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HIGHLIGHTS

- Survey of 5545 Spanish adults during the COVID-19 pandemic and lockdown.
- Sixty-five percent of the sample reported anxiety or depressive symptoms.
- Healthy diet and not reading too many COVID-19 news predicted lower symptoms.
- Following routine, hobbies and staying outdoors predicted lower depressive symptoms.
Coping behaviors associated with decreased anxiety and depressive symptoms during the COVID-19 pandemic and lockdown

Miquel A. Fullana 1,2, Diego Hidalgo-Mazzei 1,2,3, Eduard Vieta 1,2,3 and Joaquim Radua 1,4,5,*

1 Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), CIBERSAM, Barcelona, Spain
2 Adult Psychiatry and Psychology Department, Institute of Neurosciences, Hospital Clínic, Barcelona, Spain
3 University of Barcelona, Barcelona, Spain.
4 Early Psychosis: Interventions and Clinical-detection (EPIC) Laboratory, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London, UK
5 Department of Clinical Neuroscience, Centre for Psychiatric Research and Education, Karolinska Institutet, Stockholm, Sweden.

* Correspondence to:
Dr. Joaquim Radua
Imaging of Mood- and Anxiety-Related Disorders (IMARD) group
Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS)
Rosselló 149, 08036 Barcelona
radua@clinic.cat

Declaration of interests

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Abstract

Background: The COVID-19 pandemic and lockdown might increase anxiety and depressive symptoms, but some behaviors may protect against them.

Method: To provide a preliminary evidence of the behaviors associated with decreased symptoms in the current COVID-19 pandemic and lockdown, we conducted a survey of 5545 adult individuals from the Spanish general population, two weeks after an official lockdown was established across the country.

Results: Sixty-five percent of the sample reported anxiety or depressive symptoms. Following a healthy/balanced diet and not reading news/updates about COVID-19 very often were the best predictors of lower levels of anxiety symptoms. Following a healthy/balanced diet, following a routine, not reading news/updates about COVID-19 very often, taking the opportunity to pursue hobbies, and staying outdoors or looking outside were the best predictors of lower levels of depressive symptoms.

Limitations: Cross-sectional nature and use of sample of convenience.

Conclusions: This study suggests that “simple” coping behaviors may protect against anxiety and depressive symptoms during the COVID-19 pandemic and lockdown.

Keywords: anxiety; behaviors; coping; COVID-19; depression; lockdown; pandemic
Correspondence

Dear Editors,

Worldwide, COVID-19 pandemic and lockdown might increase anxiety and depressive symptoms. Health bodies have provided recommendations for coping with these symptoms, but most are based on potentially different experiences (e.g., prison individual isolation) or events (e.g., natural disasters). To our knowledge, no study has investigated which behaviors may protect against these symptoms during the current situation. To provide preliminary evidence, we conducted a survey of the general Spanish adult population two weeks after an official lockdown was established across the country as a quarantine.

The survey was conducted using the online anonymous survey system of Hospital Clínic de Barcelona and distributed through social networks. It included sociodemographic and labor questions (10-year age range, gender, urbanicity, having minors or other dependent people in charge, current work status, amount of telework and onsite work, perceived risk of pandemic-related job loss); validated measures of anxiety (GAD-7) (Spitzer et al., 2006) and depressive (PHQ-9) (Kroenke et al., 2001) symptoms; and single-item questions on risk/severity of COVID-19 for one-self and close relatives, potential recent exposure to positive and/or negative life-event (unrelated to COVID-19), and receipt of mental health treatment for at least 3 months. It also asked participants to rate the frequency of several potential coping behaviors during the last two weeks: follow a routine; talk to relatives/friends; physical exercise; follow a healthy/balanced diet; drink water to hydrate; read news/updates about COVID-19 very often; take the opportunity to pursue hobbies (or conduct home tasks such as arranging the wardrobe); stay outdoors or look outside; and do relaxing activities (e.g., listen to music, yoga or gardening).
To detect responders that might have answered the questionnaire inaccurately, we included two questions twice.

The GAD-7 and PHQ-9 were coded as minimal (0-4), mild (5-9), moderate (10-14) and severe (≥15) (Kroenke et al., 2001; Spitzer et al., 2006). To assess the relationship between coping behaviors and anxiety or depressive symptoms, we fitted two separate ordinal regressions (one for the GAD-7 and one for the PHQ-9), using GAD-7 (or PHQ-9) as the dependent variable, the behaviors as independent variables, and the other items as covariates of no interest. We conducted these analyses with the “MASS” package (Venables and Ripley, 2002) for R and we corrected for multiple testing using the Bonferroni method. The study was approved by the Ethics Committee of Hospital Clínic de Barcelona (protocol HCB/2020/0346).

Of the 5545 responders, we discarded 685 for answering inaccurately and 461 for leaving GAD-7 or PHQ-9 items unanswered. Sixty-five percent of the remaining participants (mean age=47 years; 73% females) reported anxiety or depressive symptoms (anxiety: 39% mild, 11% moderate, 4% severe; depressive: 29% mild, 9% moderate, 6% severe).

Following a healthy/balanced diet and not reading news/updates about COVID-19 very often were the best predictors of lower levels of anxiety symptoms (OR=0.85-0.87, p=0.002-0.004); other predictors were taking the opportunity to pursue hobbies and not talking to relatives/friends very often (OR=0.87, p=0.01-0.02). Following a healthy/balanced diet, following a routine, not reading news/updates about COVID-19 very often, taking the opportunity to pursue hobbies, and staying outdoors or looking outside were the best predictors of lower levels of depressive symptoms (OR=0.76-0.86, p≤0.001). Doing relaxing activities was only associated to lower anxiety and depressive symptoms before correction for multiple comparisons, and the benefits of physical exercise or drinking water did not reach statistical
significance. Among covariates of no interest (see Supplement), the factors associated to lower anxiety and depressive symptoms were older age and male gender, and the factors associated to higher anxiety and depressive symptoms were perceived risk of job loss, having COVID-19 symptoms with no diagnosis, having negative life-events, and having had mental health treatment for at least 3 months. Having minor or dependent people in charge was associated with higher anxiety symptoms.

This survey has limitations. First, it is cross-sectional, and thus we could detect associations but not infer the direction of such associations. For example, it might be that pursuing hobbies leads to lower levels of depressive symptoms, but the reverse could also be true, i.e., individuals with lower levels of depressive symptoms might be more willing to pursue hobbies. Longitudinal studies may clarify such relationships. Second, our study uses a sample of convenience, which has an over-representation of 35-44-old women, and an infra-representation of men and ≥75-year-old individuals in comparison to the general Spanish population (see Supplement). This limitation would be relevant for the quantification of the psychological effects of the pandemic and lockdown in the population, because at least in our sample these effects depended substantially on age and sex. However, we only aimed to identify behaviors that may potentially help cope with these symptoms. Third, we did not ask the participants whether they already conducted these behaviors before the pandemic and lockdown. This information could shed light on the adaptative behavioral changes in response to the situation. Finally, we did not collect information about the occupation of the participants, which might moderate the emotional response to the pandemic and lockdown. However, to control these moderation effects to some extent, we asked questions about the risk of exposure to SARS-CoV2 at work, the reduction of
work related to the pandemic, the amount of teleworking and onsite work, or the perceived risk of job loss. Only the latter showed to be associated to higher anxiety and depressive symptoms.

Despite these limitations, this study still suggests that “simple” coping behaviors may protect against anxiety and depressive symptoms during the COVID-19 pandemic and lockdown. These are behaviors that can be easily advised by health bodies or professionals as well as policy makers, to guide the public during this exceptional emergency.

CONTRIBUTORS

JR conceived the study with substantial contributions from the other authors. All authors designed the interview. JR conducted the analyses with substantial contributions from the other authors. JR and MAF wrote the first draft with substantial contributions from the other authors. All authors substantially participated in and approved the final draft for submission to the journal.

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The funders had no role in the study.

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