



# Does Experiencing the COVID-19 Pandemic Affect Death Anxiety in Iranian Older Adults? A Survey-Based Cross-Sectional Study

Ayoub Nafei <sup>1</sup>, Ronak Ghafari <sup>2</sup>, Marjan Haghi <sup>3</sup>, Fereshteh Rezaie <sup>1</sup>, Masoudeh Babakhanian <sup>4</sup>, Arya Hamedanchi <sup>1,\*</sup>

<sup>1</sup> Academic Center for Education, Culture and Research, Shahid Beheshti University of Medical Sciences Branch, Tehran, Iran

<sup>2</sup> Faculty of Medicine, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran

<sup>3</sup> Department of Aging, Iranian Research Center on Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

<sup>4</sup> Clinical Research Development Unit, Velayat Hospital, Semnan University of Medical Sciences, Semnan, Iran

\*Corresponding Author: Academic Center for Education, Culture and Research, Shahid Beheshti University of Medical Sciences Branch, Tehran, Iran. Email: dr.hamedanchi@gmail.com

Received: 27 January, 2026; Revised: 2 March, 2026; Accepted: 13 March, 2026

## Abstract

**Background:** Older Iranian adults experienced high levels of death anxiety during the COVID-19 pandemic; however, the precise nature of this relationship remains unclear.

**Objectives:** This study aimed to investigate the association between COVID-19 infection and death anxiety among older Iranian adults during the pandemic.

**Methods:** A cross-sectional online survey was conducted among 3,129 individuals aged 60 years and older in Iran. Data were collected via social networking platforms, including Telegram, WhatsApp, and Instagram, and were assessed using demographic variables and the Templer's Death Anxiety Scale.

**Results:** Death anxiety was significantly higher among women, married individuals, and those aged 60 - 64 years ( $P < 0.01$ ). In addition, frequent exposure to COVID-19-related news was associated with increased death anxiety. Older adults who had lost a family member, relative, or friend to COVID-19 had significantly higher death anxiety levels ( $P < 0.05$ ). However, no significant association was observed between educational attainment and death anxiety levels.

**Conclusions:** These findings highlight the substantial psychological impact of the pandemic on older adults and underscore the urgent need for targeted psychosocial interventions to alleviate death anxiety in this population. Given the persistence of mental health challenges after the pandemic, long-term psychological outcomes among older adults should be monitored. Future research should examine post-pandemic trends in death anxiety and evaluate the effectiveness of mental health interventions in mitigating anxiety-related distress in older populations.

**Keywords:** COVID-19, Death Anxiety, Older Adults, Pandemics, Iran

## 1. Background

Death anxiety is a persistent and irrational fear of dying. This anxiety can create a sense of insecurity, and older adults may be unaware of this fear. Death anxiety negatively affects mental health and can lead to psychiatric disorders (1). In older adults, anxiety can adversely affect cognitive function (2) and quality of life (3). This condition is common and becomes more prominent after middle age (4). Pandemics, such as

COVID-19, can heighten fear and anxiety about death and affect daily life. The prevalence of death anxiety among older adults has been reported to be high during the COVID-19 pandemic (5).

The COVID-19 pandemic began globally in December 2019 and resulted in 6.87 million deaths worldwide by May 2023. The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020. Since the beginning of the COVID-19 pandemic, international communities have worked to combat the disease and

Copyright © 2026, Journal of Kermanshah University of Medical Sciences. This open-access article is available under the Creative Commons Attribution-NonCommercial 4.0 (CC BY-NC 4.0) International License (<https://creativecommons.org/licenses/by-nc/4.0/>), which allows for the copying and redistribution of the material only for noncommercial purposes, provided that the original work is properly cited.

**How to Cite:** Nafei A, Ghafari R, Haghi M, Rezaie F, Babakhanian M, et al. Does Experiencing the COVID-19 Pandemic Affect Death Anxiety in Iranian Older Adults? A Survey-Based Cross-Sectional Study. J Kermanshah Univ Med Sci. 2026;30(1):e169774. doi: <https://doi.org/10.5812/jkums-169774>

protect their populations. The number of deaths caused by COVID-19 has been reported to be high in developing countries (6). The mortality rate of COVID-19 in older adults is also high because these individuals are among the most sensitive and vulnerable groups (7). Approximately 80% of deaths related to COVID-19 in Korea occurred in patients aged > 70 years, and 90% of COVID-19 deaths in Italy occurred in patients aged > 60 years (8). In the United States, 80% of deaths related to COVID-19 were reported among people older than 65 years (9).

In 2019, the WHO reported that the population of individuals aged 60 years and older was one billion. This figure is projected to reach 1.4 billion by 2030. Developing countries will account for about 70% of the world's older population. Almost 10% of the Iranian population is older than 60 years, and this proportion is predicted to increase to 31% over the next 25 years. The growing population of older adults directly affects economic, social, cultural, and health systems. Iran has an aging population and has implemented successful national programs to improve the quality of life of older adults.

According to reports from the Iranian Ministry of Health and Medical Education, about 7.6 million confirmed cases and 146,165 deaths were recorded up to May 12, 2023. In addition, 39.3% of COVID-19-associated hospitalizations and 63.5% of COVID-19 deaths occurred in older adults. The high mortality rate of COVID-19 in older adults may increase death anxiety in this large population. A 2021 study by Nafei et al. reported a high level of death anxiety among older adults during the COVID-19 pandemic. However, that study could not determine whether this anxiety was directly attributable to the crisis (4), and no other evidence is available.

## 2. Objectives

Accordingly, the objective of this study was to investigate the association between COVID-19 infection and death anxiety among older Iranian adults during the pandemic.

## 3. Methods

### 3.1. Design and Sampling

This study used data from a national survey conducted in 2021 - 2022 to investigate levels of death

anxiety among Iranian older adults. The survey was administered online and targeted individuals aged 60 years and older who were living in Iran (4). Given the COVID-19 social-distancing restrictions, an online survey was used for data collection. Smartphones have been reported to be the most common device for online communication among older Iranian adults (10). Therefore, social networks such as Telegram, WhatsApp, and Instagram were selected as the primary platforms for sharing the questionnaire. Convenience sampling was used. The inclusion criteria were age 60 years or older, ability to read and write, and access to popular social media platforms in Iran. The exclusion criteria were incomplete questionnaires and lack of informed consent.

### 3.2. Data Collection

Data were collected using an anonymous online questionnaire consisting of 22 questions. It comprised three sections. The first section assessed respondents' demographic characteristics, including age, gender, marital status, and education. The second section included questions related to COVID-19, addressing the extent of news follow-up and experiences of bereavement among family members, relatives, or friends. The final section included Templer's Death Anxiety Scale (DAS), developed in 1970 to assess individuals' concerns, fears, and apprehensions about dying. The instrument consists of 15 items answered with "YES" or "NO" responses. The total score, calculated as the sum of all items, was used for statistical analysis. The scoring system categorizes anxiety levels as mild (0 - 5), moderate (6 - 7), and severe (8 - 15) (11). In this study, the Persian-language version of the Death Anxiety Questionnaire, previously translated and standardized by Rajabi in 2002, was used. It demonstrated a Cronbach's alpha reliability coefficient of 0.73.

### 3.3. Data Analysis

After data collection and importation into SPSS software, version 22 (IBM Corp., Armonk, NY, USA), analyses were performed using descriptive statistics, including frequency distributions, mean, and standard deviation, and inferential statistics, including the Kolmogorov-Smirnov test, t-test, and analysis of variance (ANOVA). Listwise deletion was applied for missing responses. SPSS was used to calculate Cronbach's alpha, with a threshold of 0.7 or higher considered acceptable.

### 3.4. Ethical Considerations

This study was part of a research project reviewed and approved by the Research Ethics Committee of the Avicenna Research Institute (approval ID: IR.ACECR.AVICENNA.REC.1403.009). Online informed consent was obtained from all participants. Participants' personal information was kept confidential throughout the study.

## 4. Results

A total of 3,476 individuals viewed the questionnaire, and approximately 90% completed all questions. The mean questionnaire completion time was 195 seconds. The devices used were mobile phones (87%), tablets (3%), and computers (10%). Ultimately, 3,129 older adults from all provinces of Iran participated in this study.

Table 1 shows the frequency distribution of older adults by demographic variables and the distribution of participants by province.

Variables	No (%)
<b>Gender</b>	
Women	1868 (59.7)
Men	1261 (40.3)
<b>Age</b>	
60 < 65	2153 (67.8)
65 < 70	513 (16.9)
70 < 75	411 (13.9)
> 75	52 (1.7)
<b>Marital status</b>	
Single	361 (11.9)
Married	2768 (88.1)
<b>Education level</b>	
University	1383 (42.3)
Primary to high school	1746 (57.7)
<b>Province</b>	
East Azerbaijan	133 (4.25)
West Azerbaijan	100 (3.20)
Ardabil	74 (2.36)
Isfahan	107 (3.42)
Ilam	52 (1.66)
Alborz	126 (4.03)
Bushehr	73 (2.33)
Tehran	480 (15.33)
Chaharmahal and Bakhtiari	69 (2.21)
South Khorasan	66 (2.11)
Razavi Khorasan	192 (6.14)
North Khorasan	75 (2.40)
Khuzestan	103 (3.29)
Zanjan	90 (2.88)
Semnan	53 (1.69)
Sistan and Baluchestan	68 (2.17)
Fars	106 (3.39)
Qazvin	84 (2.68)
Qom	65 (2.08)
Kurdistan	68 (2.17)
Kerman	119 (3.80)
Kermanshah	104 (3.32)
Kohgiluyeh and Boyer-Ahmad	64 (2.05)
Golestan	92 (2.94)
Gilan	105 (3.36)
Lorestan	71 (2.27)
Mazandaran	101 (3.23)
Markazi	77 (2.46)
Hormozgan	71 (2.27)
Hamadan	80 (2.56)
Yazd	61 (1.95)

The findings indicated that 83.70% of older adults always or sometimes followed COVID-19-related news, and approximately 16.30% did not follow the news at all. Moreover, 21.6% reported that at least one family member, relative, or friend had died of COVID-19 (Table 2). The mean total death anxiety score was 8.35 (SD = 4.95). Among the participants, 1274 (40.7%) had mild symptoms, 529 (16.9%) had moderate symptoms, and 1326 (42.4%) had severe symptoms. The results suggested that the provinces of Ardabil, Kurdistan, and Semnan had lower levels of death anxiety. In contrast, the provinces of Qom, Kerman, and East Azerbaijan had the highest levels of death anxiety. The Kolmogorov-Smirnov test indicated that the death anxiety variable followed a normal distribution ( $P = 0.053$ ).

**Table 2.** Distribution of Older Adults' Responses to COVID-19-Related Variables

Variables and Item	No. (%)
<b>Following up on COVID-19-related news</b>	
Seldom	510 (16.29)
Sometimes	1261 (40.26)
Always	1358 (43.44)
<b>Any family member, relative, or friend died from COVID-19</b>	
Yes	676 (21.6)
No	2453 (78.4)

Anxiety levels among women were significantly higher than those among men ( $t = 4.86$ ,  $P < 0.001$ ). In addition, death anxiety was significantly higher among single older adults than among married individuals ( $t = 4.12$ ,  $P < 0.001$ ). No significant relationship was found between education and death anxiety ( $t = -1.69$ ,  $P = 0.091$ ). The severity of death anxiety was significantly higher among older adults who had lost at least one family member, relative, or friend due to COVID-19 ( $t = 5.78$ ,  $P < 0.001$ ). ANOVA showed that anxiety in the age group of 60 to less than 65 years was significantly higher than that in the other age groups ( $F = 68.09$ ;  $df = 3, 3125$ ;  $P = 0.003$ ). Following news about the COVID-19 pandemic was associated with higher levels of death anxiety among participants ( $F = 111.68$ ;  $df = 2, 3126$ ;  $P = 0.013$ ) (Table 3). Cronbach's alpha for Templer's Death Anxiety Questionnaire was 0.85, which was within the acceptable range.

## 5. Discussion

The present study aimed to assess the relationship between COVID-19 infection and death anxiety among older Iranian adults during the pandemic, using data

**Table 3.** Relationship Between the Severity and Rate of Death Anxiety with Demographic and COVID-19 Variables (N, 3129)<sup>a</sup>

Variables	Mean ± SD	Mild	Moderate	Severe
<b>Gender</b>				
Women	8.99 ± 5.98	512 (16.37)	295 (9.44)	1061 (33.90)
Men	7.90 ± 6.83	616 (19.67)	75 (2.40)	570 (18.22)
<b>Age<sup>b</sup></b>				
60 < 65	9.88 ± 5.63	821 (26.23)	308 (9.86)	1025 (32.76)
65 < 70	8.13 ± 4.04	154 (4.92)	51 (1.63)	309 (9.88)
70 < 75	7.18 ± 2.04	102 (3.25)	154 (4.92)	154 (4.92)
> 75	7.02 ± 3.74	51 (1.63)	0 (0.00)	0 (0.00)
<b>Marital status</b>				
Single	8.14 ± 7.00	52 (1.66)	52 (1.66)	257 (8.21)
Married	8.03 ± 6.92	1075 (34.36)	462 (15.35)	1231 (39.35)
<b>Educational level</b>				
University	8.19 ± 6.94	410 (13.10)	154 (4.73)	819 (26.17)
Primary to high school	8.34 ± 6.07	821 (26.24)	360 (11.50)	565 (18.06)
<b>Following up on COVID-related news<sup>c</sup></b>				
Seldom	4.88 ± 5.63	124 (3.96)	119 (3.80)	267 (8.53)
Sometimes	7.06 ± 6.20	473 (15.12)	143 (4.57)	815 (26.05)
Always	10.11 ± 7.19	369 (11.79)	224 (7.16)	819 (26.17)
<b>Any family member, relative, or friend died of COVID-19</b>				
Yes	9.99 ± 7.08	165 (5.30)	223 (7.1)	288 (9.2)
No	8.19 ± 6.88	1255 (40.1)	675 (21.60)	523 (16.7)

<sup>a</sup> Values are expressed as No. (%) unless indicated.

<sup>b</sup> Post hoc:  $F = 68.09$ ;  $df = 3, 3125$ ;  $P = 0.003$ .

<sup>c</sup> Post hoc:  $F = 111.68$ ;  $df = 2, 3126$ ;  $P = 0.013$ .

collected via online questionnaires. The findings indicated that approximately 60% of older adults experienced moderate to severe death anxiety. Death anxiety was significantly higher among older adults who had lost at least one family member, relative, or friend due to COVID-19. Individuals who followed COVID-19-related news had higher levels of death anxiety. Guner et al. (12) reported moderate death anxiety in Turkish older adults during the pandemic. Moreover, Rababa et al. (13) found that most older adults experienced severe death anxiety during the COVID-19 pandemic. In the current study, exposure to COVID-19-related news was associated with greater death anxiety in older adults, and anxiety was higher among individuals who experienced loss due to COVID-19. Chen et al. partially attributed this relationship to the mediating effects of empathy and sympathy (14). A study by Zoe Ziyi Ng et al. revealed that older adults who closely followed media and COVID-19-related news had higher levels of depression and unhappiness. However, although media exposure may be negatively associated with mental well-

being, the effects of negative and positive news may be interpreted differently (15).

As demonstrated in this study, intervention programs for older adults are essential to mitigate the psychological impact of this disease. Several countries that provide health services implemented intervention programs across all aspects of this disease, including mental health services, during the COVID-19 pandemic (16). The study by Rezaee et al. emphasized the need for practical guidelines to safeguard the mental health of older adults during pandemics such as COVID-19 (17).

In previous studies, depression, anxiety, negative psychological effects, panic attacks, psychomotor excitement, psychotic symptoms, delusions, and even suicidal tendencies were observed among SARS survivors (16, 18).

International health policymakers recommend public education via social media regarding the adverse psychological outcomes of the COVID-19 pandemic. These educational programs provide behavioral recommendations and advise people to educate

themselves about this disease (19). Physical exercise programs and telemedicine have been reported as effective preventive measures to reduce the psychosocial impacts of the COVID-19 pandemic (16). Implementing spiritually oriented care programs has been suggested as a helpful intervention to overcome fear of COVID-19 during health disasters (20). To reduce death anxiety during pandemics, self-care education through telenursing has also been recommended as a non-pharmacological, low-cost intervention (21). As the first line of interaction with older adults, nurses play a crucial role in efficiently delivering telehealth programs (22).

The Ministry of Health and non-governmental organizations should strongly emphasize monitoring news about the COVID-19 pandemic and other natural disasters in virtual and public media. In this regard, Iran has relatively good internet and social network infrastructure, suggesting that the country's health system can use the practical and valuable experiences of other countries. Education should be provided to older adults to reduce the adverse effects of death anxiety. The results of the present study also highlight the need to provide psychological and social support services to older adults who may face the consequences of potential health disasters in the future. Older adults should be informed about how to access these services during health disasters. Regular dissemination of accurate, trustworthy, and formal information by state authorities can help prevent the effects of unreliable and sometimes fake news in cyberspace.

### 5.1. Limitations

In this study, data were collected online using written questions. Oral interviews could not be conducted due to limitations related to the COVID-19 pandemic. Because an online convenience sampling method was used, our sample may not be representative of the broader population of Iranian older adults, particularly those with limited internet access or lower digital literacy.

### 5.2. Conclusions

This study highlighted death anxiety as a significant adverse psychological outcome associated with the COVID-19 pandemic. Our findings indicated that, during the pandemic, a substantial proportion of older adults

experienced high levels of death anxiety. This underscores the need to address the mental health challenges faced by this vulnerable population. Older adults require increased support to manage these challenges; therefore, it is essential to enhance awareness programs and targeted interventions during pandemics.

Moreover, it is imperative to continue assessing levels of death anxiety among older adults even after the pandemic subsides. Long-term monitoring and support may help mitigate lingering psychological impacts and improve overall well-being. Future research should focus on developing comprehensive strategies to address death anxiety and other mental health issues among older adults after pandemics, ensuring that their unique needs are met with practical and sustainable solutions.

### Acknowledgements

The authors wish to extend special thanks to the Iran National Science Foundation (INSF) and to all the respondents who participated in the research.

### Footnotes

**AI Use Disclosure:** For the purpose of Translation, the Chatgpt 4.1 was used Minor in the Abstract and Discussion sections.

**Authors' Contribution:** A. N. and M. H. contributed to the study concept and design. A. N., M. B., A. H., F. R., R. G., and M. H. acquired the data and drafted the manuscript. A. N., M. B., and A. H. critically revised the manuscript for important intellectual content. A. H. supervised the study.

**Conflict of Interests Statement:** The authors do not declare any conflicts of interests for this study.

**Data Availability:** The dataset of the research project is available upon reasonable request.

**Ethical Approval:** IR.ACER.AVICENNA.REC.1403.009.

**Funding/Support:** This project was funded by Iran National Science Foundation (INSF) (No: 99012960).

**Informed Consent:** Online informed consent was obtained from all the participants.

## References

1. Menzies RE, Sharpe L, Dar-Nimrod I. The relationship between death anxiety and severity of mental illnesses. *Br J Clin Psychol*. 2019;**58**(4):452-467. [PubMed ID: 31318066]. <https://doi.org/10.1111/bjc.12229>.
2. Gulpers BJA, Verhey FRJ, Eussen SJPM, Schram MT, de Galan BE, van Boxtel MPJ, et al. Anxiety and cognitive functioning in the Maastricht study: A cross-sectional population study. *J Affect Disord*. 2022;**319**:570-579. [PubMed ID: 36162695]. <https://doi.org/10.1016/j.jad.2022.09.072>.
3. Soleimani MA, Lehto RH, Negarandeh R, Bahrami N, Nia HS. Relationships between death anxiety and quality of life in Iranian patients with cancer. *Asia Pac J Oncol Nurs*. 2016;**3**(2):183-191. [PubMed ID: 27981157]. [PubMed Central ID: PMC5123493]. <https://doi.org/10.4103/2347-5625.182935>.
4. Nafei A, Rashedi V, Ghafari R, Khalvati M, Eslamian A, Sharifi D, et al. Death anxiety and related factors among older adults in Iran: Findings from a national study. *Iran J Ageing*. 2024;**19**(1):144-157. <https://doi.org/10.32598/sija.2023.1106.1>.
5. Özgüç S, Kaplan Serin E, Tanriverdi D. Death anxiety associated with coronavirus (COVID-19) disease: A systematic review and meta-analysis. *Omega (Westport)*. 2024;**88**(3):823-856. [PubMed ID: 34622711]. [PubMed Central ID: PMC10768329]. <https://doi.org/10.1177/00302228211050503>.
6. Levin AT, Owusu-Boaitey N, Pugh S, Fosdick BK, Zwi AB, Malani A, et al. Assessing the burden of COVID-19 in developing countries: Systematic review, meta-analysis and public policy implications. *BMJ Glob Health*. 2022;**7**(5):1-17. [PubMed ID: 35618305]. [PubMed Central ID: PMC9136695]. <https://doi.org/10.1136/bmjgh-2022-008477>.
7. Morley JE, Vellas B. COVID-19 and older adult. *J Nutr Health Aging*. 2020;**24**(4):364-365. [PubMed ID: 32242202]. [PubMed Central ID: PMC7113379]. <https://doi.org/10.1007/s12603-020-1349-9>.
8. Kang SJ, Jung SI. Age-related morbidity and mortality among patients with COVID-19. *Infect Chemother*. 2020;**52**(2):154-164. [PubMed ID: 32537961]. [PubMed Central ID: PMC7335648]. <https://doi.org/10.3947/ic.2020.52.2.154>.
9. Nikolich-Zugich J, Knox KS, Rios CT, Natt B, Bhattacharya D, Fain MJ. SARS-CoV-2 and COVID-19 in older adults: What we may expect regarding pathogenesis, immune responses, and outcomes. *Geroscience*. 2020;**42**(2):505-514. [PubMed ID: 32274617]. [PubMed Central ID: PMC7145538]. <https://doi.org/10.1007/s11357-020-00186-0>.
10. Basakha M, Mohaqeqi Kamal SH, Pashazadeh H. Acceptance of information and communication technology by the elderly people living in Tehran. *Salmand: Iranian Journal of Ageing*. 2019;**13**:550-563. <https://doi.org/10.32598/SJA.13.Special-Issue.550>.
11. Templer DI. The construction and validation of a death anxiety scale. *J Gen Psychol*. 1970;**82**(2):165-177. [PubMed ID: 4394812]. <https://doi.org/10.1080/00221309.1970.9920634>.
12. Guner TA, Erdogan Z, Demir I. The effect of loneliness on death anxiety in the elderly during the COVID-19 pandemic. *Omega (Westport)*. 2023;**87**(1):262-282. [PubMed ID: 33878967]. [PubMed Central ID: PMC8060692]. <https://doi.org/10.1177/00302228211010587>.
13. Rababa M, Hayajneh AA, Bani-Iss W. Association of death anxiety with spiritual well-being and religious coping in older adults during the COVID-19 pandemic. *J Relig Health*. 2021;**60**(1):50-63. [PubMed ID: 33284402]. [PubMed Central ID: PMC7719733]. <https://doi.org/10.1007/s10943-020-01129-x>.
14. Chen X, Liu T, Li P, Wei W, Chao M. The relationship between media involvement and death anxiety of self-quarantined people in the COVID-19 outbreak in China: The mediating roles of empathy and sympathy. *Omega (Westport)*. 2022;**85**(4):974-989. [PubMed ID: 32955991]. [PubMed Central ID: PMC9361034]. <https://doi.org/10.1177/0030222820960283>.
15. Ng ZZ, Li G, Flynn S, Yow WQ. How COVID-19 news affect older adults' mental health-evidence of a positivity bias. *Int J Environ Res Public Health*. 2023;**20**(5):1-14. [PubMed ID: 36900959]. [PubMed Central ID: PMC10002267]. <https://doi.org/10.3390/ijerph20053950>.
16. Hamedanchi A, Khankeh HR, Abolfathi Momtaz Y, Zanjari N, Saatchi M, Ramezani T, et al. An integrative review of the psychosocial impacts of COVID-19 on frail older adults: Lessons to be learned in pandemics. *Health in Emergencies and Disasters Quarterly*. 2023;**9**(1):7-22. <https://doi.org/10.32598/hdq.8.4.549.1>.
17. Rezaee R, Peyravi M, Jalali K, Avazzadeh S, Ahmadi Marzaleh M. Exploring the lived experiences of older adults in Iran during the COVID-19 pandemic: A phenomenological study. *Iran J Ageing*. 2023;**18**(2):148-161. <https://doi.org/10.32598/sija.2022.2023.4>.
18. Vidrio AL, Nicolini H, Zarate CT, Castro TG, Rojop JJ, Magaña JM, et al. Association between SARS-CoV-2 infection and neuropsychiatric manifestations. *COVID*. 2022;**2**(9):1270-1286. <https://doi.org/10.3390/covid2090094>.
19. Al-Dmour H, Masa'deh R, Salman A, Abuhashesh M, Al-Dmour R. Influence of social media platforms on public health protection against the COVID-19 pandemic via the mediating effects of public health awareness and behavioral changes: Integrated model. *J Med Internet Res*. 2020;**22**(8):1-15. [PubMed ID: 32750004]. [PubMed Central ID: PMC7439806]. <https://doi.org/10.2196/preprints.19996>.
20. Khorany H, Takzare E, Mohammadi F, Ameneh Motalebi S. The role of spiritual well-being in predicting fear of COVID-19 among community-dwelling older adults in Iran. *Iran J Ageing*. 2023;**17**(4):492-505. <https://doi.org/10.32598/sija.2022.2778.8>.
21. Soleimanpour Manzari R, Moradi M, Sadeghmoghadam L. Effect of psychological/spiritual self-care education through telenursing on death anxiety of the elderly during the COVID-19 pandemic in Gonabad, Iran: A randomized controlled clinical trial. *Iran J Ageing*. 2024;**19**(1):40-53. <https://doi.org/10.32598/sija.2023.3542.1>.
22. Lebar K, Chandra S, Hollander JE. Role of nursing in telehealth. *Nursing2022*. 2022;**52**(6):42-46. [PubMed ID: 35609077]. <https://doi.org/10.1097/01.NURSE.0000829908.44004.9a>.