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## Regular Research Article

# Mental Health in Elderly Spanish People in Times of COVID-19 Outbreak

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## ABSTRACT

**Background:** We aim to assess COVID-19 outbreak-related emotional symptoms, identify gender differences, and study the relationship between the emotional state and environmental features in the elderly. **Methods:** We conducted a cross-sectional study starting on March 29 to April 5, 2020 based on a national online survey using snowball sampling techniques. Symptoms of anxiety (Hamilton Anxiety Scale), depression (Beck Depression Inventory) and acute stress (Acute Stress Disorder Inventory) were compared between people over and under 60 years old. Gender differences and the relationship of loneliness, regular exercise, economic losses and use of anxiolytics on the mental state were evaluated. **Results:** One thousand six hundred thirty-nine (150 [9.2%] aged  $\geq 60$ ) participants completed the survey. The greater than or equal to 60 group showed lower mean (SD) BDI levels than the less than 60 group (3.02 [3.28] versus 4.30 [4.93]); and lower mean (SD) acute stress disorder inventory scores than the less than 60 group (3.68 [3.20] versus 4.45 [3.06]). There were no gender differences in any of the clinical measures. The presence of economic losses as well as the increase in the use of anxiolytics was significantly associated with higher emotional distress in the elderly compared to the younger group. **Conclusions:** Older people have shown less emotional distress, with no differences between men and women. Economic loss and substance use should be monitored to guarantee the emotional well-being of the elderly. (Am J Geriatr Psychiatry 2020; 28:1040–1045)

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## INTRODUCTION AND OBJECTIVE

Several months have passed since the first cases of pneumonia caused by a new viral agent called severe acute respiratory coronavirus 2 (SARS-CoV-2) were reported in the Chinese city of Wuhan.<sup>1,2</sup> The rapid increase in the number of contagions<sup>3</sup> and the relentless international spread of the virus has led the World Health Organization (WHO) to declare the so-called 2019 Coronavirus Disease (COVID-19) a global pandemic on March 2020.<sup>4</sup> As a result, government entities in different countries adopted abrupt and drastic population isolation measures in order to prevent the increase in the number of contagions. Following WHO's recommendations, the Government of Spain declared an alarm state on March 14, 2020<sup>5</sup> with the aim of reducing the number of cases and deaths from COVID-19.

Research focused on COVID-19 and also in previous pandemics has identified negative consequences for the mental health of general population.<sup>6–8</sup> Therefore, in a wide number of countries including Spain the impact of this abrupt and novel situation on mental health, both in general population and on those most vulnerable such as older adults<sup>9</sup> more prone to infection, severe illness and death,<sup>10</sup> is being studied.<sup>11,12</sup>

During this unprecedented pandemic, the entire population has been forced to suffer a physical risk and an impaired of emotional well-being, but the elderly has undoubtedly been one of the most vulnerable groups. The WHO states that in many countries, older people are facing the most threats and challenges from COVID-19 as they are in higher risk of developing severe illness,<sup>12–15</sup> with a fatality rate of 3.6% among 60–69 years old, which increases to 18% above 80 years.<sup>16,17</sup> Moreover, the aged have an added stress as they are aware of the greater severity and fatality among other population groups, registering in Spain the highest number of deaths.<sup>18</sup> People over 60 years of age represent 26% of the total Spanish population, they comprise 55% of all cases and more than two thirds of all deaths related to COVID-19.<sup>18</sup> In addition, the social consequences of quarantine must also be taken into account. Social disconnection is especially important for this age group less used to digital technologies as it may limit social engagement, interfere with daily routines, enhance inactivity,

increase drugs use and decrease sensory stimulation. All these circumstances together with isolation might have an adverse impact on mental health of the elderly population.

Given the established association between increasing age and poor prognosis in COVID-19 it would be wise to hypothesize that emotional distress would evolve in the same way placing the elderly in a situation of vulnerability to the virus, as well as to the psychological effects of the pandemic and the quarantine. However, there is little information about the impact of the new COVID-19 pandemic on mental health in the elderly outside China.<sup>19–21</sup> Preliminary research is scarce and contradictory as there are studies showing an increased incidence of psychological distress in the elderly<sup>22</sup> and others not reporting a higher prevalence of depressive symptoms in the older age Chinese population.<sup>11</sup>

Thus, the aim of the current study is to evaluate the impact of the new COVID-19 pandemic on the mental health of people over 60 compared to those under 60 years old, find out if there are gender differences in anxiety, depression and acute stress in the elderly, and finally, evaluate the relationship that some environmental variables as loneliness, regular exercise, economic losses and use of anxiolytics have on the mental state.

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## METHODS

### Participants and Procedure

A total of 150 responders over or equal 60 years old ( $\geq 60$ ) and 1489 under 60 years old ( $< 60$ ) participants compose this cross-sectional study based on a national online survey previously published by our group.<sup>23</sup> The questionnaire was administered applying an exponential nondiscriminative snowball sampling used in similar studies.<sup>11,24,25</sup> As part of the circulation strategy, the questionnaire was published on the hospital website, advertised in the local media and distributed by social networks to different geographic regions in Spain.

Up to 2710 participants completed the self-reported online questionnaire from March 29, 2020, to April 5, 2020, which covers the peak of the SARS-CoV-2 infection in Spain. For the purposes of the

present study, healthcare workers (n = 866) were not included as they constitute a special study subgroup and having a current or past mental illness reported (n = 205) was considered an exclusion criterion.

Informed consent was provided by all survey participants. The survey was anonymous, and confidentiality of information was assured. The study was approved by the local clinical research ethics committee.

### Measures

Sociodemographic information on age, gender, and occupation was required in the survey. In addition, loneliness, regular practice of exercise, income loss and increased consumption of anxiolytic substances were included.

In order to assess symptoms of anxiety and depression, we included questions from the Hamilton Anxiety Scale<sup>26</sup> (HARS) and from the Beck Depression Inventory<sup>27</sup> (BDI), respectively. For reporting the presence of acute stress, we adapted ad hoc for this study the clinical criteria for the diagnosis of Acute Stress Disorder (Acute stress disorder inventory [ASDI]) of the Diagnostic and Statistical Manual of Mental Disorders [DSM-5].<sup>28</sup> We developed a list of symptoms to be applied as self-reported questionnaire with dichotomous answer (yes/no).

### Statistical Analyses

Greater than equal to 60 and less than or equal to 60 comparisons on sociodemographic and clinical variables were done using analysis of variance corrected for age and gender and chi-squared tests as appropriate. Then, we analysed differences in gender among greater than or equal to 60 participants using a Student's t test.

We further explored the relationship of loneliness, regular practice of exercise, income loss and increased consumption of anxiolytic substances on anxiety, depression and acute stress (HARS, BDI, and ASDI scores) within the group of aged responders using ANCOVA adjusted for gender.

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## RESULTS

The study sample consists of 58.7% of women in greater than or equal to 60 and 69.2% in the less than

60 participants with significant differences between groups ( $\chi^2(1) = 6.39, p = 0.01$ ).

### Anxiety, Depression, and Acute Stress in the Study Groups

Regarding anxiety symptoms, ANCOVA corrected for gender did not show significant differences between participants aged greater than or equal to 60 and less than 60 ( $F_{(1, 1635)} = 2.5, p = 0.11$ ; HARS, M (SD)  $\geq 60$  15.39(10.94);  $< 60$  17.19(10.18)). On the other hand, ANCOVA corrected for gender showed that participants greater than or equal to 60 years had significant lower BDI scores than the younger ( $F_{(1, 1635)} = 10.57, p = 0.001$ ; BDI, M(SD)  $\geq 60$  3.02(3.28);  $< 60$  4.30(4.93)). In the same line, when clinical cut-off syndrome score of 4 (absent or minimal versus mild/moderate/severe depression) is applied, chi-squared test revealed a weaker depressive syndrome in greater than or equal to 60 group was observed ( $\chi^2(1) = 8.41, p = 0.04$  25.3% in  $\geq 60$  versus 37.3% in  $< 60$ ). Finally, ANCOVA corrected for gender showed that greater than or equal to 60 participants had lower ASDI scores ( $F_{(1, 1593)} = 6.1, p = 0.014$  ASDI, M(SD)  $\geq 60$  3.68(3.20);  $< 60$  4.45(3.06)) than the less than 60 group.

### Gender Comparisons within the Group aged greater than or equal to 60

Using Student's t test, we found no differences between males and females score in any of the clinical measures: HARS ( $t_{(148)} = -1.6, p = 0.10$ ), BDI ( $t_{(148)} = -1.2, p = 0.22$ ) and ASDI scores ( $t_{(146)} = -1.1, p = 0.27$ ). Scores for male group were M(SD) for HARS 13.6(10.4), BDI 2.7(2.8) and ASDI 3.3(3.1); and HARS 16.6(11.2), BDI 3.3(3.6) and ASDI 3.9(3.2) for females.

### Relation between Emotional State and Loneliness, Physical Exercise, Income Loss and Anxiolytic Substances Intake Among the Elderly Group

ANCOVA corrected for gender showed that participants who lived alone showed similar scores of HARS ( $F_{(1, 146)} = 0.78, p = 0.38$ ), BDI ( $F_{(1, 146)} = 0.83, p = 0.36$ ) and ASDI scores ( $F_{(1, 144)} = 1.3, p = 0.26$ ) than those who lived with other people. Regular exercise had no impact on HARS ( $F_{(1, 144)} = 1.33, p = 0.25$ ), BDI

( $F_{(1, 144)}=1.47$ ,  $p=0.23$ ) and ASDI scores ( $F_{(1, 142)}=0.49$ ,  $p=0.49$ ). Nevertheless, those who have experienced economic losses showed higher scores of HARS ( $F_{(1, 146)}=6.3$ ,  $p=0.013$ ,  $\eta_p^2=0.04$ ), BDI ( $F_{(1, 146)}=4.2$ ,  $p=0.04$ ,  $\eta_p^2=0.03$ ) and ASDI ( $F_{(1, 144)}=10.25$ ,  $p=0.002$ ,  $\eta_p^2=0.07$ ) than those who do not. And, those who have increased anxiolytic substances intake, showed higher scores of HARS ( $F_{(1, 146)}=23.9$ ,  $p < 0.001$ ,  $\eta_p^2=0.14$ ), BDI ( $F_{(1, 146)}=30.7$ ,  $p < 0.001$ ,  $\eta_p^2=0.17$ ) and ASDI ( $F_{(1, 146)}=26.2$ ,  $p < 0.001$ ,  $\eta_p^2=0.15$ ) compared to those that have not increased the consumption of anxiolytics. Mean and SD values corresponding to this section are presented in Table 1.

## CONCLUSIONS

The current study has aimed to measure the impact of COVID-19 on mental health of the elderly in Spain. Overall, results show that those above 60 are less vulnerable than younger participants to suffer from depression and acute stress, furthermore, they have not shown differences in anxiety levels during the peak of the pandemic when compared to the group under 60 years of age, so older people cannot be considered especially vulnerable for the development of anxiety, depression and acute stress during the peak of the COVID-19 pandemic in Spain. These results are especially striking, since it seems acceptable to hypothesize that in addition to the well-known physical vulnerability to the virus, deleterious emotional effects motivated by fear, stigma and forced isolation

could be expected. Moreover, results do not show gender differences for any of the clinical variables.

Little is known about the state of elderly mental health during the COVID-19 outbreak and data addressing the impact of previous epidemics in this age group are also scarce<sup>29</sup> because older patients have been usually excluded from clinical trials.<sup>30</sup> The few Chinese existing studies identify groups of ages between 18 and 30 and those over 60 years old as higher risk populations for stress reactions,<sup>22</sup> without observing higher rates of depression in the latter.<sup>11</sup>

Without a doubt, the elderly population has been the most punished, reaching a worrying high death rate in nursing homes due to the COVID-19 or compatible symptoms since the beginning of the outbreak. For this reason, it is necessary to investigate plausible explanations for this unexpected result. A possible hypothesis could be that the elderly in Spain had a greater resilience than the younger. Thus, the Spanish elderly could have experienced more personal difficulties throughout their lives than non-elderly people, such as economic and social difficulties associated with the Spanish post-civil war period (1939–1960), which could have increased their ability to cope with the stress caused by the nowadays pandemic.

Finally, regarding to the studied environmental variables, the results have shown that unlike what has been seen in situations of isolation and social distancing due to different circumstances,<sup>31</sup> our data do not show a relationship between loneliness and the increase in anxiety, depression, and acute stress. In the same line, neither a significant relationship between the absence of regular physical exercise and

**TABLE 1. Mean (SD) of Clinical Variables (ASDI, HARS, and BDI Scores) by Coexistence, Regular Exercising, Economic Loses and Anxiolytics Consumption within the  $\geq 60$  Years Old Sample**

		n	HARS	BDI	ASDI
Living alone	Yes	24	17.6 (13.8)	3.8 (4.6)	4.4 (4.1)
	No	126	14.9 (10.3)	2.9 (2.9)	3.5 (3.2)
	$F(df)$ , p		$F_{(1, 146)}=0.78$ p = 0.38	$F_{(1, 146)}=0.83$ p = 0.36	$F_{(1, 144)}=1.3$ p = 0.26
Regular exercising	Yes	110	14.9 (10.7)	2.9 (3.2)	3.6 (3.2)
	No	38	16.9 (11.6)	3.5 (3.5)	3.9 (3.4)
	$F(df)$ , p		$F_{(1, 144)}=1.33$ p = 0.25	$F_{(1, 144)}=1.47$ p = 0.23	$F_{(1, 142)}=0.49$ p = 0.49
Economic loses	Yes	50	18.2 (9.9)	3.7 (3.5)	4.8 (3.2)
	No	100	13.9 (11.1)	2.7 (3.2)	3.1 (3.0)
	$F(df)$ , p		$F_{(1, 146)}=6.3$ p = 0.013	$F_{(1, 146)}=4.2$ p = 0.04	$F_{(1, 144)}=10.25$ p = 0.002
Increased anxiolytics consumption	Yes	11	29.9 (11.1)	7.9 (4.7)	8.1 (2.9)
	No	139	14.2 (10.1)	2.7 (2.8)	3.3 (3.5)
	$F(df)$ , p		$F_{(1, 146)}=23.9$ p < 0.001	$F_{(1, 146)}=30.7$ p < 0.001	$F_{(1, 146)}=26.2$ p < 0.001

n: number of participants; HARS: Hamilton Anxiety Rating Scale; BDI: beck depression inventory; ASDI: acute stress disorder inventory. Statistical results derived from ANCOVA corrected for age are presented below each variable.

emotional symptoms has been found, contrary to what was expected.<sup>32</sup> However, economic losses do significantly increase emotional distress in this group of people, sensitive to the economic fallout.<sup>33</sup> About 4% of the variance of anxiety scores, 3% of depressive scores, and 7% of the ASDI scores are associated with economic losses. Furthermore, an increase in the use of anxiolytic substances, alcohol or other drugs has been observed in those over 60 with higher levels of anxiety, depression and acute stress, probably with a relaxing purpose as a self-medication.<sup>34,35</sup> About 14% of anxiety scores, 17% of depressive scores, and 15% of ASDI scores are associated with anxiolytic intake.

Results of this study should be interpreted in light of several limitations. First, response bias exist as a voluntary online self-administered survey was applied using a snowball sampling method; and second, the study was not specifically designed for the elderly, thus only general environmental variables have been queried. Strengths include data collection in a great sample during the height of the pandemic in Spain and the incorporation of a broad representation of the general population without any current or previous mental disorder.

To the best of our knowledge, this is the first time that symptoms of anxiety, depression, and acute stress affecting the elderly in a critical period of COVID-19 is studied in a western country like Spain, compared with a group of non-elderly individuals. The elderly sample has shown less emotional distress, with no differences between men and women. In addition, loneliness as part of the isolation imposed by quarantine has not been associated with the negative psychological consequences that usually

accompany social disconnection in circumstances other than the current pandemic. Finally, it would be convenient to particularly assess the emotional state of the elderly living in nursing homes where the death rate has been high and to establish strategies to guarantee the economic security of the elderly, as well as to monitor and prevent the development of substance use disorders in order to guarantee their emotional well-being.

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## AUTHOR CONTRIBUTIONS

LGF and RRJ designed the study and wrote the protocol, VRF, PLR, and SPU undertook the statistical analysis, all authors contributed and have approved the final manuscript.

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## DISCLOSURE

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## References

1. Zhu N, Zhang D, Wang W, et al: A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med* 2020; 382:727–733
2. Wu F, Zhao S, Yu B, et al: A new coronavirus associated with human respiratory disease in China. *Nature* 2020 Mar; 579:265–269
3. Wu JT, Leung K, Leung GM: Nowcasting and forecasting the potential domestic and international spread of the 2019-nCoV outbreak originating in Wuhan, China: a modelling study. *Lancet* 2020; 395:689–697, [Internet] Available from: [http://dx.doi.org/10.1016/S0140-6736\(20\)30260-9](http://dx.doi.org/10.1016/S0140-6736(20)30260-9)
4. World Health Organization: Global Influenza Strategy 2019-2030. World Health Organization, 2019 <https://apps.who.int/iris/handle/10665/311184> License: CC BY-NC-SA 3.0 IGO
5. Real Decreto 463/2020, por el que se declara el estado de alarma para la gestión de la situación de crisis sanitaria ocasionada por el COVID-19. Ministerio de la Presidencia, Relaciones con las Cortes y Memoria Democrática. España, 14 de Marzo de 2020.
6. Maunder R, Hunter J, Vincent L, et al: The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *Cmaj* 2003; 168:1245–1251
7. Maunder RG, Lancee WJ, Balderson KE, et al: Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. *Emerg Infect Dis* 2006; 12:1924–1932
8. Ko CH, Yen CF, Yen JY, et al: Psychosocial impact among the public of the severe acute respiratory syndrome epidemic in Taiwan. *Psychiatry Clin Neurosci* 2006; 60:397–403
9. Holmes EA, O'Connor RC, Perry VH, et al: Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry* [Internet] 2020; 0366:1–14, Available from: <http://www.ncbi.nlm.nih.gov/pubmed/32304649>

10. Zhao W, Jian W, Li H: Preventing and controlling measures of 2019 coronavirus Disease (COVID-19): practice in psychogeriatric ward. *Am J Geriatr Psychiatry* 2020; 28(7):786–787;doi:10.1016/j.jagp.2020.04.020
11. Wang C, Pan R, Wan X, et al: Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health* 2020; 17
12. Shigemura J, Ursano RJ, Morganstein JC, et al: Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: mental health consequences and target populations. *Psychiatry Clinical Neurosci* 2020; 74:281–282
13. Yang X, Yu Y, Xu J, et al: Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. *Lancet Respir Med* 2020; 8:475–481
14. Zhou F, Yu T, Du R, et al: Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet (London, England)* 2020; 395:1054–1062
15. Wang D, Hu B, Hu C, et al: Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020; 1–9
16. Lai C-C, Shih T-P, Ko W-C, et al: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int J Antimicrob Agents* 2020; 55:105924
17. Rothan HA, Byrareddy SN: The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *J Autoimmun* 2020; 109:102433
18. Spanish Ministry of Health. Health alert and Emergency Coordination centre. (2020). Enfermedad por el coronavirus (COVID-19). 22.05.2020 (Report No. 113). Government of Spain.
19. Armitage R, Nellums LB: COVID-19 and the consequences of isolating the elderly. *Lancet Public health* 2020; 5:e256
20. Yang Y, Li W, Zhang Q, et al: Mental health services for older adults in China during the COVID-19 outbreak. *Lancet Psychiatry* 2020; 7:e19
21. Petretto DR, Pili R: Ageing and COVID-19: what is the role for elderly people? *Geriatrics (Basel)* 2020; 5
22. Qiu J, Shen B, Zhao M, et al: A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *Gen Psychiatr* 2020; 33:e100213
23. García-Fernández L, Romero-Ferreiro V, López-Roldán PD, et al: Mental health impact of COVID-19 pandemic on Spanish healthcare workers. *Psychol Med* 2020, (In press)
24. Roy D, Tripathy S, Kar SK, et al: Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian J Psychiatr* 2020; 51:102083
25. Liu Q, Luo D, Haase J, et al: The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *Lancet Global Health* 2020;doi:10.1016-7/S2214-19X(20)30204-7
26. Hamilton MAX: The assessment of anxiety states by rating. *Br J Med Psychol* 1959; 32:50–55
27. Bech P: Rating scales for mood disorders: applicability, consistency, and construct validity. *Acta Psychiatr Scand* 1988; 78 (S345):45–55
28. American Psychiatric Association, & American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. Arlington, VA: American Psychiatric Pub, 2013
29. Hayek S El, Cheaito MA, Nofal M, et al: Geriatric mental health and COVID-19: an eye-opener to the situation of the Arab countries in the Middle East and North Africa Region. *Am J Geriatr Psychiatry* 2020;doi:10.1016/j.jagp.2020.05.009
30. Lithander FE, Neumann S, Tenison E, et al: COVID-19 in older people: a rapid clinical review. *Age Ageing* 2020; 1–15; doi:10.1093/ageing/afaa093
31. Richard A, Rohrmann S, Vandeleur CL, et al: Loneliness is adversely associated with physical and mental health and lifestyle factors: results from a Swiss national survey. *PLoS One* 2017; 12:1–18
32. de Oliveira L da SSCB, Souza EC, Rodrigues RAS, et al: The effects of physical activity on anxiety, depression, and quality of life in elderly people living in the community. *Trends Psychiatry Psychother* 2019; 41:36–42
33. Flint A, Bingham, Iaboni A: Effect of COVID-19 on the mental health care of older people in Canada. *Int Psychogeriatr*. 2020; 1–4;doi:10.1017/S1041610220000708
34. Robinson J, Sareen J, Cox BJ, et al: Self-medication of anxiety disorders with alcohol and drugs: results from a nationally representative sample. *J Anxiety Disord* 2009; 23:38–45;doi:10.1016/j.janxdis.2008.03.013
35. Voyer P, Cappelliez P, Pérodeau G, et al: Mental health for older adults and benzodiazepine use. *J Commun Health Nurs* 2005; 22:213–229