

Psychological symptoms of the outbreak of the COVID-19 confinement in Spain

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Abstract

We studied the short-term psychological effects of the COVID-19 crisis and the quarantine on 3550 adults from the Spanish population in a cross-sectional survey. Symptoms of anxiety, depression, and stress were analyzed using the 21-item version of the Depression Anxiety Stress Scale. Symptoms of posttraumatic stress disorder were analyzed using the Impact of Event Scale. Symptomatic scores of anxiety, depression, and stress were observed in 20% to 30% of respondents. Symptomatic scores indicating psychological stress were found in 47.5% of respondents. Similar to the findings of other multiple studies, confinement has been found to have significant emotional impact in the Spanish population.

Keywords

anxiety, COVID-19, depression, post-traumatic, psychological, stress, stress disorders

Introduction

In December 2019, an outbreak of a novel coronavirus disease (COVID-19) occurred in Wuhan (Hubei, China). Soon afterwards the outbreak began to spread, first in China and then globally. By April 3rd, 2020, there were more than 1,039,000 confirmed cases worldwide and more than 55,000 people had died from it (Johns Hopkins University & Medicine, 2020). By the same day, the number of confirmed cases in Spain was 117,166, making it one of the most affected countries in the world along with the United States, Italy, and China. According to some studies, however, the actual number of cases might be much higher than reported (Flaxman et al., 2020).

Following the spread of the disease, many countries around the globe implemented social distancing measures. In Spain, schools and universities were progressively closed between March 9th and March 13th. Population lockdown was then imposed starting March 16th, so that citizens were only allowed to go out in order

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to go to work, buy food or other essential needs. Further, starting March 30th all non-essential activities were also suspended. A timeline depicting the evolution of the outbreak, as well as with some relevant events, is shown in Supplemental Figure 1.

Quarantines have been employed throughout history to control the spread of infectious diseases such as cholera, the plague or, more recently, SARS or ebola (Risse, 1992; Twu et al., 2003). However, the current confinement of the whole population across countries is unprecedented. There is a general consensus about the need of population lockdown in order to slow down the spread of the current COVID-19 outbreak. It is also generally accepted that this lockdown can lead to substantial adverse consequences, including severe economic damage, legal and ethical issues, and psychological effects on the population being confined (Barbera et al., 2001).

For instance, a study on the psychological effects of quarantine on people in Toronto, Canada, during the SARS outbreak in 2003, showed a high prevalence of posttraumatic stress disorder (PTSD) and depression (Hawryluck et al., 2004). It was also observed that longer durations of quarantine were associated with an increased prevalence of PTSD symptoms. A recent study conducted during the COVID-19 crisis in Italy found decreased compliance with social-distancing when the duration of the confinement is longer than initially expected (Briscece et al., 2020).

Regarding the initial psychological impact of COVID-19, different results have been reported. In a Chinese study, less than a third of the subjects presented moderate or severe levels of stress, depression, and anxiety (Wang et al., 2020). In a Spanish study conducted during the first days of the COVID-19 pandemic, levels of stress, depression, and anxiety were lower compared to the study by Wang et al. (2020), but an increase of these levels was observed when the confinement started (24.7% of the sample) (Ozamiz-Etxebarria et al., 2020). In an Italian study, higher levels of stress, anxiety, and depression during the COVID-19 confinement

were observed in comparison with the Spanish study, with 18% to 32% of the participants exhibiting high or very high scores (Mazza et al., 2020).

In addition to stress, anxiety and depression, symptoms of PTSD have been assessed. Several studies in China have reported conflicting results: two studies identified symptoms of PTSD in 7% to 8% of participants (Liu et al., 2020; Zhang and Ma, 2020), whereas another study reported moderate to severe symptoms of PTSD in more than the half of participants (Wang et al., 2020). In between these diverging results, recent studies in Spain (González-Sanguino et al., 2020) and Italy (Forte et al., 2020) have reported PTSD symptoms in 15% and 29.5% of the participants, respectively.

Knowledge and understanding of the experiences of the confined population are necessary to ensure compliance with the social-distancing measures, as well as to minimize the consequences of adverse short and long-term psychological effects, as has been previously reported (Sani et al., 2020). The purpose of this study was to analyze the psychological symptoms on the confined population in Spain during the outbreak of the COVID-19 crisis in relationship with the lockdown measures.

Methods

Study population

The adult population living in Spain at the time of the study was eligible for participation in this study. Exclusion criteria included those under 18 years and living outside Spain when the survey was conducted. The survey was announced through the communication channels of the University of Valladolid, a regional TV station and social media. Ethics approval was obtained from the Ethics Review Board of Valladolid East health area (PI: 20-1736).

Survey instrument

An online web-based survey composed of 56 multiple-choice questions was launched on

March 28th, 2020, and remained open until April 4th (8 days). In the first question of the survey, the participants chose whether they agreed to participate in the study. Furthermore, they had the option of refusing to participate in the study whenever they wanted by communicating to the last author via email. The survey took approximately 10 minutes to complete, and included the following demographic, clinical and psychosocial questions: age, sex, marital status, being a health worker, number of people living in the same home during lockdown, having been tested for or diagnosed with COVID-19, self-reported symptoms of COVID-19, acquaintance with someone diagnosed with COVID-19, employment situation and changes due to the COVID-19 crisis, present and/or past psychological/psychiatric treatment, present intake of psychoactive medication, and perceived impact of the confinement on personal and social relationships. The questions included in the survey with the possible answers are detailed in the Research Data memory provided as an additional file.

The psychological impact of the crisis and the confinement was evaluated using two validated scales, namely the 21-item version of the Depression Anxiety Stress Scales (DASS-21; Antony et al., 1998) and the Impact of Event Scale (IES; Horowitz et al., 1979).

The DASS-21 is a scale composed of 21 self-reported items, each with a Likert rating scale from 0 to 3 (*0 = did not apply to me at all; 1 = applied to me to some degree, or some of the time; 2 = applied to me a considerable degree or a good part of time; 3 = applied to me very much, or most of the time*) consisting of sentences describing negative emotional states. It contains three subscales (depression, anxiety, and stress), each one containing seven items, and has shown good internal consistency as well as convergent and discriminant validity. For each subscale, we added up the scores from the associated items (each one scored 0, 1, 2 or 3), and the total score was the sum the associated scores. The cutoffs for each subscale are detailed in the Research Data memory. We administered the Spanish version of the

DASS-21 (Daza et al., 2002), which has shown good psychometric properties in Spain and Colombia (Ruiz et al., 2017). Specifically, the results of that study (Ruiz et al., 2017) provided strong evidence that the Spanish version of the DASS-21 has good internal consistency for all the subscales (alpha values from 0.92 to 0.95). In the same study, for the Spanish version of the DASS-21, a hierarchical factor structure with a second-order factor representing a general indicator of emotional symptoms was obtained.

The IES is a 15-item, 4-point Likert-type scale (0 = not at all, 1 = rarely, 3 = sometimes, 5 = often) designed to assess subjective distress resulting from a traumatic life event. It contains two subscales: Intrusion (intrusive thoughts, nightmares, intrusive feelings and imagery, dissociative-like re-experiencing) and Avoidance (numbing of responsiveness, avoidance of feelings, situations, and ideas), composed of seven and eight items respectively. As we explained with the DASS-21, we added up the scores from the associated items for each subscale (each item scored 0, 1, 3 or 5), and the total score was the sum of the associated scores. The cutoffs for the total score are detailed in the Research Data memory. We administered the Spanish version of IES by Baguena et al. (2001), which has shown a good internal consistency (alpha values from 0.84 to 0.95) and a two-factor structure that accounts for 95% of the total variance. Slight adaptations were performed from this version to account for the nature of the events assessed in this study, changing verbal tenses where needed; for example, “I had dreams about it” was asked as “I have dreams about it.”

Statistical analysis

Group proportions were calculated for categorical variables, while mean, standard deviation, and median values with interquartile range were employed for the continuous variables. We used histograms to describe the distribution of the DASS-21 and IES subscales scores. To estimate the reliability of DASS-21 and IES tests, Cronbach’s alpha was employed. The 95% Confidence Interval for each alpha value

was estimated using 1000 bootstrap samples. Bootstrap samples were employed only to obtain confidence intervals for the Cronbach's alpha, and they were not used for additional analyses.

Generalized Linear Models (GLM) with a Gaussian distribution were employed to analyze the association between the DASS-21 and IES scores with each of the independent variables described in the Survey instrument subsection.

A multivariate model was built using the independent variables that had values for all subjects. The final multivariate GLM was selected using the Akaike's Information Criterion (AIC) and an automatic stepwise strategy, with forward and backward steps. The model with the lowest AIC was automatically selected.

Pearson's correlation was obtained to measure the association between the DASS-21 subscales score and the IES total score.

p-Values below 0.05 were considered to be statistically significant. In the multivariate models, correction for multiple comparisons was performed with the false discovery rate correction. The analysis was performed using R statistical software package, version 3.5.2.

Data sharing statement

The deidentified dataset used in the current study is available in Spanish (language employed in the survey). The translation of the variables and possible answers of the survey is also available in a separate document, together with the main commands employed in R statistical software, including templates with examples of the most important parts of the code (statistical analysis). The code outputs are shown in the Supplemental Material.

Results

The survey was completed by 3707 people. Ten respondents were discarded because they did not formally accept to participate in the study, seven were discarded because they were aged under 18, and 140 were discarded because they were not located in Spain when they completed the survey. The final sample was therefore composed of 3550 people. The age and qualitative

characteristics of the final survey respondents are summarized in Table 1. Following further analysis about having a positive COVID-19 diagnosis, it was decided not to use the corresponding data due to a detection of inconsistencies between this item and that about having been tested for COVID-19.

Correlation between DASS-21 and IES scores

A significant positive correlation was found between each DASS-21 subscale and IES total score. The values for each subscale were 0.60 for stress ([0.58, 0.62], $p < 0.0001$), 0.56 for anxiety ([0.53, 0.58], $p < 0.0001$) and 0.52 for depression ([0.50, 0.55], $p < 0.0001$). These values reflect a moderate positive relationship between symptoms of post-traumatic stress and symptoms of stress, anxiety, and depression.

DASS-21

The Cronbach's alpha for Depression was 0.89 [0.88, 0.90]; for Anxiety was 0.83 [0.81, 0.84]; and for Stress was 0.86 [0.85, 0.87].

During the first weeks of confinement, according to DASS-21 scores, around a quarter of the sample showed moderate-to-severe levels of stress (25.6%), almost a fifth demonstrated moderate-to-severe levels of anxiety (19.9%), and almost a third showed moderate-to-severe levels of depression (30.3%).

Mean values and standard deviations for each of the DASS-21 subscales were 5.06 ± 4.76 for depression (mean value almost equal to the mild cutoff, i.e. 5), 3.15 ± 3.76 for anxiety (mean value between subclinical and mild cut-offs, i.e. 3 and 4, respectively) and 6.50 ± 4.69 for stress (mean value slightly lower than the subclinical maximum value, i.e. 7). Histograms for the scores of the DASS-21 subscales are shown in Supplemental Figure 2, whereas Figure 1 shows the proportion of respondents that fall within each of the groups that are usually considered for this instrument.

Multivariate GLM coefficients for DASS-21 models are shown in Supplemental Table 1. For all the three subscales, a significant positive

Table I. Characteristics of the survey respondents.

Characteristics	Number (%)
Age (mean = 32.1 ± 14.1 ; median = 25, Interquartile range = 22)	
18–25	1850 (52.1)
26–35	454 (12.8)
36–45	479 (13.5)
46–55	449 (12.6)
56–65	266 (7.5)
66 or more	52 (1.5)
Sex	
Male	1246 (35.1)
Female	2304 (64.9)
Marital status	
Single	2344 (66.0)
Married or with partner	1087 (30.6)
Divorced or separated	105 (3.0)
Widowed	14 (0.4)
Health worker	
Yes	346 (9.7)
No	3204 (90.3)
Live with	
Alone	247 (7.0)
1 person	751 (21.2)
2–4 people	2419 (68.1)
5 or more people	133 (3.7)
Changes in employment activity	
Yes	1316 (37.1)
No	854 (24.1)
No employment activity	1380 (38.9)
Tested for COVID-19	
Yes	28 (0.8)
No	3522 (99.2)
Self-reported COVID-19 symptoms	
Yes	302 (9.0)
No	3248 (91.0)
Acquaintance with patient with COVID-19 diagnosis	
Yes	1971 (55.5)
No symptoms	46 (2.3)
Mild	602 (30.5)
Moderate	711 (36.1)
Severe	344 (17.5)
Person who has died	268 (13.6)
No	1579 (44.5)
Previous psychological or psychiatric treatment	
Yes	973 (27.4)
No	2577 (72.6)

Table I. (Continued)

Characteristics	Number (%)
Current psychological or psychiatric treatment	
Yes	275 (7.7)
No	3275 (92.3)
Current intake of psychoactive medication	
Yes	258 (7.3)
No	3292 (92.7)
Positive effects of confinement on relationships with confined people	
Yes	2414 (68.0)
No	1136 (32.0)
Negative effects of confinement on relationships with confined people	
Yes	1059 (29.8)
No	2491 (70.2)
Positive effects on social relationships	
None	1751 (49.3)
Little	1332 (37.5)
Some	383 (10.8)
Great	84 (2.4)
Negative effects on social relationships	
None	1428 (40.2)
Little	1250 (35.2)
Some	616 (17.4)
Great	256 (7.2)

association was found with female sex ($\beta = 4.6$, $p < 0.0001$, DASS-21 total score), self-reported COVID-19 symptoms ($\beta = 4.1$, $p < 0.0001$, DASS-21 total score), previous psychological/psychiatric treatment ($\beta = 2.9$, $p < 0.0001$, DASS-21 total score), intake of psychoactive medication ($\beta = 3.9$, $p < 0.0001$, DASS-21 total score), positive ($\beta = -2.9$, $p < 0.0001$, DASS-21 total score) and negative ($\beta = 5.1$, $p < 0.0001$, DASS-21 total score) effect on the relationship with people living in the same home, and negative effect on social relationships ($2.3 < \beta < 10.6$, $p < 0.0001$, DASS-21 total score). These factors were also significant in the univariate analyses, which can be seen in Supplemental Table 2. For the DASS-21 multivariate GLM, a significant negative association was found for the three subscales with age and positive effect on the relationship with people living in the same place. Positive and negative associations of studied factors

(Continued)

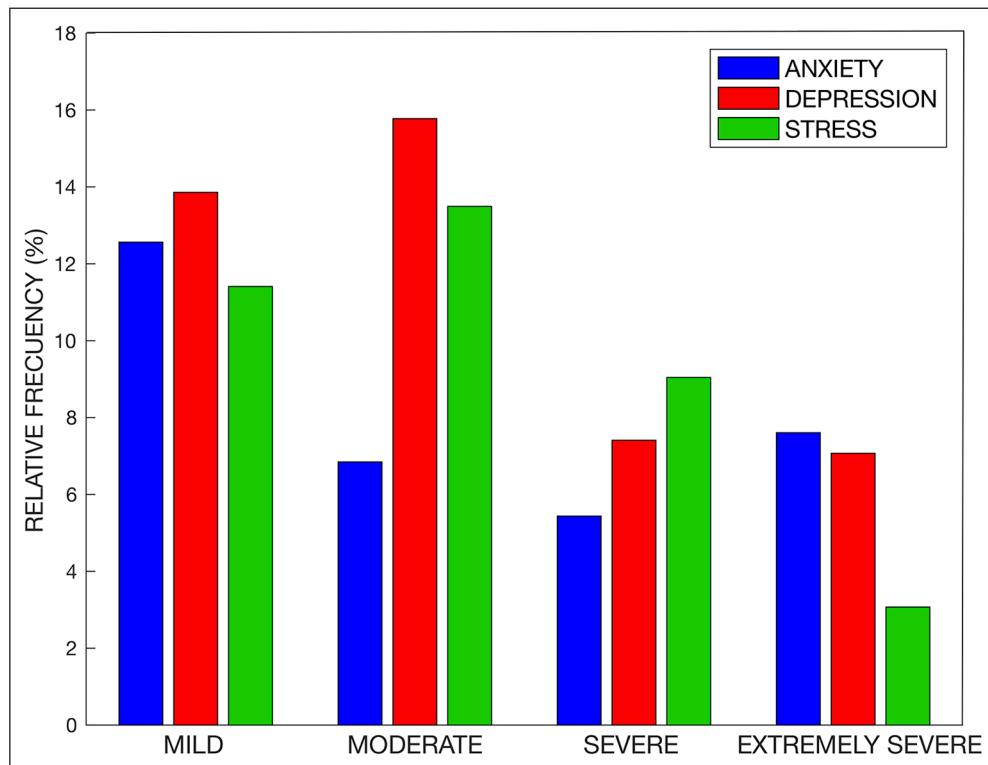


Figure 1. Proportion of respondents that fall within each of the groups that are commonly considered for the three subscales of the DASS-21 instrument.

with DASS-21 subscales are summarized in Supplemental Figure 3.

IES

The Cronbach's alpha for Intrusion was 0.82 [0.81, 0.83]; and for Avoidance was 0.79 [0.78, 0.80]. Almost half the sample (47.5%) presented moderate-to-severe psychological impact according to the IES instrument, with relatively higher avoidance than intrusion scores, while 13.2% of the respondents showed asymptomatic scores.

Mean values and standard deviations were 14.80 ± 8.70 for avoidance and 10.70 ± 7.63 for intrusion. Histograms for the scores of the IES instrument, together with each of its subscales and the proportion of respondents that fall within each of the groups that are usually

considered for this instrument, are shown in Supplemental Figure 4.

Multivariate GLM coefficients for IES models are shown in Supplemental Table 3. For the two subscales, a significant positive association was found with female sex ($\beta = 8.7$, $p < 0.0001$, IES total score), acquaintance with a patient with a COVID-19 diagnosis (severe status $\beta = 2.7$, $p < 0.001$; dead person $\beta = 4.2$, $p < 0.0001$, IES total score), previous psychological/psychiatric treatment ($\beta = 2.4$, $p < 0.0001$, IES total score), intake of psychoactive medication ($\beta = 4.3$, $p < 0.0001$, IES total score), negative effect on the relationship with people living in the same home ($\beta = 2.9$, $p < 0.0001$, IES total score), and negative effect on social relationships ($2.8 < \beta < 9.9$, $p < 0.0001$, IES total score). These factors were also significant in the univariate analyses, which

can be seen in Supplemental Table 4. For the IES multivariate GLM, a significant negative association was found for the two subscales with male sex. Positive and negative associations of studied factors with IES subscales are summarized in Supplemental Figure 5.

Discussion

A formidable effort has been devoted to analyzing and modeling the evolution of the COVID-19 pandemic to implement measures in order to contain its spread and find appropriate treatments and a vaccine. However, little is known about the effects of the crisis and the confinement on the well-being of the population.

Our results indicate that a substantial proportion of the analyzed sample shows symptoms of depression, anxiety, stress, and PTSD as measured by validated scales.

In comparison with a previous Italian study (Mazza et al., 2020), we obtained similar mean DASS-21 scores for depression (5.06 in our study compared to 5.34), anxiety (3.15 compared to 2.89), and stress (6.50 compared to 7.43). With respect to the percentage of participants with moderate to severe symptoms of stress (25.6%), anxiety (19.9%), and depression (30.3%) found in our study, similar percentage has been found in the same Italian study (high or very high scores, 27.2%, 18.7%, and 32.8%, respectively). In a Spanish study, similar percentage of anxiety (21.6%), but a remarkable lower percentage of depressive symptomatology (18.7%), were found (González-Sanguino et al., 2020). Lower percentage of anxiety, depression, and stress symptoms have been reported in another Spanish study, possibly because approximately 75% of the participants answered the survey before the beginning of the confinement (Ozamiz-Etxebarria et al., 2020). In a Chinese study, higher percentage of moderate or severe anxiety symptoms (28.8%), but lower percentage of depression (16.5%) and stress (8.1%), have been found (Wang et al., 2020). These results reflect that a remarkable percentage of the population may have

developed anxiety, depression, and stress during the COVID-19 confinement.

Regarding the initial psychological impact of the COVID-19 confinement, we found that almost 47.5% of our sample presented moderate-to-severe IES scores related to PTSD symptoms. A similar percentage of PTSD symptoms (53.8%) was obtained in a Chinese study (Wang et al., 2020), while this percentage was lower (7%–30%) in other European and Chinese studies (Forte et al., 2020; González-Sanguino et al., 2020; Liang et al., 2020; Liu et al., 2020; Moccia et al., 2020; Zhang and Ma, 2020). Considering the possible progression of the psychological impact throughout the COVID-19 confinement, symptoms of PTSD should be carefully checked.

The results from the DASS-21 and IES instruments are however difficult to interpret, since the COVID-19 crisis has created an unprecedented situation. Gill et al. (2014), for instance, analyzed the psychosocial effects of two major oil spills in the population. Our IES intrusion mean scores are similar to those reported in that study (13.7 compared to 10.7 in our study), and the avoidance scores are higher in our case (11.3 compared to 14.8 in our study). Also, our results indicate a lower percentage of respondents with subclinical scores (that is, a higher percentage of scores indicating mild, moderate or severe symptoms).

The associations found between DASS-21 and IES scores and demographical, clinical, and psychosocial factors can provide valuable information about the factors that contribute to the distress of the individuals in this situation.

Regarding demographic factors, higher scores in DASS-21 were associated with young people and female sex. It has been observed that common mental disorders such as anxiety and depression are more prevalent in young people and particularly in women (Albert, 2015; McManus et al., 2009; Patel et al., 2007; Zender and Olshanky, 2009). Therefore, a higher impact of the COVID-19 crisis on young women is in line with prevalence of mental disorders, and also with other studies about the psychological impact of the COVID-19 outbreak

(González-Sanguino et al., 2020; Mazza et al., 2020; Moccia et al., 2020; Ozamiz-Etxebarria et al., 2020; Wang et al., 2020). However, another study has reported that higher psychological distress was shown by male subjects as result of the COVID-19 outbreak in China (Liang et al., 2020).

Clinical factors associated with DASS-21 scores included previous psychiatric or psychological treatment, and current intake of psychoactive medication. As expected, our results show that people with current or past psychological disorders are more vulnerable to the impact of COVID-19 crisis on their mental health.

Psychosocial factors related to DASS-21 scores were a perceived negative effect of confinement on social relationships and relationships with people living together (positive association). Following the opposite trend, a perceived positive effect on the relationships with people living together was negatively associated with DASS-21 scores. These results reflect not only the negative impact of poor interpersonal relationships, but also the positive impact of good interpersonal relationships, especially among people living together during the confinement.

We found a positive association between self-reported COVID-19 symptoms and DASS-21 scores. The mutual influence between mental health and physical condition has been established, although other factors may also play a role (McCloughen et al., 2012; Ohrnberger et al., 2017). For instance, anxiety disorders have been associated with respiratory, gastrointestinal and thyroid diseases, and migraine has been associated with symptoms of anxiety and depression (McCloughen et al., 2012; Peres et al., 2017).

Specific relationships were identified between the DASS-21 subscales and other factors; for example, changes in the employment status due to the COVID-19 crisis with higher depression scores. Unstable employment and unemployment have been previously associated with depression (Yoo et al., 2016). The uncertainty about the economic impact of the COVID-19 crisis, together with the specific features of the job market in Spain, may play a role in this result.

Also, the acquaintance with a COVID-19 patient in severe condition or who have died because of COVID-19 was related to higher anxiety scores. High levels of depression and anxiety have been observed in the relatives of patients admitted to an Intensive Care Unit (Bolosi et al., 2018). In the same study, anxiety levels remained stable after one week, while depression scores were higher. Thus, the relatives of COVID-19 patients may be prone to suffer anxiety disorders and develop future depression problems as the clinical evolution of their acquaintances extends in time.

Finally, living with two to four people was related to higher stress scores. Although our data do not allow us to establish the reasons behind this association, it may be hypothesized that the long-term, continuous coexistence with people in a small environment may take its toll. Also interestingly, being a health worker was associated to higher stress scores, which could be partially explained by the high workload related to COVID-19. Despite the higher stress scores, lower depression scores were surprisingly found in health workers.

Following Joseph (2000), the IES has shown satisfactory psychometric properties to self-report PTSD. Factors associated with PTSD in the IES were similar to those found for stress, depression and anxiety from the DASS-21. Female sex and clinical and psychosocial factors for the DASS-21 scores were also associated with IES scores for avoidance and intrusion. In addition to these factors, a significant positive association with acquaintance with a COVID-19 patient in moderate condition or with someone who has died was found.

It has been shown that family members of Intensive Care Unit patients are at risk of developing PTSD symptoms and that these symptoms are prevalent in the months following hospitalization (Petrinec and Daly, 2016). Unexpected death of a loved one has been reported to be a meaningful risk factor for PTSD (Atwoli et al., 2017). Our results and previous literature about PTSD suggest that a significant proportion of relatives of COVID-19 patients in moderate or severe condition or who have died might

develop PTSD in the months following the COVID-19 crisis.

Problematic social relationships have also been associated with PTSD. It has been reported that the relationship satisfaction may play a role in the recovery of patients with PTSD (Freedman et al., 2015). Considering a higher impact of negative relationships compared to a possible counterbalance of positive relationships according to our results, it is important to nurture social relationships not only to prevent PTSD, but also to promote a possible recovery from it.

Strengths of this study included a relatively large sample size (>3500 respondents) allowed us to perform a robust analysis and extract solid tendencies and associations. Also, this is an early study on the initial effects of the COVID-19 crisis and the confinement, which provides valuable insights about the current circumstances and can establish a baseline from which to analyze the evolution of the psychological state of the population.

This study has also several limitations. Due to the nature of the study, the sample obtained is not representative of the population in terms of age, socio-economic level, location, etc. Large-scale studies designed on representative samples will need to be performed to address this limitation. Approximately half of the respondents were aged 25 or lower, and a considerable proportion were students from the University of Valladolid. Although the large sample size could have diminished this effect, this fact could have limited the measured influence of variables such as employment activity, because a great majority of university students in Spain have no employment activity.

This is a cross-sectional study conducted in a situation that is rapidly changing. Constant exposure to media coverage about the global and local evolution of the crisis may influence people's reaction, as well as the uncertainty about the future. Nevertheless, we were not able to analyze the change from the condition before the confinement to the period when we launched the online survey, although an important percentage

of the sample showed an important psychological distress according to the IES scores. Longitudinal studies are needed to analyze the impact of all these factors and the evolution of the psychological state of the population as the plight evolves.

Also, the IES is an instrument designed to evaluate the impact of a past life event. The COVID-19 is an on-going situation, so although it provides valuable information about the current situation, additional studies will be necessary in the aftermath of the crisis. Furthermore, the IES instrument is not as specific for the assessment of PTSD as other tools such as the Clinician-Administered PTSD Scale (Weathers et al., 2018), although the IES was perhaps more suitable for an online survey, considering that we sought to limit the number of questions.

Unfortunately, the influence of other factors, such as socio-economic level, could not be analyzed. The objective of this study was to maximize the sample size, and in order not to discourage respondents to complete the survey, the number of questions had to be limited.

In conclusion, during the first weeks of confinement related to COVID-19, symptoms of psychological distress have been found in an important percentage of a sample composed of a Spanish population. Considering a confinement period of months, the psychological symptoms may arise throughout the lockdown, and psychological services should therefore be considered to improve mental health effects caused by the COVID-19 crisis, or even to prevent negative effects of a future lockdown.

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Supplemental material

Supplemental material for this article is available online.

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