ISSN 2079-0570, Advances in Gerontology, 2022, Vol. 12, No. 4, pp. 417–422. © Pleiades Publishing, Ltd., 2022.

COVID-19 in Lifespan: Psychological Impact between Young and Older Adults in Argentina

M. J. García[a], *, H. López-Morales[a], M. V. del-Valle[a], L. Canet-Juric[a], and S. Urquijo[a]

[a] *Instituto de Psicología Básica Aplicada y Tecnología (IPSIBAT UNMdP-CONICET), Funes 3250, Cuerpo V, Nivel III, (7600) Mar del Plata, Buenos Aires, B7602AYJ Argentina*

**e-mail: matiasjonasg@gmail.com*

Received May 5, 2022; revised June 16, 2022; accepted June 17, 2022

Abstract—The coronavirus pandemic has had a serious and worldwide impact. The increase in psychopathological symptomatology has affected people regardless of their age but has been observed mainly in the elderly population due to the characteristics of the virus. This study aimed to analyze and compare the psychological impact, as measured by the presence of depressive and anxiety symptoms, in a group of young and older adults at three-time points during the pandemic. Virtual surveys were used to measure participants' symptomatology and collect socio-demographic information. The results showed a significant increase in anxiety and depression in the general population. However, when comparing the two groups, statistical differences were observed. Younger adults showed higher mean anxiety and depression than older adults, which was sustained across the three times for both groups. Nevertheless, the increase in depressive symptomatology slows in young people between the second and third waves, while it continues to increase in older adults. Those results are a contribution to the study of individual differences in the psychological impact of the COVID-19 pandemic.

Keywords: anxiety, depression, young adults, older adults, coronavirus, infectious disease, mental health

DOI: 10.1134/S2079057022040075

INTRODUCTION

The coronavirus pandemic has had a severe and worldwide impact [8, 23]. This phenomenon affects all ages but has been observed mainly in older people [19, 28]. Although effective treatments and vaccines against COVID-19 are now available, coronavirus continues to impact individuals, particularly their mental health [8, 23]. The psychological impact of COVID-19 has affected individuals in different ways, but it is not clear what differences exist between different age groups and how they evolve through this process.

Depression and anxiety have been considered variables of psychological impact, as they are usually associated with psychopathological conditions [11]. Depression refers to grief or sadness and occurs after real or perceived loss [3]. Anxiety has been defined as an emotional state of tension and apprehension, as well as autonomic nervous system responses [25]. While psychopathological symptoms have emerged in the general population, their effect on specific groups has not been sufficiently studied [15]. This complex global panorama has a particularly detrimental effect on more vulnerable groups. Specific risk and protective factors include socio-demographic variables such as gender, age, education and family income stability [23], especially in low- and middle-income countries [17, 20]. Therefore, the older adults population in Latin America is a risk group.

S.T. Charles et al. [7] propose that in normal situations, older adults tend to experience equal or greater well-being than younger people. Based on the Selective Optimization with Compensation model [2] it can be interpreted that because bio-psycho-social reserves diminish with age, resources are carefully allocated. Older people select goals that (a) are relevant and (b) can be reliably obtained. Regarding this, the authors have observed that older adults, on average, experience more stable and less adverse outcomes during the pandemic than other population subgroups [13, 29].

The global changes brought about by the irruption of the COVID-19 pandemic are in themselves a vital crisis [8]. This disruptive event has been experienced as a threat and generated a psychological impact that has been demonstrated across the population [6, 17]. But there are reasons to believe that it would affect older adults more than younger people [15]. Restrictions and social distancing measures on pandemic COVID-19 have increased social isolation or loneliness in the general population [8]. However, in older adults, it is a risk factor for both depression and cognitive impairment [27]. They would therefore be a more vulnerable group to the psychological impact of the

pandemic. Thus, the results of the studies seem to differ depending on how data was collected. In this context, longitudinal studies enable observation of the progression of symptomatology and behavior of the population and are therefore more appropriate.

To contribute to this discussion, this study aimed to analyze and compare the psychological impact, measured by the presence of depressive and anxiety symptoms, in a group of young and older adults at three-time points during the pandemic.

MATERIALS AND METHODS

The sample of this study consisted of 1177 adults from different cities in Argentina (information on the number of participants in the initial phase of the study is presented in the Procedure section). Two groups were formed: young adults (YA) and older adults (OA). The age of the YA group ranged from 25 to 44 years [21] (Mean = 34.41; SD = 5.68). Of the 918 participants, 80.4% identified themselves as female (n = 738), and 19.6% identified themselves as male (n = 180). Regarding educational level, 30.4% (n = 279) reported incomplete or ongoing university or tertiary studies, 31.8% (n = 292) completed university education, and 37.8% (n = 347) reported complete or incomplete postgraduate education. The age of OA ranged from 60 to 84 years [22] (Mean = 65.2; SD = 4.38). Of the 259 participants, 74.9% identified themselves as female (n = 194), and 25.1% identified themselves as male (n = 65). Regarding educational level, 33.6% (n = 87) reported until incomplete or ongoing university or tertiary studies, 34.4% (n = 89) completed university education, and 32% (n = 83) reported complete or incomplete postgraduate education.

Depressive symptoms: the Argentinean adaptation [5] of the Beck Depression Inventory-II (BDI-II) [3] was applied. The BDI-II consists of 21 items that provide a general index of the presence of depressive symptoms experienced by the individual in the last two weeks. The symptoms explored are consistent with DSM-IV criteria for major depression (e.g., sadness, tearfulness, pessimism, guilt). Participants' responses to each item range from 0 to 3, describing the increasing severity of that symptom. The scale has shown adequate evidence of reliability and validity in several previous studies [4]. Item 9, which asks about suicidal thoughts, was removed at the suggestion of the ethics committee due to the characteristics of the uncontrolled setting of the online assessments. In this study, Cronbach's Alpha showed high internal consistency (Time 1: α = 0.88; Time 2: α = 0.91; Time 3: α = 0.92).

State Anxiety: the Argentinean adaptation [16] of the State-Trait Anxiety Inventory (STAI) [26] was administered. The STAI assesses state anxiety (transient condition) and trait anxiety (stable condition). It is composed of 40 items (20 assess state-anxiety and 20 assess trait-anxiety) that are answered on a scale between 0 and 3 points. Since the present study aimed to analyze the current state of anxiety and its variability over time, only the state-anxiety subscale was applied. Previous studies on the Spanish population indicate good evidence of reliability and validity [10]. For the present study, the state anxiety subscale exhibited high reliability (Time 1: α = 0.93; Time 2: α = 0.95; Time 3: α = 0.95).

Socio-demographic features: closed-ended questions on age, educational level, and gender were included.

Procedure and ethical considerations. A longitudinal study was conducted, as part of a larger research project designed to examine the emotional impact of the COVID-19 pandemic on the Argentinean population over time. A non-probabilistic online snowball method was used to recruit participants. Three freely available surveys were launched via Google Forms and disseminated via social media (i.e., Facebook, Instagram, WhatsApp) at different time points during the pandemic. No paid advertising was used to disseminate the surveys and no compensation was paid for participation.

The first survey was conducted on March 22nd, 2020. The second survey was conducted between May 6 and June 1, 2020. The third survey was conducted between April 17 and April 23, 2021, more than a year after the onset of the pandemic. Finally, the sample analyzed in this study was formed with participants who answered the three measures (n = 1177).

This study was approved by the Bioethics Committee of the National University of Mar del Plata. All procedures suggested by the Declaration of Helsinki and by the American Psychological Association [1] were met for its implementation.

Data analysis. The normality of the depressive symptoms and anxiety symptoms was explored through skewness and kurtosis (values between $\pm$2 points are considered acceptable limits for normality) [12]. While anxiety symptoms (Time 1: Sk = 0.55; Ku = 0.14; Time 2: Sk = 0.39; Ku = –0.24; Time 3: Sk = 0.25; Ku = –0.60) presented acceptable values, depressive symptoms (Time 1: Sk = 1.62; Ku = 4.06; Time 2: Sk = 1.30; Ku = 2.07; Time 3: Sk = 1.23; Ku = 2.17) showed a leptokurtic distribution at the three-time points. To normalize these distributions, the results were transformed through the natural logarithm [24]. The resulting skewness and kurtosis were adequate (Time 1: Sk = –0.47; Ku = –0.08; Time 2: Sk = –0.61; Ku = 0.02; Time 3: Sk = –0.81; Ku = 0.27).

Descriptive statistics were estimated (Table 1). While descriptive statistics of depressive symptoms were explored with the non-normalized results, inferential analyses were conducted using the normalized

Table 1. Levels of depression and anxiety by age groups

Parameter		Young adults group, $n = 918$		Older adults group, $n = 259$	
		mean	standard deviation	mean	standard deviation
Depression	Wave 1	8.8	6.9	5.5	5.2
	Wave 2	11.5	9.5	6.8	6.3
	Wave 3	12.8	9.5	9.0	7.7
Anxiety	Wave 1	1.14	0.5	0.96	0.4
	Wave 2	1.23	0.5	1	0.5
	Wave 3	1.34	0.5	1.14	0.5

Table 2. Chi-square test by age groups

Variables		Young adults group, n	Older adults group, n	χ^2 ($p > 0.05$)
Gender	Female	738	194	3.6
	Male	180	65	
Educational level	Postgrad	347	83	2.9
	University (complete)	292	89	
	Incompleted or ongoing university or tertiary studies	279	87	

Table 3. Results of repeated measures ANOVA for depression and anxiety

Variable	Effect	Repeated measures		
		F	p-value	η_p^2
Depression	Time	96.26	0.001	0.080
	Group	87.41	0.001	0.070
	Time-group	6.64	0.002	0.006
Anxiety	Time	60.11	0.001	0.050
	Group	39.51	0.001	0.033
	Time-group	0.79	0.450	0.001

data. Chi-square test was used to analyze the educational level and gender in both groups (Table 2). Non-significant differences were observed between groups.

A mixed repeated measures Anova statistic was used to test the effect of the pandemic over time (intra-subject factor) and inclusion of the YA or OA group (inter-subject factor) on depression and anxiety (dependent variables). In cases where the W. Mauchnik leads to rejection of the sphericity test, the Greenhouse—Geisser correction was used (Table 3). The Bonferroni statistic was used for the adjustment of multiple comparisons. All tests were two-sided and p-values less than 0.05 were considered statistically significant. Statistical analyses were performed using IBM SPSS Statistics 23.

RESULTS AND DISCUSSION

Depression. Results of mixed repeated measures ANOVA demonstrated a significant effect of time ($F_{(1.91,\ 2254)} = 96.26$, $p < 0.001$, $\eta_p^2 = 0.08$) and time-groups ($F_{(1.92,\ 2254.06)} = 6.64$, $p = 0.002$, $\eta_p^2 = 0.006$) (Fig. 1a; Table 3). A significant effect of the group factor (inter-subject) was also demonstrated ($F_{(1,\ 1175)} = 87.41$ $p < 0.001$, $\eta_p^2 = 0.07$). In the total sample, significant differences were observed among the three measures ($p < 0.01$), evidencing a progressive increase until the third wave. According to the post hoc tests for paired comparisons with Bonferroni correction, there were statistically significant differences in depression between YA and OA groups ($p < 0.01$), with young adults showing higher averages. Furthermore, both

groups showed statistical differences at wave 1, 2 and 3 ($p < 0.01$).

Anxiety. Results of mixed repeated measures ANOVA demonstrated a significant effect of time ($F_{(1.95, 2292.19)} = 60.11$, $p < 0.001$, $\eta_p^2 = 0.05$) whereas no time-group interaction effects were observed ($F_{(1.95, 2292.19)} = 0.79$, $p = 0.45$, $\eta_p^2 = 0.001$) (see Fig. 1b; Table 3). A significant effect of the group factor (inter-subject factor) was identified ($F_{(1, 1175)} = 39.51$, $p < 0.001$, $\eta_p^2 = 0.033$). In the total sample, significant differences were found among the measures at waves 1, 2 and 3 ($p < 0.01$). According to the post hoc tests for paired comparisons with Bonferroni correction, there were statistically significant differences in anxiety between groups at wave 1, 2 or 3 ($p < 0.01$), with young adults reporting significantly higher mean anxiety levels. Furthermore, intragroup analyzes with Bonferroni correction showed that older adults showed non-significant differences only at waves 1 and 2 ($p = 0.35$). All other measures as much as in OA and YA groups showed significant differences ($p < 0.001$), demonstrating a significant increase over time.

Sociodemographic features. Results of mixed repeated measures ANOVA demonstrated that none of the sociodemographic variables had significant effects on depression and anxiety, in any of the temporal measures of longitudinal design ($p > 0.05$).

This paper aimed to analyze and compare the psychological impact among a group of young and older adults during the COVID-19 pandemic. First, the results showed an increase in anxiety and depressive symptoms in both groups at all three-time points when data were collected. Namely, regardless of age, from the lockdown declaration in Argentina, anxiety and depressive symptoms in the population have been rising.

Secondly, significant differences have been observed according to participant ages. These results are in line with those reported by other studies [8]. The young adult group showed higher baseline levels of anxiety and depression than older adults and this tendency continued over the year. In this respect, results support the findings of D. Horesh et al. [14] who found higher levels of psychological distress in young participants than in other population groups. A.R. McKinlay et al. [18] have argued that in contrast to older adults, young people who experienced the greatest daily changes and uncertainties, such as parents, workers or students, have reported higher levels of emotional distress during the pandemic. However, this tendency has changed over time and concerning symptomatology (anxious and depressive). In anxiety and depression scores, the young adult group showed that there were significant differences among the three measures, demonstrating a significant increase over time.

Thirdly, the older adults group has shown a sustained positive tendency for both, depressive and anxious symptomatology. In other words, as the COVID-19 pandemic progresses, the psychological impact is greater in this population group. Accordingly, the results of this study do not support the idea presented by some authors [13, 29] that older adults experience more stable and less negative outcomes than other population groups. We partially agree with S.T. Charles et al. [7] when they explained that older adults tend to experience higher well-being than younger adults, as shown by the results of the first data collection, conducted at the beginning of the pandemic in Argentina. However, over time the results show that while younger adults tend to stabilise some symptoms (such as depression), older adults continue to increase levels of symptomatology. These results are in contrast to I.V. Vahia et al. [28] hypothesis, who explained that the impact of social isolation would generate worse effects in older adults and over time they would tend to be overtaken or surpassed by younger adults in their symptomatology.

Although the psychological impact of COVID-19 on the population has increased over time, there are differences in depressive and anxious symptomatology between young and older adults. Thus, while younger adults show a tendency to stabilize their depressive symptoms, older adults do not. The positive linear tendency of older adults concerning depression is a warning sign in itself [8, 18, 27]. The causes of this effect are not clear yet. It can be hypothesized that, despite having received the vaccine first, socio-demographic factors such as higher age-related mortality, loss of loved people in their population group, as well as the economic impact in low- and middle-income countries such as Argentina, have contributed to these results. Similar findings have been reported in Pakistan by S. Mukhtar [19, 20] and in China by H. Yao et al. [30].

In terms of anxious symptomatology, both population groups have a sustained positive linear tendency, which we interpret as being associated with uncertainty and a lack of clear prospects for the end of the pandemic, globally and locally [9]. Nevertheless, older adults showed a considerable increase in symptoms of this type between the second and third times. According to S.T. Charles et al. [7] and A.R. McKinlay et al. [18], some explanatory factors can be observed in the social dimension. On one hand, if we take into account the advance of new strains and forward and reverse measures in terms of health and public policies, it does not seem strange that anxiety has not decreased for any population group. On the other hand, when taking into account that young adults are recovering their work and social activities with the easing of restrictions on health measures, older adults would be at a disadvantage because the vast majority of them have not returned to their daily lives. Moreover, according to S. Mukhtar [20], social isolation, social

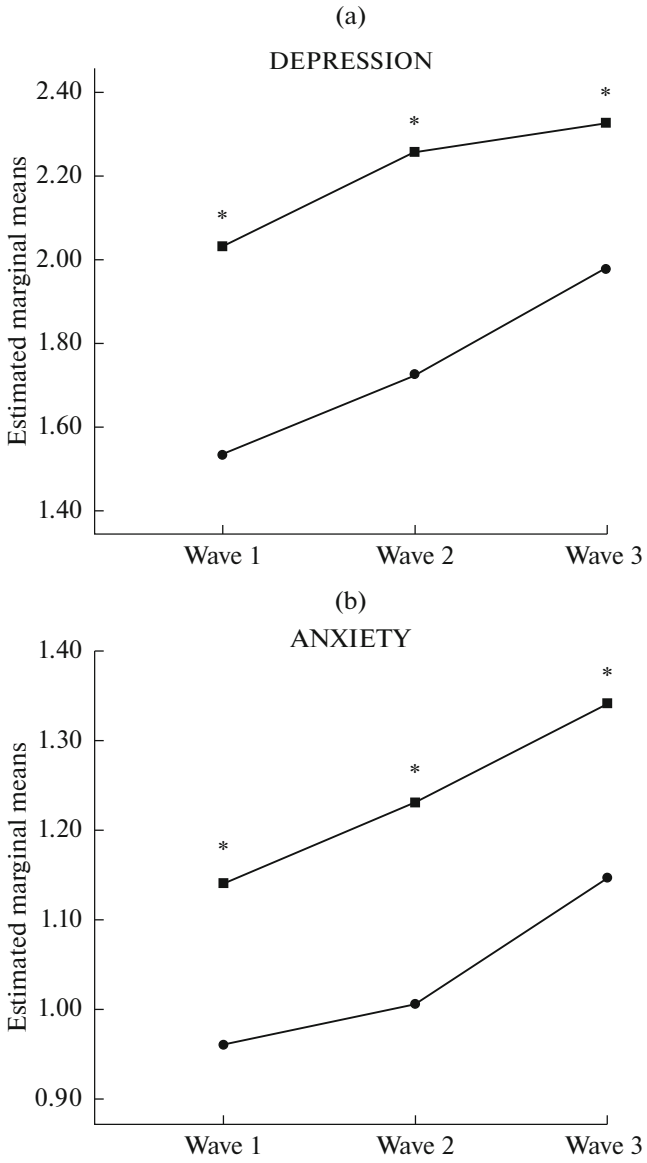

Fig. 1. Comparison of the adjusted mean of the psychopathological variables in both groups, during the three phases of the study. Figure compares the adjusted means for (a) depression and (b) anxiety in young adults (squares) and older adults (circles), during the three phases of the study (Wave 1, Wave 2 and Wave 3); * $p < 0.01$.

distancing, social disconnectedness, and loneliness would be mediators of anxiety and depression in this population group.

CONCLUSIONS

Finally, this study was not exempt from limitations. Although the initial turnout was higher than expected, as the data collection was repeated, the sample of older adults was considerably reduced as the data was collected. Another limitation of this study is the high educational level of the study population. Due to the characteristics of the data collection, the educational levels of the population have tended to be high. It remains to extend the data by carrying out face-to-face studies that allow access to populations with other educational levels. Lastly, it remains to be investigated what are the causes reported by the elderly population for the increase in perceived psychopathological symptoms. Future studies could approach this topic using a qualitative methodology.

This study showed that there are clear and distinct trends in the way younger and older adults experience the pandemic. Overall levels of anxiety and depression are higher in younger adults than in older adults. However, while a recovery is observed in younger people as time goes by, older adults continue to increase the level of symptomatology, especially of the depressive nature. The COVID-19 pandemic is still ongoing, so further studies are needed to report on the psychological impact on the population. In this sense, a new analysis is projected to continue tracking the mental health of the Argentinean population.

FUNDING

This work was supported by the Ministry of Science, Technology and Innovation of the Argentine Nation.

CONFLICT OF INTERESTS

The authors declare that they have no conflicts of interest.

STATEMENT ON THE WELFARE OF HUMANS

All applicable international, national, and/or institutional guidelines were followed.

REFERENCES

1. American Psychological Association (2010), Ethical Principles of Psychologists and Code of Conduct, www.apa.org/ethics/code/principles.pdf.
2. Baltes, P.B. and Baltes, M.M., Selective optimization with compensation, in *Successful Aging: Perspectives from the Behavioral Sciences,* Baltes, P.B. and Baltes, M.M., Eds., Cambridge University Press, 1990.
3. Beck, A.T., Steer, R.A., and Brown, G.K., *Beck Depression Inventory-II,* The Psychological Corporation, 1996.
4. Beltrán, M.C., Freyre, M.Á., and Hernandez-Guzmán, L., El Inventario de Depresión de Beck: Su validez en poblacion adolescente [The Beck Depression Inventory: its validity in an adolescent population], *Terapia Psicologica,* 2012, vol. 30, pp. 5–13. https://doi.org/10.4067/S0718-48082012000100001
5. Brenlla, M.E. and Rodríguez, C.M., Adaptación argentina del Inventario de Depresión de Beck (BDI-II) [Argentinean adaptation of the Beck Depression Inventory (BDI-II)], in *BDI-II. Inventario de Depresión de Beck. Segunda Edición. Manual [BDI-II. Beck Depres-*

sion Inventory. Second Edition. Manual], Beck, A.T., Steer, R.A., and Brown, G.K., Eds., Paidós, 2006.

6. Canet-Juric, L., Andrés, M.L., Del-Valle, M., et al., A longitudinal study on the emotional impact cause by the COVID-19 pandemic quarantine on general population, *Front. Psychol.*, 2020), vol. 11, p. 565688. https://doi.org/10.3389/fpsyg.2020.565688
7. Charles, S.T. and Carstensen, L.L., Social and emotional aging, *Ann. Rev. Psychol.*, 2010, vol. 61, pp. 383–409. https://doi.org/10.1146/annurev.psych.093008.100448
8. Clemente-Suárez, V.J., Navarro-Jiménez, E., Jimenez, M., et al., Impact of COVID-19 pandemic in public mental health: an extensive narrative review, *Sustainability,* 2021, vol. 13, p. 3221. https://doi.org/10.3390/su13063221
9. Del-Valle, M.V., López-Morales, H., Andrés, M.L., et al., Intolerance of COVID-19-related uncertainty predicts depressive and anxiety symptoms during the pandemic: a longitudinal study in Argentina, *J. Anxiety Disord.*, 2022, p. 102531. https://doi.org/10.1016/j.janxdis.2022.102531
10. Del-Valle, M.V., Andrés, M.L., Urquijo, S., et al., Argentinean adaptation and psychometric properties of the emotion regulation questionnaire–ERQ–, *Psychol. Rep.*, 2021 https://doi.org/10.1177/00332941211021343
11. Durankuş, F. and Aksu, E., Effects of the COVID-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study, *J. Maternal-Fetal and Neonatal Med.*, 2020. https://doi.org/10.1080/14767058.2020.1763946
12. George, D. and Mallery, P., *IBM SPSS Statistics 23 Step by Step: A Simple Guide and Reference,* Routledge, 2016, 14 ed.
13. Holingue, C., Badillo-Goicoechea, E., Riehm, K.E., et al., Mental distress during the COVID-19 pandemic among US adults without a pre-existing mental health condition: findings from American trend panel survey, *Preventive Med.,* 2020, vol. 139, p. 106231. https://doi.org/10.1016/j.ypmed.2020.106231
14. Horesh, D., Kapel Lev-Ari, R., and Hasson-Ohayon, I., Risk factors for psychological distress during the COVID-19 pandemic in Israel: loneliness, age, gender, and health status play an important role, *Brit. J. Hlth Psychol.,* 2020, vol. 25, pp. 925–933. https://doi.org/10.1111/bjhp.12455
15. Kobayashi, L.C., O'Shea, B.Q., Kler, J.S., et al., Cohort profile: the COVID-19 coping study, a longitudinal mixed-methods study of middle-aged and older adults' mental health and well-being during the COVID-19 pandemic in the USA, *BMJ Open,* 2021, vol. 11, p. e044965. https://doi.org/10.1136/bmjopen-2020-044965
16. Leibovich de Figueroa, N.B. Ansiedad: algunas concepciones teóricas y su evaluación [Anxiety: some theoretical conceptions and its evaluation], in *Teoria y tecnicas de evaluacion psicologica* [Theory and Techniques of Psychological Assessment], Casullo, M.M., Leibovich de Figueroa, N.B., and Aszkenazi, M., Eds., Psicoteca, 1991, pp. 123–155.
17. López-Morales, H., Del-Valle, M.V., Canet-Juric, L., et al., Mental health of pregnant women during the COVID-19 pandemic: a longitudinal study, *Psych. Res.,* 2021, vol. 295, p. 113567. https://doi.org/10.1016/j.psychres.2020.113567
18. McKinlay, A.R., Fancourt, D., and Burton, A., A qualitative study about the mental health and wellbeing of older adults in the UK during the COVID-19 pandemic, *BMC Geriat.*, 2021, vol. 21, p. 439. https://doi.org/10.1186/s12877-021-02367-8
19. Mukhtar, S., Psychological impact of COVID-19 on older adults, *Cur. Med. Res. Practice,* 2020a, vol. 10, pp. 201–202. https://doi.org/10.1016/j.cmrp.2020.07.016
20. Mukhtar, S., Mental health and psychosocial aspects of coronavirus outbreak in Pakistan: psychological intervention for public mental health crisis, *Asian J. Psychiat.*, 2020b, vol. 51, p. 102069. https://doi.org/10.1016/j.ajp.2020.102069
21. Baptista, M.N., Pereira, F.T., Urquijo, S., and del-Valle, M., Estructura interna y evidencias de validez de la Escala Baptista de Depresión para Adultos en población adulta de Argentina, *Acta Colombiana de Psicología,* 2021, vol. 24, pp. 32–46. http://www.doi.org/10.14718/ACP.2021.24.1.4
22. Parlapani, E., Holeva, V., Nikopoulou, V.A., et al., Intolerance of uncertainty and loneliness in older adults during the COVID-19 pandemic, *Front. Psychiat.*, 2020, vol. 11, p. 842. https://doi.org/10.3389/fpsyt.2020.00842
23. Preti, E., Di Pierro, R., Perego, G., et al., Short-term psychological consequences of the COVID-19 pandemic: results of the first wave of an ecological daily study in the Italian population, *Psychiat. Res.*, 2021, vol. 305, p. 114206. https://doi.org/10.1016/j.psychres.2021.114206
24. Sedgwick, P., Log transformation of data, *BMJ,* 2012, vol. 345, p. e6727. https://doi.org/10.1136/bmj.e6727
25. Spielberger, C.D., Gorsuch, R.L., Lushene, R.E., and Cubero, N.S., *STAI: Cuestionario de Ansiedad Estado-Rasgo,* TEA, 1999.
26. Spielberger, C.D., Gorsuch, R.L., and Lushene, R.E., *Manual for the State–Trait Anxiety Inventory,* Consulting Psychologists Press, 1970.
27. Tyrrell, C.J. and Williams, K.N., The paradox of social distancing: implications for older adults in the context of COVID-19, *Psychol. Trauma,* 2020, vol. 12, p. S214. https://doi.org/10.1037/tra0000845
28. Vahia, I.V., Jeste, D.V., and Reynolds, C.F., Older adults and the mental health effects of COVID-19, *J.A.M.A.*, 2020, vol. 324, pp. 2253–2254. https://doi.org/10.1001/jama.2020.21753
29. Van Tilburg, T.G., Steinmetz, S., Stolte, E., et al., Loneliness and mental health during the COVID-19 pandemic: a study among Dutch older adults, *J. Gerontol. B,* 2021, vol. 76, pp. e249–e255. https://doi.org/10.1093/geronb/gbaa111
30. Yao, H., Chen, J.H., and Xu, Y.F., Rethinking online mental health services in China during the COVID-19 epidemic, *Asian J. Psychiat.*, 2020, vol. 50, p. 102015. https://doi.org/10.1016/j.ajp.2020.102015