



# Determining the Concerns and Stress Levels of the Elderly Population About COVID-19: A Sectional Study

Yaşlı Nüfusun Covid-19 ile İlgili Endişeleri ve Stres Düzeylerinin Belirlenmesi: Kesitsel bir Çalışma

Aygül Öztürk<sup>1</sup>, Sinan Aslan<sup>2</sup>

<sup>1</sup>Vocational School of Health Services, Adiyaman University, Adiyaman; <sup>2</sup>Department of Nursing, Faculty of Health Sciences, Kahramanmaraş İstiklal University, Kahramanmaraş, Türkiye

## ABSTRACT

**Aim:** This study aims to determine the concerns and stress levels of individuals over the age of 65 towards COVID-19.

**Material and Method:** The data of this sectional study was collected both through an online survey and face-to-face between February 15 and March 13, 2022. Seven hundred and sixty nine surveys that met the criteria for data quality were included in the study. Both a questionnaire prepared by the researchers to determine the socio-demographic characteristics of older people and their concerns state during COVID-19 and the Perceived Stress Scale-10 were used. Statistical analysis of the results obtained in the study was carried out with the Statistical Package for Social Sciences (SPSS) for IBM 25 package program.

**Results:** 49.9% of the participants were diagnosed with COVID-19. Additionally, 80.5% of the participants reported experiencing changes in their living circumstances as a result of the pandemic, while 88.2% reported feeling anxious during this period. The participants were seen to have an average score of 29.82±2.58 on the perceived stress scale. A statistically significant difference was seen in the average score of the perceived stress scale when comparing individuals based on their marital status, income, place of residence, presence of chronic condition ( $p < 0.05$ ).

**Conclusion:** The study revealed that the participants' reported stress level was moderate, with a significant number of persons experiencing anxiety.

**Key words:** elderly individual; COVID-19; stress

## ÖZET

**Amaç:** Bu çalışmada 65 yaş üstü bireylerin COVID-19'a yönelik endişelerinin ve stres düzeylerinin belirlenmesi amaçlanmıştır.

**Materyal ve Metot:** Kesitsel olarak planlanan bu çalışmanın verileri 15 Şubat – 13 Mart 2022 tarihleri arasında çevrimiçi anket ve yüz yüze toplanmıştır. Veri kalitesine uygun 769 anket çalışmaya dâhil edilmiştir. Verilerin toplanmasında araştırmacılar tarafından hazırlanan yaşlıların sosyodemografik özelliklerini ve COVID-19 sırasında endişe durumlarını belirlemeye yönelik soru formu ile Algılanan Stres Ölçeği-10 kullanılmıştır. Araştırmada elde edilen sonuçların istatistiksel analizleri Statistical Package for Social Sciences (IBM 25 Sosyal Bilimlerde İstatistik Paket Programı –SPSS) paket programı ile yapılmıştır.

**Bulgular:** Araştırmadaki katılımcıların %49,9'u COVID-19 geçirmişlerdir. Katılımcıların %80,5'i pandemiden dolayı yaşam düzeninin değiştiğini, %88,2'si bu süreçte kendini endişeli hissettiğini ifade etmişlerdir. Katılımcıların algılanan stres ölçeğinden aldıkları toplam puan ortalaması 29,82±2,58'dir. Bireylerin medeni durum, gelir, kaldığı yer ve kronik hastalığın varlığı ile algılanan stress ölçeği puan ortalaması arasındaki fark istatistiksel olarak anlamlı bulunmuştur ( $p < 0,05$ ).

**Sonuç:** Bu çalışmada katılımcıların algılanan stress düzeyinin orta düzeyde olduğu saptanmış olup bireylerin çoğunun kendini endişeli hissettiği dikkat çekmektedir.

**Anahtar kelimeler:** yaşlı birey; COVID-19; stres

**İletişim/Contact:** Sinan Aslan, Department of Nursing, Faculty of Health Sciences, Kahramanmaraş İstiklal University, Kahramanmaraş, Türkiye • **Tel:** 0344 400 20 00 • **E-mail:** sinan44aslan@gmail.com • **Geliş/Received:** 27.12.2022 • **Kabul/Accepted:** 10.07.2024

**ORCID:** Aygül Öztürk: 0000-0002-3736-6175 • Sinan Aslan: 0000-0002-2118-5943

## Introduction

The coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus<sup>1,2</sup>. Understanding the way it is transmitted is crucial for effectively reducing the spread. Individuals need to take necessary precautions to prevent the spread of infection. This includes maintaining a safe distance of at least 1 meter from others, wearing a mask correctly, and practicing good hand hygiene by washing hands frequently or using an alcohol-based sanitizer. Furthermore, it is crucial for individuals to be vaccinated and adhere to the guidance provided by local health authorities<sup>3</sup>. While most infected individuals experience mild or moderate respiratory symptoms and recover without any special medical intervention, some may become seriously ill, calling for treatment. The risk of severe illness is significantly higher for elderly individuals with chronic respiratory ailments, diabetes, or cancer. Based on data provided by WHO, an estimated 14.9 million deaths were attributed to the COVID-19 pandemic between January 1, 2020 and December 31, 2021<sup>4</sup>. Severe cases are often seen in older individuals or those with other underlying concomitant systemic disease<sup>5</sup>. As individuals age, they may experience a decline in physical, mental, and social well-being. Put simply, aging is a natural phenomenon that happens as time goes on in all living beings throughout the universe, affecting molecules, cells, tissues, organs, and systems in a way that brings about a decline in physical, functional, mental, and biopsychosocial abilities<sup>6,7</sup>. Based on data from the World Health Organization, the global population of individuals aged 60 and above is projected to reach 1.4 billion by 2030 and 2.1 billion by 2050. This increase will happen at a remarkable speed and will gain momentum primarily in developing countries<sup>8</sup>. In Türkiye, the number of elderly individuals has steadily increased over the past few years. In 2016, there were 6.651.503 elderly people, yet this number has grown by 24% in the last 5 years, reaching 9.7% of the total population in 2021. According to population projections, this trend is expected to continue, with the elderly population rate estimated to be 11.0% in 2025, 12.9% in 2030, 16.3% in 2050, and 22.6% in 2060<sup>9</sup>. This significant shift in the world's populations calls for adjustments in the organization of societies across various sectors, ranging from healthcare, social services, transportation, housing to urban planning. Efforts to create a more age-friendly world are crucial and time-sensitive, considering the shifting demographics<sup>8</sup>. Amidst the current COVID-19 pandemic, the daily

routines of older individuals are being altered, along with the care and support they receive and how they are perceived. Elderly individuals are confronted with the necessity of spending increased time at home, the absence of physical contact with their loved ones, friends, and colleagues, temporary loss of employment, as well as heightened anxiety and stress<sup>10</sup>. When comparing the pandemic to other diseases, it stands out due to its unique stress direction. This can be described as a stress response to ongoing trauma, resulting in an increased reaction to danger that increases uncertainty about the future<sup>11</sup>. Even though complete psychological relief can only be achieved once the stressful pandemic ends, it is important to continue taking initiatives to ensure that elderly individuals feel more comfortable during this critical period. During the pandemic, it is also crucial to prioritize individual well-being and strive for a healthier lifestyle. Furthermore, it is essential to ensure that elderly individuals receive vaccinations and are educated on how to safeguard their health against the virus and also to provide them with access to local health resources, promoting awareness and timely psychosocial interventions.

It has been observed that the global prevalence of individual-level restrictions, as opposed to social-level restrictions, has grown increasingly widespread, which can be attributed to various factors, including the severity of the pandemic, the diminishing impact of the outbreak, and the widespread adoption of vaccination<sup>12</sup>. Nevertheless, it is crucial to acknowledge that the epidemic continues to be a significant psychological stressor in the present day. The hypothesis argues that elderly individuals in Türkiye experience elevated levels of stress related to COVID-19 as a result of variables such as severe isolation, feelings of loneliness, and insufficient social support<sup>13-15</sup>. Therefore, it is imperative to address how to examine and measure the psychological impact of the pandemic on elderly individuals, who are considered one of the most vulnerable groups in our society, providing insights into the present circumstances and facilitating the development of targeted interventions aimed at mitigating potential consequences on individuals' mental well-being. Additionally, it will also enable the evaluation and scrutiny of policies pertaining to pandemic management, as well as the establishment of mental health care provisions for future outbreaks. The objective of this study is to assess the levels of worry and stress experienced by adults aged 65 years and above in relation to the COVID-19 pandemic.

### *The research questions*

1. Is there a difference between the sociodemographic characteristics of the elderly and COVID-19 stress levels?
2. What is the stress level of the elderly during the COVID-19 pandemic?

## **Material and Method**

### *Study Population*

This sectional study was applied to individuals aged 65 and over living in Türkiye and utilized cross-sectional methods. The study data were collected between February 15 and March 13, 2022 using online and face-to-face survey methods. The online questionnaire form was sent via WhatsApp, e-mail, Instagram, and Facebook. Participants were able to fill in the questionnaires with desktop, laptop, tablet, or mobile devices. The sample size was calculated to include 769 elderly individuals who agreed to participate in the study, using the minimum sampling rate for an unknown population at 80% confidence interval, and a total of 769 individuals were included in the study.<sup>16</sup>

**Inclusion Criteria for Research were** 1) being able to communicate, 2) being over and 65 years old, 3) being literate, and 4) not having any psychological disorder.

### *Data Collection Tool*

“Survey Form” and “Perceived Stress Scale (PSS-10)” were used as data collection tools.

**Survey form:** A total of 15 questions were applied, 6 of which included questions inquiring the sociodemographic characteristics such as gender, age, marital status, place of residence, having any child, chronic disease status, while 9 of which included questions inquiring their COVID-19 status, thoughts on social restrictions and lifestyle changes in an attempt to determine their attitudes and concerns about COVID-19.

**PSS-10:** The scale was developed by Cohen et al. in 1983 to measure how stressful individuals perceive certain situations.<sup>17</sup> The Turkish validity and reliability study of the scale was conducted in 2013 by Eskin et al.<sup>18</sup> The scale consists of 4, 10, and 14-item forms, and the PSS-10 form was used in our study. The internal consistency coefficient for PSS-10 was calculated as 0.82 and the test-retest reliability coefficient as 0.88 for the PSS-10 by Eskin et al. In the scale, which consists of 10

items in total, the participants evaluate each item on a 5-point Likert-type scale ranging from “Never (0)” to “Very often (4)”. 4 items (6,7,9,10) containing positive statements are scored in reverse. The score that can be obtained from the scale is between 0–40, and a high score indicates that the person has a high perception of stress<sup>17</sup>. In this study, the Cronbach’s alpha coefficient of the perceived stress scale was 0.90.

### *Data Analysis*

After the researchers coded the data, statistical analysis was made using IBM Statistical Package for Social Sciences (SPSS) program version 25.0 statistical program. Descriptive statistics were used in the analysis of the data. Since the data were suitable for normal distribution, t-test and ANOVA test were applied to independent groups from parametric tests. Scale Reliability Coefficient was determined in Cronbach’s Alpha. In the evaluation of the results obtained, 95% confidence interval and  $p < 0.05$  error level were taken into consideration.

### *Ethics Approval of the Study*

In order to carry out the study, the necessary permission was obtained from the TR Ministry of Health Scientific Research Platform (dated 25.10.2021) and ethical approval was obtained from the Batman University Ethics Committee (09.04.2021 Decision no: 2021/01-12).

## **Results**

The distribution of the descriptive characteristics of the individuals participating in the research is given in Table 1.

56.2% of the elderly participants included in the study were women, 78.0% were within the age range of 65–74. Additionally, 40.2% of the participants resided in their residences, 61.9% were single, 45.1% said their income was sufficient to cover their needs, and 60.3% reported having a chronic disease.

The study revealed that 49.0% of elderly individuals reported having COVID-19 disease, while 80.5% indicated that the COVID-19 pandemic had a significant impact on their lifestyle.

The distribution of the participants’ concerns about COVID-19 is presented in Table 2. According to Table 2, 88.2% of the elderly individuals are anxious

**Table 1.** Distribution of elderly individuals by their sociodemographic characteristics

Variables		n	%
Gender	Woman	432	56.2
	Male	337	43.8
Age	65–74 years	600	78.0
	75–84 years	125	16.3
	Over 85 years old	44	5.7
Marital status	Married	299	38.9
	Single	470	61.9
	Relatives (children, nephews)	274	35.6
Place of stay	Nursing home	36	4.7
	Other	150	19.5
	Own house	309	40.2
Income status	Income <Expense	347	45.1
	Income =Expense	305	39.7
	Income >Expense	117	15.2
Presence of chronic disease	Yes	464	60.3
	No	305	39.7

**Table 2.** Distribution of concerns about the elderly towards COVID-19

Variables		n	%
I'm worried about being infected with COVID-19	Yes	619	80.5
	No	150	19.5
I'm worried as I don't know how long the pandemic will last	Yes	702	91.3
	No	67	8.7
I'm worried about getting sick and transmitting it to family/friends/other people	Yes	711	92.5
	No	58	7.5
I'm worried as I don't know how long the pandemic will last	Yes	694	90.2
	No	75	7.5
I'm worried about social distancing	Yes	621	80.8
	No	148	19.2
I'm worried about social restrictions	Yes	630	81.9
	No	139	18.1

about getting infected, 92.5% catching the disease and transmitting it to other people, 90.2% not knowing how long the pandemic will last, 80.8% being away from the social environment and 81.9% are concerned about social restrictions.

91.3% of the elderly participants in the survey expressed the view that it is important to inform everyone about the locations of COVID-19 patients to stay away from them. Additionally, 91.3% of the participants agreed that infected individuals should be segregated from society. The study found a mean score of  $29.82 \pm 5.58$  from the perceived stress scale for elderly individuals participating in the study in addition to a median score of 30.00 (18–39).

The comparison of the descriptive characteristics of the elderly and the perceived stress scale mean scores are given in Table 3. The difference between the

**Table 3.** Comparison of the descriptive characteristics of elderly individuals and the mean scores of the perceived stress scale

Variables		Perceived stress scale	Statistics	p
Gender	Woman	29.94±2.55	t=0.762	0.901
	Male	29.96±2.55		
Age	65–74 years	29.89±2.43	F=0.764	0.466
	75–84 years	29.97±2.87		
	Over 85 years old	29.38±2.67		
Marital status	Married	29.07±2.47	t=2.85	0.004
	Single	30.07±2.54		
Place of stay	Relatives (children, nephews)	29.95±2.90	F=9.905	0.001
	Nursing home	29.03±2.22		
	Other	29.02±2.33		
Income status	Own house	30.31±2.53	F=7.83	0.001
	Income <Expense	29.89±2.62		
	Income =Expense	30.25±2.22		
Presence of chronic disease	Income >Expense	29.88±2.67	t=1.86	0.07
	Yes	30.05±2.53		
	No	29.64±2.51		

\* p<0.05, t=independent t test, F=ANOVA

**Table 4.** Comparison of COVID-19 concerns about of elderly individuals with the total score of the perceived stress scale

Variables		X ± SS	Statistics	p
COVID-19 status	Yes	29.84±2.52	t=0.20	0.84
	No	29.81±2.63		
Has the COVID-19 process changed your lifestyle?	Yes	29.90±2.45	t=1.60	0.10
	No	29.52±3.03		
Locations of COVID-19 patients should be reported to everyone so others can stay away from them	Yes	29.87±2.55	t=1.61	0.10
	No	29.34±2.82		
People infected with COVID-19 should be isolated from society	Yes	29.83±2.57	t=0.348	0.72
	No	29.72±2.62		
I am worried about getting infected and infecting family/friends/other people	Yes	29.88±2.51	t=2.02	0.04
	No	29.17±3.27		
I'm worried as I don't know how long the pandemic will last	Yes	29.83±2.52	t=0.10	0.91
	No	29.80±3.11		
I'm worried about being infected with COVID-19	Yes	29.80±2.50	t=0.12	0.98
	No	29.82±3.11		
I'm worried about social distancing	Yes	29.87±2.48	t=0.94	0.34
	No	29.64±2.95		
I'm worried about social restrictions	Yes	29.83±2.49	t=0.48	0.96
	No	29.82±2.95		

\*p<0.05, t=independent t test

participants' marital status and perceived stress scale total score averages was statistically significant. Single elderly individuals had higher mean scores than the married ones ( $p=0.004$ ). On the other hand, the difference between the place of residence of the elderly and the mean perceived stress scale total score was statistically significant. The mean score of the elderly residing in their own house was higher than the elderly in the other group ( $p=0.001$ ). When it comes to the difference between the income status of the elderly and the perceived stress scale total score averages, it was also found to be statistically significant. The mean score of the elderly individuals whose income level was equal to income/expenditure was higher than the individuals with low and high income status ( $p=0.001$ ).

Table 4 compares the concerns and attitude states of elderly people who participated in the study regarding COVID-19 and their overall score on the perceived stress scale. Also, Table 4 indicates a statistically significant difference ( $p=0.04$ ) between the anxiety levels of the elderly participants regarding contracting the disease and infecting their family/friends/other people and the overall mean scores of the perceived stress scale.

## Discussion

It is seen in the literature that studies conducted on elderly individuals during the COVID-19 pandemic have addressed such aspects as mental problems, insomnia, anxiety, stress, depression, psychological distress, and loneliness<sup>19-24</sup>.

The COVID-19 pandemic has led to changes in many life practices, such as daily routines, social relationships, and individual hygiene habits<sup>10</sup>. 80.5% of the elderly participants in the study stated that the COVID-19 process changed their lifestyle. The first restriction on individuals aged 65 and over in Türkiye started as of 20 March 2020, prohibiting people from going out of their residence, walking in open parks, and traveling by public transportation vehicles, with a ban on curfews<sup>25</sup>. Mental health problems may occur in those in isolation and quarantine, which may also exacerbate and trigger psychological and emotional distress<sup>26</sup>. It has been stated that the isolation process itself is likely to have adverse effects on the mental health of elderly individuals<sup>27,28</sup>. A study by Doğanay and Çopur<sup>30</sup> stated that the beginning of the curfew for individuals aged 65 and over and implementation of free-day practices paved the way for the intensification of negative emotions in the participants with their timing and framework.

It can be said that due to restrictions during the COVID-19 pandemic, some concerns have arisen in elderly individuals. The COVID-19 pandemic is thought to give rise to the concern to become infected and transmitting the infection to other people among elderly individuals. In this study, 88.2% of the elderly individuals stated that they were worried about being infected and 92.5% about transmitting the disease to other people. 90.2% stated that they did not know how long the pandemic would last, while 80.8% stated that they were worried about staying away from the social environment and 81.9% were worried about social restrictions. A study by Klaiber et al.<sup>31</sup> stated that young and middle-aged adults are more concerned about the threat caused by COVID-19 in multiple habitats than older adults. In a study by Amucucci et al.<sup>23</sup>, it was stated that elderly individuals experienced anxiety. Still, when compared with younger individuals, no statistically significant difference was found in terms of the anxiety variable. Also, in the study by Rossi et al.<sup>20</sup>, 20.8% of the participants reported severe anxiety symptoms, while in a study by Başer et al.<sup>32</sup>, 3.8% of the participants aged 65 and over were found to have serious anxiety levels. In the study conducted by Yildirim et al.<sup>13</sup>, the anxiety levels of elderly people aged 65-74, female and single were found to be very high. They reported that their family relationships were negatively affected during the pandemic, so they became lonely, bored, exhausted, and distressed during the pandemic, which increased their depression levels<sup>33</sup>. In the study by Vural et al., the relationship between geriatric anxiety and the age and marital status of the participants during the Covid 19 pandemic was found to be significant. It is stated that the risk of geriatric anxiety is higher in women aged 71-81 and single women<sup>34</sup>.

It is noteworthy that the majority (91.3%) of the elderly individuals participating in the study expressed their concerns towards the location of COVID-19 patients, stating that their location should be reported to everybody. Again, as many as 91.3% of the participants expressed that the infected ones should be isolated from society.

The total mean score of the elderly individuals participating in the study in terms of the PCS was  $29.82 \pm 5.58$ , and the median was 30.00 (min-max: 18-39). In the study by Limcaoco et al.<sup>35</sup>, the mean perceived stress scale was 14.6 in individuals aged 60 and over. In a study by Amucucci et al.<sup>23</sup>, on the other hand, the mean perceived stress in elderly individuals was determined

as  $13.88 \pm 7.10$ . In a study by Nwachukwu et al.<sup>22</sup>, the mean perceived stress of individuals aged 60 and over was found to be  $16.65 \pm 6.77$ , and it was reported that they had lower stress levels compared to other age groups. A study by Rossi et al.<sup>20</sup> determined that older individuals displayed lower levels of perceived stress compared to young people. The stress level of elderly individuals was found to be 2.60 in a study by Klaiber et al.<sup>31</sup>, which at the same time reported that elderly individuals had less control over their stressors compared to young adults, emphasizing more coping skills in those individuals, though. Fernandez et al.<sup>36</sup>, on the other hand, found that individuals over 60 years of age had a lower acute stress level compared to individuals under the age of 60. Compared to other studies reporting that older individuals are less affected by stressors than younger individuals<sup>36,37</sup> and elderly individuals exhibit better resilience under difficult conditions, what we found in our study is the opposite<sup>38</sup>. As we hypothesized earlier, the perceived stress level of elderly individuals was found to be quite high in the study.

Negative lifestyle changes occurring in old age (such as relocation, loss of a safe environment, lack of caregivers) may cause stress and anxiety in elderly individuals<sup>39</sup>. Stress is among the negative factors associated with loneliness<sup>40</sup>. We can state that elderly individuals who live alone and do not have social support or who remain weak during the period of social restrictions in the COVID-19 process are highly likely to experience more stress. The studies in the literature also report that the elderly are more prone to experiencing loneliness than adults<sup>41</sup>, and single elderly individuals feel more lonely<sup>42</sup>. Meng et al.<sup>43</sup> Also point out that single elderly people should be focused more during the COVID-19 process.

Living alone is an objective indicator of one's life pattern, while loneliness is a subjective emotional experience. Therefore, although living alone increases the risk of loneliness, not all elderly people living alone feel lonely and vice versa<sup>44</sup>. The difference between where the elderly reside and the mean total perceived stress scale scores was found to be statistically significant. In our study, the mean perceived stress scores of the elderly residing in their own home were found to be higher than the elderly in the other group. When this finding is evaluated together with the fact that the majority of the elderly individuals participating in the study are single, it suggests a lack of family support, social support or interaction between the elderly adults.

Kasar and Karaman<sup>45</sup> reported in their studies that elderly individuals experienced social isolation and their degree of loneliness was adversely affected during the pandemic. Considering that elderly individuals in the Turkish family structure are generally in active interaction in crowded family structure, being away from family members during the COVID-19 and having to go through the isolation period can cause individuals living alone in their own home to experience higher stress levels.

Özmete<sup>46</sup> found in her study that as the income level rises and the health status remains good, the life satisfaction of the elderly individuals may tend to increase, and the kinship relations of the elderly experiencing financial insecurity turn negative. The pandemic can significantly lower the incomes and living standards of the elderly. What we encountered in our study was different in that the mean perceived stress was higher in elderly individuals whose income level was equal to income-expenditure rate compared to individuals with low and high income status.

COVID-19 has caused anxiety and fear in elderly individuals about contracting the disease and transmitting it to others or losing their lives<sup>10</sup>. The difference between the anxiety states of the elderly individuals about contracting the disease and transmitting it to their family/friends/other people and the mean total scores of the perceived stress scale was statistically significant. Based on this, we can say that the fear and anxiety experienced by individuals increase the level of stress they face.

Sharing the results obtained in studies addressing the effects of the pandemic on the elderly in various aspects will greatly contribute to the process and the following periods. In this study, the concerns of elderly individuals towards COVID-19 in terms of contracting and transmitting the infection are noteworthy. The study determined that the perceived stress levels of the elderly individuals were quite high.

The COVID-19 pandemic has revealed that public health policies, including how older individuals are treated, need to be reconsidered. In socially difficult times, practices should be carried out considering the rights of the vulnerable groups of the society as a priority without compromising basic human rights, which has once again been demonstrated by the pandemic process.

Individuals over the age of 65, who have always been in the fragile and risky group, experienced difficulties in participating in their daily life activities, physical activities and social lives due to restrictions during the Covid-19 period. The elderly individuals should be approached carefully in the crisis and recovery phases of COVID-19, having devastating social and economic impacts. On the other hand, we recommend the development of rapid supportive strategies aimed at elderly individuals which take their health and psychological status as priority risk groups into consideration in order to eliminate their stress and anxiety.

### Limitations

The necessity of collecting some of the research data online may have prevented the collection of striking findings. In this study, the stress levels and anxiety states of the elderly were based on their self-reports.

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### Conflicts of Interests

The authors report no conflicts of interest.

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