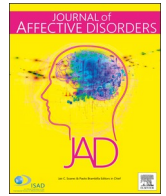




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Correspondence

Coping behaviors associated with decreased anxiety and depressive symptoms during the COVID-19 pandemic and lockdown



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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.

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.

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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, $p \leq 0.001$). 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 telework 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.

Declaration of Competing Interest

EV has received grants and served as consultant, advisor or CME speaker for the following entities (work unrelated to the topic of this manuscript): AB-Biotics, Abbott, Allergan, Angelini, Dainippon Sumitomo Pharma, Galenica, Janssen, Lundbeck, Novartis, Otsuka, Sage, Sanofi-Aventis, and Takeda. MAF, DH and JR declare no competing interests.

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.

Role of the funding source

The funders had no role in the study.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jad.2020.06.027](https://doi.org/10.1016/j.jad.2020.06.027).

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- Miquel A. Fullana^{a,b}, Diego Hidalgo-Mazzei^{a,b,c}, Eduard Vieta^{a,b,c}, Joaquim Radua^{a,d,e,*}
- ^a *Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), CIBERSAM, Barcelona, Spain*
- ^b *Adult Psychiatry and Psychology Department, Institute of Neurosciences, Hospital Clínic, Barcelona, Spain*
- ^c *University of Barcelona, Barcelona, Spain*
- ^d *Early Psychosis: Interventions and Clinical-detection (EPIC) Laboratory, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK*
- ^e *Department of Clinical Neuroscience, Centre for Psychiatric Research and Education, Karolinska Institutet, Stockholm, Sweden*
E-mail address: radua@clinic.cat (J. Radua).

* Corresponding author.