks of the accepting associations. The participants were automatically directed to information about the study, and they could provide their informed consent form by clicking on the research link. After the patients agreed to participate in the study, they were required to complete the relevant scales and forms. Patients aged ≥ 18 years who could read and understand the Turkish language, diagnosed with cancer, and willing to provide informed consent were included in the study. The research questions: 1) What are cancer patients' coping strategies in the COVID-19 pandemic? 2) How is the quality of life of cancer patients in the COVID-19 pandemic? 3) Is there a relationship between coping strategies and the quality of life of cancer patients in the COVID-19 pandemic?

Measurements

Personal Information Form: This form was prepared by the researcher based in the light of literature^{5,18,22,23} and consisted of 12 questions on patients' sociodemographic and disease-related characteristics.

Coping Strategies Form: This form was prepared by the researcher based on the literatures,^{5,18,22,24} and included 13 questions that aimed to determine the patients' coping strategies. These 13 questions are answered as yes or no. There are eight functional coping strategies, including social/emotional support, planning, positive reframing, humour, acceptance, spiritual beliefs, self-care, and hobbies. There are five dysfunctional coping strategies, including behavioural disengagement, substance use, self-blame, revealing, and distraction.

Duke Health Profile: The Duke Health Profile short version, which assesses the quality of life, was developed by Parkerson and colleagues.²⁵ The short version of the Duke Health Profile included 17 items to facilitate its application. Kuzu and colleagues confir-

med the scale’s validity and reliability.²⁶ The 17-item Duke Health Profile included 11 subscales that assessed six functional and five dysfunctional health areas. While higher scores in the functional health areas indicated a higher quality of life, higher scores in the dysfunctional health areas indicated a lower quality of life. The health status scores for functional and dysfunctional health areas ranged from 0 to 100.^{25,26} For physical, mental, social, general, self-esteem, and perceived health, 100 indicates the best health status, and 0 indicates the worst health status. For anxiety, depression, anxiety-depression, pain, and disability, 100 indicates the worst health status, and 0 indicates the best health status. The Cronbach alpha reliability coefficient of this scale, validated and reliable for the Turkish population, was found to be 0.73 for general health.²⁶ In this study, Cronbach alpha coefficient was 0.77.

Statistical Analyses: Statistical Package for Social Sciences for Windows (version 22.0) was used for data analysis. Descriptive statistics for continuous variables were presented as mean ±standard deviation, whereas numbers and percentages were used to show categorical variables. Independent samples *t*-test and one-way analysis of variance were used to compare demographic variables and the coping strategies with the quality of life. The relationships among the demographic variables, the coping strategies, and the quality of life were examined by multiple linear regression analysis. *p*<0.05 was considered statistically significant.

RESULTS

The distribution of the participants’ sociodemographic characteristics is provided in Table 1. Most participants were of mean age 51.16 ±13.79 years, female (60.3%), and married (85.5%). Nearly half (48.9%) of the participants had completed primary school, and 77.1% were unemployed. When the participants’ economic situation was examined, 72.5% belonged to an income equal to their expenses. Of the participants, 59.5% lived in cities, and 90.8% resided with their families. Of the patients, 29.8% were diagnosed with breast cancer, and 58.8% were currently receiving treatment. The treatment of most participants (83.2%) was not postponed; however, surgical treatment of 4.6% and non-surgical cancer treatments of 12.2% were postponed. In addition, 91.6% of them were not diagnosed with COVID-19. The comparison of the sociodemographic characteristics of the participants with the Duke Health Profile general health score averages is shown in Table 1. When the mean scores of general health scores of the participants were compared by their gender, marital status, support status, education level, economic status, place of residence, current treatment, postponing treatment, and diagnoses with COVID-19, no statistically significant difference was noted (*p* > 0.05). When the participants’ mean general health score points were compared according to their employment status, a statistically significant difference was noted (*t* = 2.13, *p* = 0.04), and the general health score of the unemployed individuals was found to be lower (Table 1).

Table 1. Sociodemographic and disease-related characteristics (n = 131).

Variable	n (%)	General Health Score M ± SD**	Test
Gender	Female	79 (60.3)	57.17 ± 16.00
	Male	52 (39.7)	57.82 ± 16.65
Marital Status	Married	112 (85.5)	57.44 ± 16.26
	Single	19 (14.5)	57.37 ± 16.28
Support Status	Alone	12 (9.2)	55.83 ± 17.53
	Family	119 (90.8)	57.59 ± 16.13
Education Level	Primary school	64 (48.9)	54.06 ± 16.32
	Middle school	17 (13.0)	61.57 ± 16.16
	High school	28 (21.4)	59.29 ± 16.14
Economic Status	University and above	22 (16.8)	61.67 ± 14.83
	Income lower than expenses	18 (13.7)	56.85 ± 14.02
	Income equal to expenses	95 (72.5)	56.91 ± 16.65
Employment Status	Income higher than expenses	18 (13.7)	60.74 ± 16.27
	Employed	30 (22.9)	62.89 ± 17.01
	Unemployed	101 (77.1)	55.81 ± 15.67
Place of Living	City	78 (59.5)	57.14 ± 16.24
	District	31 (23.7)	60.54 ± 15.35
	Village	22 (16.8)	54.09 ± 17.18

*: *p* < 0.05; **: Data are expressed as Mean ± Standard deviation.

Table 1. Continue.

Diagnosis	Breast cancer	39 (29.8)	60.77 ± 15.34	Since the number of patients in the two groups was one, no comparison was made.
	Lung cancer	21 (16.0)	53.97 ± 15.69	
	Esophageal cancer	3 (2.3)	52.22 ± 17.10	
	Stomach cancer	8 (6.1)	51.67 ± 24.23	
	Colorectal cancer	6 (4.6)	57.78 ± 18.70	
	Pancreatic cancer	2 (1.5)	35.00 ± 2.36	
	Skin cancer and sarcomas	1 (0.8)	56.67 ± 0	
	Gynecological cancer	7 (5.3)	49.52 ± 17.37	
	Lymphoma	13 (9.9)	66.41 ± 13.71	
	Bone cancer	6 (4.6)	56.67 ± 18.86	
	Head and neck cancer	1 (0.8)	66.67 ± 0	
Receiving Treatment Currently	Urological cancer	2 (1.5)	53.33 ± 14.14	t = -1.16 p = 0.25
	Other	22 (16.8)	56.97 ± 13.99	
	Yes	77 (58.8)	56.06 ± 16.12	
Status of Treatment Being Postponed	No	54 (41.2)	59.38 ± 16.27	F = 0.11 p = 0.89
	Surgical treatment was postponed	6 (4.6)	57.78 ± 15.44	
	Non-cancerous surgical cancer treatment (chemotherapy, radiotherapy) was postponed	16 (12.2)	55.63 ± 13.54	
Status of Receiving COVID-19 Diagnosis	Was not postponed	109 (83.2)	57.68 ± 16.70	t = -0.10 p = 0.92
	Yes	11 (8.4)	56.97 ± 18.10	
	No	120 (91.6)	57.47 ± 16.10	
Age (Mean ± SD)**		51.16 ± 13.79		

*: p < 0.05; **: Data are expressed as Mean ± Standard deviation.

Several coping strategies were used when examining the participants' coping strategies. The functional coping strategies that were used the most included spiritual beliefs (94.7%), social/emotional support (92.4%), positive reframing (91.6%), acceptance (87.8%), hobbies (79.4%), planning (77.1%), and self-care (75.6%); the dysfunctional strategy that the participants used the most was self-distraction (84.0%). When the coping strategies and Duke He-

alth Profile general health score were compared, a statistically significant difference was noted between the general health score of those who used planning, humour, self-care, hobbies, behavioural disengagement, and self-blame strategies and those who did not (t=3.37, p=0.00); t=0.36, p=0.02; t=2.80, p=0.00; t=6.69, p=0.00; t=-3.46, p=0.00; t=-3.26, p=0.00). The Duke Health Profile general health score of the participants was 57.43±16.20 (Table 2).

Table 2. Coping strategies of the study participants.

Coping Strategies		n (%)	General Health Score M ± SD	Test
Social/Emotional Support	Receive emotional and social support from others	Yes 121 (92.4)	56.91 ± 15.81	t = -1.27 p = 0.21
		No 10 (7.6)	63.67 ± 20.27	
Planning	Making plans to do something about the situation or to make it better	Yes 101 (77.1)	59.93 ± 15.01	t = 3.37 p = 0.00**
		No 30 (22.9)	49.00 ± 17.45	
Positive Reframing	Trying to look at things on the positive side	Yes 120 (91.6)	57.83 ± 16.11	t = 0.94 p = 0.35
		No 11 (8.4)	53.03 ± 17.29	
Humour	Making jokes about events / using humour	Yes 74 (56.5)	60.32 ± 15.58	t = 0.36 p = 0.02*
		No 57 (43.5)	53.68 ± 16.36	
Acceptance	Learning to accept what happens and live with it	Yes 115 (87.8)	58.35 ± 16.15	t = 1.75 p = 0.08
		No 16 (12.2)	50.83 ± 15.52	
Spiritual Beliefs	Trying to find comfort in prayer or spiritual beliefs	Yes 124 (94.7)	57.45 ± 16.39	t = 0.05 p = 0.96
		No 7 (5.3)	57.14 ± 13.53	
Self-Care	Doing practices related to self-care (such as doing sports, balanced diet, adequate sleep)	Yes 99 (75.6)	59.63 ± 15.49	t = 2.80 p = 0.00**
		No 32 (24.4)	50.63 ± 16.71	
Hobbies	Spending time with hobbies (such as cooking, reading books, painting wood, making jewellery)	Yes 104 (79.4)	61.60 ± 14.10	t = 6.69 p = 0.00**
		No 27 (20.6)	41.36 ± 13.69	

Table 2. Continue.

Behavioural Disengagement	Giving up dealing with what is going on	Yes	23 (17.6)	47.25 ± 15.06	t = -3.46
		No	108 (82.4)	59.60 ± 15.66	p = 0.00**
Substance Use	Using substances such as cigarettes and alcohol to cope with the situation	Yes	13 (9.9)	49.74 ± 13.97	t = -1.82
		No	118 (90.1)	58.28 ± 16.26	p = 0.07
Self-Blame	Criticising and blaming oneself	Yes	34 (26.0)	49.90 ± 16.81	t = -3.26
		No	97 (74.0)	60.07 ± 15.21	p = 0.00**
Revealing	Expressing negative emotions frequently	Yes	43 (32.8)	53.49 ± 18.70	t = -1.81
		No	88 (67.2)	59.36 ± 14.56	p = 0.08
Self-Distraction	Dealing with distractions so as not to overthink things	Yes	110 (84.0)	58.82 ± 15.05	t = 1.87
		No	21 (16.0)	50.16 ± 20.12	p = 0.07

*: p<0.05; **: p<0.01.

Multiple regression analysis for the demographic variables and the coping strategies affecting the participants' quality of life is shown in Table 3. As can be seen in Table 3, a significant relationship was noted between social/emotional support, hobbies,

substance use, and behavioural disengagement coping strategies and the general health score; these coping strategies were 36% determinant in the quality of life ($R^2 = 0.36$, $p = 0.00$) (Table 3).

Table 3. Regression analyses of the coping strategies on the quality of life.

	Duke Health Profile (General Health Score)			
	R	Adjusted R Square	F	p
	0.69	0.36	3.99	0.00**
	Beta	Beta	t	p
Age	-0.15	-0.13	-1.11	0.27
Gender	-3.30	-0.10	-1.09	0.28
Marital Status^b	-2.51	-0.06	-0.57	0.57
Support Status^c	-2.13	-0.04	-0.43	0.67
Education Level^d	-3.56	-0.11	-1.19	0.24
Economic Status^e	2.46	0.05	0.67	0.51
Employment Status^f	-3.50	-0.09	-1.07	0.29
Place of Living^g	-2.88	-0.09	-1.07	0.29
Receiving Treatment Currently^h	0.79	0.02	0.30	0.76
Status of Treatment Being Postponedⁱ	2.74	0.06	0.79	0.43
Status of Receiving COVID-19 Diagnosis^h	1.96	0.03	0.44	0.66
Social/Emotional Support^h	-12.14	-0.20	-2.39	0.02*
Planning^h	2.77	0.07	0.75	0.46
Positive Reframing^h	-5.79	-0.10	-1.11	0.27
Humor^h	3.44	0.11	1.33	0.19
Acceptance^h	2.35	0.05	0.57	0.57
Spiritual Beliefs^h	-5.49	-0.08	-0.93	0.36
Self-Care^h	4.23	0.11	1.36	0.18
Hobbies^h	12.95	0.33	3.51	0.00**
Behavioral Disengagement^h	-9.04	-0.21	-2.34	0.02*
Substance Use^h	-9.27	-0.17	-2.05	0.04*
Self-Blame^h	-3.62	-0.10	-1.19	0.24
Revealing^h	-2.99	-0.09	-1.07	0.29
Self-Distraction^h	5.71	0.13	1.43	0.16

*: p<0.05; **: p<0.01; ^a: Female; ^b: Married; ^c: Family; ^d: Primary school; ^e: Income lower than expenses; ^f: Unemployed; ^g: City; ^h: Yes; ⁱ: Was not postponed.

DISCUSSION AND CONCLUSION

This study examined the coping strategies of cancer patients during the COVID-19 pandemic and the effects of these strategies on their quality of life. Although the COVID-19 pandemic is causing widespread detrimental effects on mental health and quality of life, research examining effective coping strategies in mitigating these negative effects has been scarce.²⁷ The treatment of 16.8% of the study patients was postponed, which seems expected considering the measurements undertaken during the pandemic, including postponing nonemergency surgical treatments, hospitalisations of nonurgent cases and restricting visitors during the pandemic process. The study revealed that 91.6% of the patients were not diagnosed with COVID-19 because patients paid more attention to measurements such as following hygiene practices, wearing masks, and observing social distancing while receiving cancer treatments and trying to protect themselves from any potential health problems (such as infection) that may arise from the treatment. In this study, a comparison of the participants' sociodemographic characteristics and the Duke Health Profile general health score averages revealed that the employed status affected the general health score ($p = 0.04$), while the general health score of the unemployed individuals was lower. This result can be attributed to the fact that the socio-economic status of unemployed individuals could be better, which decreases their quality of life. In addition, considering similar studies, it can be thought that engaging in an occupation provides psycho-social well-being, especially for cancer patients.²⁸

Our findings also showed that patients with cancer adopted several coping strategies during the COVID-19 pandemic, some of which affected their quality of life and became a large determinant of their quality of life (36%). Accordingly, spiritual beliefs, social/emotional support, positive reframing, acceptance, self-distraction, hobbies, planning, and self-care were found to be the most applied coping strategies. A review of the past studies on the subject indicated that similar to the present study, the strategies of taking action/positive framing, social/emotional support, acceptance, self-distraction, self-care, hobbies, planning, and religion were most frequently used.^{5,8,11,12,22,23} On examining the results of the present study, the patients were noted to mostly use functional coping strategies (e.g., Spiritual Beliefs, Social/Emotional Support, Positive Reframing) that affected their quality of life. Although dysfunctional coping strategies seem beneficial for individuals in the short term, they adversely affect the patient's quality of life in the long term.¹⁴⁻¹⁷ It was noted that patients' use of functional coping strategies was also reflected in their quality of life. Past studies have

reported that the quality of life was generally better in patients who adopted functional coping strategies.^{10,16,17,24,27,29} Based on regression analysis, a significant relationship was noted between social/emotional support, hobbies, and behavioural disengagement coping strategies and the quality of life. While the quality of life general health score of a patient who used the hobbies coping strategy was better, the general health score of those who used behavioural disengagement and substance use coping strategies were worse; these results are consistent with those of the literature.^{5,16,17,30} However, non-conforming to the literature, the general health scores of patients' quality of life using the Social/Emotional Support coping strategy was the worst in the present study. This result can be attributed to the low number of patients ($n = 10$) who did not use this strategy. In addition, patients who showed fewer symptoms or side effects but had a better general condition may choose to receive less or no social/emotional support. Importantly, this study was conducted online. Considering Türkiye's conventional structure, middle-aged and older patients may not perceive online access or establishing communication as a social/emotional support. Considering all these results, we believe that health professionals should review their coping strategies when evaluating patients' quality of life. While the coping strategies used by cancer patients were evaluated, functional coping strategies should be encouraged and supported. Oncology nurses should also consider practices to strengthen coping strategies when planning patient care.

It should be taken into consideration while assessing the results of this study that the study sample was an online sample consisting of individuals who had access to online sources. In addition, this study did not involve individuals who needed access to online resources and needed more knowledge and resources for coping strategies. In addition, the study results are based on self-reported responses of the participants. Thus, the present sample may not represent the general population as it was limited to people accessing the Internet and social media. Therefore, the generalizability of the results of the study may be limited.

In conclusion, the treatment of many patients was not postponed, and they were not diagnosed with COVID-19. Most patients adopted several coping strategies, mainly spiritual beliefs, social/emotional support, and positive reframing strategies. In addition, these coping strategies were effective in their quality of life. Our results should be evaluated in the context of individuals who had access to online sources, and it should be considered that the present study group had access to more information and resources for coping strategies. Therefore, it may be

recommended to develop programs to strengthen coping strategies for individuals who did not have access to online resources or who primarily employed dysfunctional coping strategies. Nurses need to identify and evaluate patients' coping strategies. In addition, nurses may need to plan programs to strengthen coping strategies for individuals who do not have access to online resources or who use more dysfunctional coping strategies. Oncology nurses can also consider practices to strengthen coping strategies while planning patient care.

Ethics Committee Approval: This study was conducted in accordance with the principles of the Declaration of Helsinki in 2013. Permission to use the Duke Health Profile was provided by George Parkerson. Ethics committee approval was received from Kütahya Health Sciences University Non-Interventional Clinical Research Ethics Committee (Date: 15.04.2021; decision no: 2021/07-07), and consent from the participants who agreed to participate in the study was obtained before they filled out the forms.

Conflict of Interest: No conflict of interest was declared by the authors.

Author Contributions: Concept – ÇÖ, HGY; Supervision – ÇÖ, HGY; Materials – ÇÖ, HGY; Data Collection and/or Processing – ÇÖ; Analysis and/ or Interpretation – ÇÖ; Writing – ÇÖ, HGY.

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