Suma Psicológica

https://sumapsicologica.konradlorenz.edu.co

ORIGINAL

# And after the pandemic? Factors associated with obsessive compulsive disorder during COVID-19 pandemic

**Cynthia de Freitas Melo** *, **Gabriel Huet Borges de Arruda**, **Ícaro Moreira Costa**, **Lia Bezerra Martins**

*Universidade de Fortaleza – UNIFOR, Brazil*

**Received** 31 October 2024; **accepted** 30 June 2025

## Abstract

**Introduction/objectives:** The present study aims to identify factors associated with Obsessive Compulsive Disorder (OCD) in Brazilians during the COVID-19 pandemic. **Method:** A non-probabilistic sample was used, with 1,899 people from different regions, who responded to assessment instruments regarding OCD, Coping Resources, Religiosity, Perceived Support from Friends and Relatives and sociodemographic data. Buffering Hypothesis of social support and the Transactional Model of Stress and Coping were employed as theoretical frameworks to guide the interpretation of results. **Results:** The results, based on sample comparisons, identified groups at higher vulnerability for OCD symptoms after the pandemic: the LGBTQI+ population, single people, unemployed individuals and students, lower income families, those without religion or not attending religious centres, those with adherence to social isolation, residing or living with individuals in risk groups, with a history of COVID-19 infection, pre-existing mental conditions, and a history of psychological/psychiatric treatment or counselling. Furthermore, correlations and multiple linear regression identified eight predictor variables for OCD symptoms: young age, not working as a healthcare professional, low coping scores, lower perceived social support, not attending religious centres, pre-existing mental illness symptoms before the pandemic, and high levels of anxiety and depression. **Conclusions:** It is concluded that identifying predictor factors for mental health issues helps in recognising risk and protective factors and designing more effective prevention and intervention programmes.

**Keywords:** Mental health, obsessive-compulsive disorder, outbreak, pandemic, psychological effects



## E depois da pandemia? fatores associados ao transtorno obsessivo compulsivo na COVID-19

## Resumo

**Introdução/Objetivo:** O presente estudo objetiva identificar fatores associados ao Transtorno Obsessivo Compulsivo (TOC) em brasileiros durante a COVID-19. **Método:** Contou-se com amostra não- pro-

* Corresponding author.
*E-mail*: cf.melo@yahoo.com.br

https://doi.org/10.14349/sumapsi.2025.v32.n2.1
ISSN 0121-4381, ISSN-E 2145-9797/

babilística de 1.899 pessoas de diferentes regiões, que responderam a instrumentos de avaliação de TOC, Recursos de Enfrentamento, Religiosidade, Apoio Percebido de Amigos e Parentes e sociodemográfico. A Hipótese de Proteção do suporte social e o Modelo Transacional de Estresse e Enfrentamento foram utilizados como referenciais teóricos para orientar a interpretação dos resultados. **Resultados:** Os resultados, a partir de comparações amostrais, identificaram grupos de maior vulnerabilidade para sintomas de TOC após a pandemia de COVID-19: população LGBTQI+, solteiros, desempregados e estudantes, menor renda familiar, sem religião ou não frequentar centros religiosos, com adesão ao isolamento social, residir ou conviver com pessoas dos grupos de risco, com histórico de infecção pelo novo coronavírus, ter condição mental prévia e histórico de tratamento ou acompanhamento psicológico/psiquiátrico. Ademais, as correlações e a regressão linear múltipla identificaram oito variáveis preditoras de sintomas de TOC: menor idade, não atuar como profissional de saúde, baixos índices de enfrentamento, menor apoio social percebido, não frequentar centros religiosos, sintomas de adoecimento mental anteriores à pandemia e maiores níveis de ansiedade e depressão. **Conclusão:** Conclui-se que a identificação de fatores preditores de problemas em saúde mental auxiliam na identificação de fatores de risco e proteção e delineamento de programas de prevenção e pósvenção mais eficazes.

**Palavras-chave:** Saúde mental, transtorno obessivo-compulsivo, surto, pandemia, efeitos psicolígicos



The Coronavirus Disease 2019 - COVID-19 (2020-2023) pandemic is a problem of multiple biopsychosocial dimensions (Crepaldi et al., 2020). Due to this context, containment measures were implemented, such as the promotion of hygiene practices, social distancing, quarantine, social isolation and lockdown (Faro et al., 2020; Hildebrandt et al., 2022; Ivatiuk et al., 2022).

Despite the proven effectiveness of these measures (Faro et al., 2020; Liu et al., 2024; Melo et al., 2023; Pincombeet al., 2021), their effects were felt acutely, as the pandemic implied not only the fear of contracting the disease, but also a feeling of insecurity in all aspects of life (Melo et al., 2021), with clear impacts on mental health. Some other stressors introduced by this context include the need for distancing from friends and family; the accumulation of social roles (Faro et al., 2020); uncertainty about the duration of social distancing (Brooks et al., 2020); decreases in income during the isolation period (Brooks et al., 2020); and losses of loved ones accompanied by the collapse of health and funeral systems (Crepaldi et al., 2020; Eisma et al., 2021; Faro et al., 2020).

Furthermore, factors related to the social determination of mental health (Melo et al., 2021), such as economic vulnerability and belonging to sexual orientation and gender identification minorities, had an impact on the population's psychological suffering, as they affected individuals' potential access to the health system (Bordiano et al., 2021; Gelli, 2021; Moore et al., 2021). Other components related to pandemic mental health issues include: adherence to social distancing and isolation measures (Brooks et al., 2020; Faro et al., 2020); the experience of illness or hospitalisation due to COVID-19; living with people in high-risk for the disease groups, such as the elderly and individuals with chronic diseases, and the absence or inadequacy of coping strategies (Ivatiuk et al., 2022).

Consequently, this scenario favoured the onset, exacerbation, or recurrence of mental disorders (Brooks et al., 2020). Elevated levels of anxiety, depression, and stress have been found during the pandemic period in various countries (Wang et al., 2020), including Brazil (Ivatiuk et al., 2022).

However, another issue deserves attention due to its significant increase during the pandemic —the obsessive-compulsive disorder (OCD) symptoms' potential for functional impairment in individuals, and high rates of suicidality (American Psychiatric Association [APA], 2023; Dehghani et al., 2023; Fiaschè et al., 2023; Moreira-de-Oliveira et al., 2023). OCD is a psychiatric disorder characterised by the presence of intrusive and persistent thoughts (obsessions) and repetitive, ritualistic behaviours (compulsions). It is estimated that it affects 1.1% to 1.8% of the global population, being associated with a reduction in the quality of life as well as high levels of social and occupational impairment. When left untreated, the course of the disorder tends to be chronic, and remission rates in adults are low (APA, 2023).

The etiology of OCD is multifactorial. Sociocultural, biological, and psychological factors interact to determine the onset of different disorders (Silva et al., 2021). For example, specific compulsions may be reinforced by cultural attributions assigned to the symptoms (APA, 2023), as well as by environmental circumstances, and the same applies to help-seeking options.

Among the research on the topic, during the pandemic, an increase in contamination obsessions and cleaning/washing compulsions has been observed in adults (Fiaschè et al., 2023; Guzick et al., 2021; Moreira-de-Oliveira et al., 2023; Siddiqui et al., 2022) and in children and adolescents with a prior diagnosis (Nissen et al., 2020). It has also been identified that OCD symptoms are associated with stress (Guzick et al., 2021; Khosravani et al., 2021), anxiety, and fear of COVID-19 (Ji et al., 2020), pre-pandemic depressive symptoms, and lower perceived social support (Alonso et al., 2021).

It is equally important to investigate protective factors, which, in this context, primarily refer to coping strategies, religiosity/spirituality and social support (Melo et al., 2024b). In summary, coping strategies can be of two types. They can be positive coping strategies

(adaptive), which is typically problem-oriented and involves developing a plan to reduce stress; or negative coping strategies (maladaptive), typically emotion-oriented, involving attempts to regulate the emotions evoked by the stressful event through fantasy, avoidance and denial (Lazarus & Folkman, 1984). A cross-sectional study, conducted during the lockdown, observed a significant correlation between higher levels of anxiety and depression in obsessive-compulsive patients and less adaptive coping strategies (Rosa-Alcázar et al., 2021).

Religiosity/spirituality —a comprehensive concept that ranges from institutionalised religious practices to personal perspectives of contact with the transcendent— has been recognised as a coping strategy, as it offers space to welcome reflections and doubts in times of uncertainty (Martins et al., 2023; Scorsolini-Comin et al., 2020). In a context marked by uncertainty, fear of contamination, and loss of control, this variable could offer individuals a sense of structure, meaning, and emotional regulation. It could provide reassurance, support rituals that counter intrusive thoughts, and reduce distress, especially when focused on trust, acceptance, and hope rather than guilt or punishment.

Another important resource is social support, which can be measured based on an individual's perception of how interpersonal relationships fulfil specific functions —such as emotional, material, or affective support. Individuals who are less lonely and have a higher level of participation in group social activities tend to perceive greater social support and show better mental health outcomes (Fahmy et al., 2023). Buffering Hypothesis of social support offers a valuable lens as it posits that social support can mitigate or "buffer" the negative effects of stress on mental health. According to this perspective, support may act in two key ways: first, by influencing how individuals perceive and appraise potentially stressful situations, thereby reducing the likelihood that such situations will be interpreted as threatening; and second, by intervening after stress has been appraised, helping to reduce the intensity of the stress response or its physiological consequences. The presence of supportive relationships —whether from family, friends, coworkers, or social groups— can offer practical assistance, emotional reassurance, or a sense of belonging, all of which contribute to better coping and psychological resilience (Cohen & Wills, 1985; Fahmy & Testa, 2021).

Thus, this article is grounded in the Transactional Model of Stress and Coping, a theoretical framework developed by Folkman and Lazarus (1988) that conceptualises stress as a dynamic and reciprocal process between the individual and their environment. According to this model, coping refers to the cognitive and behavioural efforts employed by individuals to manage demands that are perceived as exceeding their personal resources. These strategies are broadly categorised into problem-focused coping —aimed at addressing or altering the source of stress— and emotion-focused coping —which seeks to regulate the emotional distress associated with the situation. Importantly, individuals may adopt both types of strategies simultaneously, depending on the nature of the stressor and their personal and contextual characteristics (Melo et al., 2024b). In the context of this study, the model provides a valuable lens through which to understand how individuals respond to the psychological challenges associated with obsessive-compulsive symptoms during the COVID-19 pandemic.

Based on the above, the objective of this study is to identify factors associated with OCD symptoms in Brazilians during the COVID-19 pandemic. The analytical approach adopted in this study was theory-driven, with variable selection guided by prior theoretical and empirical frameworks regarding factors associated with mental health outcomes during periods of crisis, particularly the COVID-19 pandemic.

The hypothesis is that the disorder's scores are associated with coping ability, religiosity, perceived support, among other sociodemographic and clinical variables. This hypothesis is grounded in existing literature indicating that stressful events, such as a global pandemic, can exacerbate obsessive-compulsive symptoms, particularly when individuals perceive low coping capacity or insufficient social resources. Previous studies have shown that religiosity and perceived support can serve as psychological buffers during crises, potentially mitigating the impact of stress on mental health outcomes (Bonanno et al., 2002; Brooks et al., 2020; Dehghani et al., 2023; Fahmy et al., 2023; Melo et al., 2024a).

Through this study, it becomes possible to identify risk and protective factors related to OCD symptoms, supplying scientific databases and providing support for the structuring of public policies based on specific actions for the prevention of harm and the promotion of mental health. It is essential to highlight that the repercussions of a pandemic extend beyond mortality rates, encompassing, for example, psychological factors that warrant attention (Faro et al., 2020). Therefore, post-pandemic actions are necessary to alleviate the consequences caused by this scenario.

## Method

### Study design

This study is part of a larger investigation that also aimed to examine symptoms of post-traumatic stress disorder, post-traumatic growth and grief during the COVID-19 pandemic. This is a quantitative study with a descriptive, cross-sectional and national survey approach. The selection of this design was crucial for accurately characterising the associations between the variables under investigation —yet to be specified— and the outcome scores on the Y-BOCS scale (Richardson, 2017).

### Sample

A non-probabilistic convenience sample was used, consisting of 1,899 Brazilian adults, over the age of 18. As inclusion criteria, were considered: being Brazilian and resident in the country. People without internet access and/or illiterate people unable to read the questionnaire did not participate in the research.

### Instruments used for data collection

The participants answered six instruments:

**Sociodemographic questionnaire.** Contains questions about age, sex, gender identity, sexual orientation, income, occupation classification, occupation of risky professions, education, marital status, religion, attendance at a religious centre, region of residence, residence in the capital or countryside, adherence to isolation and social distancing, living or socialising with someone in the risk group, living with a child, being part of the risk group , history of hospitalisation and/or infection with COVID-19, previous mental health condition, treatment or psychological/psychiatric support.

**Yale-Brown Obsessive-Compulsive Scale (Y-BOCS).** Created by Goodman et al. (1989), is a scale composed of 10 items that assess the level of disturbance experienced with obsessive-compulsive symptoms. For the present sample, Cronbach's alpha and McDonald's omega were calculated, resulting in 0.93. Responses are given on a five-point Likert scale, ranging from 0 (no symptoms) to 4 (very severe), completing a maximum score of 40. The first five questions assess obsessions (maximum of 20 points) and the other five assess compulsions (maximum of 20 points), relating to time spent, interference with functioning, subjective distress, resistance to symptoms, and control over symptoms. For the present study, the clinical version of the scale was used, as the self-report version of the Y-BOCS is not yet available in a validated Brazilian format. In the current sample, both Cronbach's alpha and McDonald's omega indicated good internal consistency.

**Coping Resources Questionnaire.** Created by Bonanno et al. (2002), measures participants' confidence in their own coping abilities. For this adaptation, a Cronbach's alpha of 0.58 and McDonald's omega of 0.59 were recorded. Responses are given on a four-point Likert scale (totally disagree, partially disagree, partially agree, totally agree).

**Religiosity Questionnaire.** Created by Bonanno et al. (2002), is organised into two dimensions identified in factor analyses of large national samples (Kendler et al., 1997; Miller et al., 2000). Personal devotion (a personal relationship with the divine) and religious conservatism (a personal commitment to teaching and living according to a creed) were measured. For this adapted scale, a Cronbach's alpha of 0.93 and McDonald's omega of 0.94 were recorded. Responses are given on a four-point Likert scale, ranging from 0 (never/totally disagree) to 3 (very often/totally agree).

**Perceived Support from Friends and Relatives Questionnaire, created by Bonanno et al. (2002).** A Cronbach's alpha and McDonald's omega of 0.78 were recorded. Two questions were used to assess perceived social support: "On the whole, how much do your friends and relatives make you feel loved and cared for?" and "How much are your friends and relatives willing to listen when you need to talk about your worries or problems?" These items capture emotional support and responsiveness from participants' close social networks. Responses were given on a four-point Likert scale, ranging from 0 (Not at all) to 3 (Extremely).

### Ethical procedures and data collection

Considering the ethical aspects related to research involving human subjects, the present project was approved by the Research Ethics Committee of the University of Fortaleza under opinion No. 4.460.534. The instruments were placed on an online platform (Google Drive), and its weblink was disseminated on social media platforms (Facebook, WhatsApp, and Instagram) through the profile of a group of researchers, with posts in heterogeneous groups, in the years 2021 and 2022, more specifically, between February 2021 and March 2022. After posting, individuals who followed these social media platforms were able to autonomously access the questionnaire and respond to it individually, in a self-administered, and anonymous way. The procedures used complied with the criteria of Ethics in Research with Human Beings, based on Resolution 466/2012 of the Brazilian National Health Council. All participants completed the Informed Consent Form (ICF).

### Data processing and analysis

All analyses were conducted using IBM SPSS Statistics, version 25. Data analyses were divided into four stages. Initially, descriptive statistics analyses were performed, involving measures of central tendency and frequency analyses, to assess sociodemographic variables and examine Y-BOCS scores, which will be explored in the Results section.

In the second stage, comparisons of Y-BOCS scores between groups were conducted based on sociodemographic and clinical variables collected. Considering the non-normality of the data ($KS$ = 0.096; $p$ < 0.001), non-parametric tests —Mann-Whitney U test and Kruskal-Wallis test— were used. The following variables were examined in the analysis: sexual orientation, marital status, region of residence, household income, occupation, being a health professional who worked or is working on the front lines, religion, attendance in religious centres, whether the individual underwent quarantine or social isolation, living with individuals in high-risk groups, history of COVID-19 infection, history of mental health issues in the last three years and whether the participant had undergone psychological/psychiatric treatment or support before the pandemic. Confidence intervals were obtained using Tukey's post hoc test, which allows for pairwise comparisons between groups.

Next, correlations were conducted between the scalar and ordinal variables collected (age, education, income, religiosity, coping ability, and received support) using Kendall's tau correlation coefficient, where a correlation between 0.1 and 0.3 is considered weak; 0.4 to 0.6, moderate; and 0.7 to 1 is strong (Field, 2017).

In the fourth stage, multiple linear regression tests were conducted using a stepwise approach, with OCD scores as the dependent variable and the other variables as independent variables. This analysis aimed to ascertain the predictive and explanatory power of the studied variables on mental health.

It is important to note that the Buffering Hypothesis of social support and the Transactional Model of Stress

and Coping were employed as theoretical frameworks to guide the interpretation of results. These models provided a foundation for examining the relationships between psychosocial variables—such as perceived social support, coping strategies, and religiosity/spirituality—and obsessive-compulsive symptoms during the COVID-19 pandemic.

## Results

### Sociodemographic profile of the sample

Participants had a mean age of 30.74 years (*SD* = 11.631). The majority were female (*n* = 1,358; 71.5%), with an income of 5 to 10 Brazilian minimum wages (*n* = 450; 23.7%), students without employment (*n* = 694; 36.5%), with incomplete higher education (*n* = 632; 33.3%), and residing in the Northeast region (*n* = 1,400; 73.72%) (Table 1).

The majority were not part of the risk group (*n* = 1,581; 83.3%), lived/cohabited with a family member in the risk group (*n* = 1,153; 60.7%), were not infected (*n* = 1,402; 73.8%) or hospitalised (*n* = 1,882; 99.1%) due to COVID-19, were not frontline healthcare professionals (*n* = 1,691; 89.0%), and were in voluntary social distancing/isolation (*n* = 965; 50.8%).

**Table 1.** Sociodemographic data of the Brazilian sample

| Variable | n* | % |
|---|---|---|
| Gender | | |
| Male | 541 | 28,50% |
| Female | 1358 | 71,50% |
| Household income | | |
| Up to 1 minimum wage (up to R$ 1,045.00) | 120 | 06,3% |
| From 1 to 3 minimum wages (R$ 1,046.00 to R$ 3,135.00) | 419 | 22,1% |
| From 3 to 5 minimum wages (R$ 3,136.00 to R$ 5,225.00) | 347 | 18,3% |
| From 5 to 10 minimum wages (R$ 5,226.00 to R$ 10,450.00) | 450 | 23,7% |
| From 10 to 15 minimum wages (R$ 10,451.00 to R$ 15,675.00) | 248 | 13,1% |
| More than 15 minimum wages (above R$ 15,675.00) | 315 | 16,6% |
| Occupation | | |
| Formally employed | 687 | 36,2% |
| Self-employed/informal work | 368 | 19,4% |
| Student | 694 | 36,5% |
| Unemployed | 106 | 05,6% |
| Retired | 44 | 02,3% |
| Education Level | | |
| Incomplete elementary school | 4 | 00,2% |
| Completed elementary school | 10 | 00,5% |
| Incomplete high school | 43 | 02,3% |
| Completed high school | 176 | 09,3% |
| Incomplete higher education | 632 | 33,3% |
| Completed higher education | 457 | 24,1% |
| Postgraduate degree | 577 | 30,4% |
| Region of residence in Brazil | | |
| North | 49 | 02,6% |
| Northeast | 1400 | 73,7% |
| Central-west | 38 | 02,00% |
| Southeast | 188 | 09,90% |
| South | 224 | 11,80% |
| Belongs to a high-risk group | | |
| Yes | 318 | 16,7% |
| No | 1581 | 83,3% |
| Lives with people in high-risk groups | | |
| Yes | 1153 | 60,7% |
| No | 746 | 39,3% |
| History of COVID-19 infection | | |
| Has or had COVID-19 | 497 | 26,2% |
| Has or had not COVID-19 | 1402 | 73,8% |
| Hospitalisation due to COVID-19 | | |
| Has been hospitalised | 17 | 00,9% |
| Has not been hospitalised | 1882 | 99,1% |
| Health professional working/worked on the front lines | | |
| Yes | 208 | 11,0% |
| No | 1691 | 89,0% |
| Quarantine or social isolation | | |
| Currently in voluntary isolation | 965 | 50,8% |
| Previously in voluntary isolation, but not anymore | 779 | 41,0% |
| Never been in voluntary isolation | 155 | 08,2% |

### OCD indicators on the Y-BOCS

Regarding the scores of OCD symptomatology measured through the Y-BOCS questionnaire, with scores ranging from 0 to 40 points, an average of 10.04 (*SD* = 7.68) and mean score of 9 were observed. Concerning the obsession score, ranging from 0 to 20 points, an average of 5.71 (*SD* = 4.266) and mean of 5 were noted. For the compulsion index, also ranging from 0 to 20 points, there was an average of 4.32 (*SD* = 4.11) and mean of 4.

### Relationships between the studied variables and OCD rates

Subsequently, comparisons were made between OCD rates and different sociodemographic and clinical variables. There were no significant differences in com-

parisons based on gender, race, hospitalisation history, being part of a risk group or not, living with children or not, and region of the country. The comparison based on gender identity was not included in the analysis due to the insufficient number of participants within each subgroup. The small sample sizes prevented meaningful statistical inference, as they could compromise the reliability and validity of the results. Next, only the assessments that stood out due to statistically significant differences will be recorded (Table 2).

A significant difference was observed in comparisons by sexual orientation [$\chi^2(5) = 69.65$; $p < 0.001$], with higher OCD scores among members of the LGBTQI+ community, specifically among people identifying as pansexual. When compared to heterosexuals, people identifying as pansexual had a small effect size ($z = -3.05$; r = 0.07; Field, 2017).

In the comparison with marital status [$\chi^2(3) = 96.70$; $p < 0.001$], higher OCD scores were found among single individuals, with a medium effect size ($z = 9.26$; $r = 0.21$), compared to married individuals. In the analysis of the region of residence [$\chi^2(3) = 9.78$; $p = 0.02$], it was noted that higher scores occurred in the participants from the countryside, but the effect size is considered small ($z = -3.02$; $r = 0.08$). In the analysis of household income, it was found that those with up to 1 minimum wage had higher scores, but with a small effect [$\chi^2$ (5) = 17.57; $z = 3.53$; $p = 0.004$; $r = 0.08$].

When comparing OCD scores across different occupations [$\chi^2(4) = 100.13$; $p < 0.001$], higher scores were found among the unemployed and students compared to retirees, those employed in formal work, informal work, or as freelancers. When comparing students ($z = -8.25$; $r = 0.19$) and the unemployed ($z = -4.01$; $r = 0.09$) with formal workers, a small effect was obtained.

It was also observed that the general population had higher OCD scores than healthcare professionals who worked on the frontlines of combatting COVID-19 (U = 144378.50; $z = -4.23$; $p < 0.001$); the effect size was small ($r = -0.10$).

In comparisons between groups by religion, a statistically significant difference was found [$\chi^2(5) = 53.11$; $p < 0.001$], showing that participants with African-derived religions had higher OCD scores than those with no religion, Protestant Christians, Catholic Christians, Spiritists, as well as practitioners of other religions.

**Table 2.** Main results of the study

| Variable | Test Statistic | Comparison | *p*-value | Adjusted *p*-value | Effect Size (r) | 95% CI |
|---|---|---|---|---|---|---|
| Sexual orientation | $\chi^2(5) = 69.65$, $p < .001$ | Heterosexual vs. Pansexual | .002 | .034 | .07 | -13.297 - -1.340 |
| Marital status | $\chi^2(3) = 96.70$, $p < .001$ | Married vs. Single | < .001 | < .001 | .21 | 2.423 - 4.299 |
| Region of residence | $\chi^2(3) = 9.78$, $p = .02$ | Countryside vs. Capitals | .003 | .015 | .08 | -2.881 - -0.275 |
| Household income | $\chi^2(5) = 17.57$, $p = .004$ | ≤ 1 MW vs. > 15 MW | < .001 | .006 | .08 | 0.267 - 4.954 |
| Occupation | $\chi^2(4) = 100.13$, $p < .001$ | Students vs. Formal workers | < .001 | < .001 | .19 | -4.530 - -2.331 |
| | | Unemployed vs. Formal workers | < .001 | .001 | .09 | -0.534 e 5.821 |
| Frontline health professional | U = 144378.50, $p < .001$ | Yes vs. No | — | — | –.10 | -3.489 - -1.286 |
| Religion | — | No religion vs. Catholics | < .001 | < .001 | .14 | 1.553 - 3.883 |
| | | No religion vs. Protestants | < .001 | < .001 | .14 | 1.938 - 5.356 |
| Attendance in religious centre | U = 392,839.000, $p < 0.001$ | Yes vs. No | — | — | .11 | -2.477 - -1.101 |
| Quarantine status | $\chi^2(2) = 12.14$, $p = .002$ | Formerly isolated vs. Never isolated | < .001 | .001 | — | 0.408 - 3.571 |
| Lives with high-risk individuals | U = 396610.00, $p = .004$ | Yes vs. No | — | — | .08 | 0.436 - 1.848 |
| History of infection | U = 326245.00, $p = .04$ | Yes vs. No | — | — | .05 | -1.642 - -0.071 |
| Previous mental health condition | U = 319594.50, $p < .001$ | Yes vs. No | — | — | .37 | 5.029 - 6.346 |
| Had undergone psychological/psychiatric treatment or support | U = 319594.50; $p < 0.001$ | Yes vs. No | — | — | .24 | 3.088 - 4.440 |

However, in pairwise comparisons, a greater difference was noticed between Catholics ($z$ = 6.01; $r$ = 0.14) and Protestants ($z$ = 5.89 r = 0.14) when compared to those with no religion, despite the low effect size. A difference was also observed between those who attend religious centres or not (U = 392,839.000; $z$ = -4.72; $p$ < 0.001), indicating that those who do not attend have higher OCD scores, but with a considered low effect size ($r$ = 0.11).

In comparisons based on variables related to COVID-19, it was observed that participants who had been in voluntary isolation (but no longer are) showed higher scores than those who had never been in social isolation, but with a low effect size [$\chi^2(2)$ = 12.14; $z$ = 3.48; $p$ = 0.002; $r$ = 0.08]. Furthermore, participants who lived or socialised with someone in the high-risk group had higher OCD scores, but with a low effect size (U = 396610.00; $z$ = -2.87; $p$ = 0.004, $r$ = 0.07), as well as those with a history of infection with the disease, also with a considered low effect size (U = 326245.00; $z$ = -2.11; $p$ = 0.04; $r$ = 0.05).

As for comparisons based on previous mental health conditions, participants with a history of mental health issues in the last three years had higher OCD scores than others, with a considered medium effect size (U = 242718.50; $z$ = -16.19; $p$ < 0.001; $r$ = 0.37). Similarly, participants who had undergone psychological/psychiatric treatment or support before the pandemic had higher scores, with a medium effect size (U = 319594.50; $z$ = -10.51; $p$ < 0.001; $r$ = 0.24).

It was also sought to correlate OCD rates with scalar and ordinal variables collected. Negative correlations were found between OCD scores and age ($\rho$ = -0.204**; $p$ < 0.001), education ($\rho$ = -0.154**; $p$ < 0.001), family income ($\rho$ = -0.067**; $p$ < 0.001), religiosity ($\rho$ = -0.104**; $p$ < 0.001), and received support ($\rho$ = -0.201**; $p$ < 0.001). These results indicate that lower values of these variables are associated with higher OCD scores.

Next, in order to further explore the relationships among the collected variables, a multiple linear regression analysis with stepwise entry was conducted, allowing the assessment of 15 predictor variables for OCD symptoms in COVID-19. The analysis resulted in a statistically significant model [$F(8,1890)$ = 143.68; $p$ < 0.001]. The assumptions of multiple linear regression were confirmed: multicollinearity (all VIF values were found in the range of 1.024 to 1.312, considered acceptable); absence of serial autocorrelation in the residuals (Durbin Watson: 1.671). The normal distribution of residual values was observed through graphical inspection and accepted. To verify the assumption of homoscedasticity, the Breusch-Pagan test was applied, yielding a $p$-value of 0.000, indicating that the variance of the residuals was not constant across the levels of the predictor variables. Although this violation does not compromise the validity of the model or the estimated coefficients (betas), it may affect the precision of the standard errors, thereby influencing the interpretation of statistical significance. As a result, some predictor effects may have been slightly overestimated or underestimated, warranting caution in drawing inferences. This represents a relevant technical limitation —beyond the researcher's control— that should be taken into account when interpreting the final findings.

Out of the 15 variables included, 8 were statistically significant and explained 37.6% (Adjusted $R^2$ = 0.376) of the variations in OCD scores. Among these, coping scores ($\beta$ = -1.349; 95% CI [-1.491, -1.206]), pre-pandemic mental health symptoms ($\beta$ = 2.929; 95% CI [-3.524, -2.335]), depression scale scores ($\beta$ = 2.414; 95% CI [1.497, 3.332]), and age ($\beta$ = -0.082; 95% CI [-0.108, -0.057]) were identified as the variables with the most substantial effects on OCD score variations. Additionally, social support ($\beta$ = -0.587; 95% CI [-0.789, -0.385]), frequency of religious attendance ($\beta$ = -0.967; 95% CI [0.413, 1.521]), anxiety scores ($\beta$ = 1.004; 95% CI [0.287, 1.721]), and not being a healthcare professional ($\beta$ = -1.033; 95% CI [0.147, 1.918]) were statistically significant predictors of OCD symptoms in the model. The findings on coping strategies must be analysed carefully, given the reliability coefficients obtained, as described in the measure's psychometric properties section.

From these results, it can be understood that individuals with lower coping scores, higher pre-pandemic mental health symptoms, higher depression scores, younger age, lower social support, non-religious attendance, higher anxiety scores, and those not working in healthcare may have higher indicators of OCD scores.

## Discussion

The results of the present study allow for the identification of possible groups at greater vulnerability and risk for OCD symptoms during the COVID-19 pandemic: the LGBTQI+ population, single people, unemployed individuals and students, people with lower family income, without religion or not attending religious centres, with adherence to social isolation, living or socialising with individuals in high-risk groups, with a history of COVID-19 infection, as well as those with previous mental health conditions and a history of psychological/psychiatric treatment or support.

Thus, through correlations, followed by multiple linear regression analysis, eight factors were identified as predictors of OCD scores, measured in the Y-BOCS, during the pandemic: younger age, not working as a healthcare professional, lower coping scores, lower perceived social support, not attending religious centres, symptoms of mental illness before the pandemic, and higher levels of anxiety and depression.

The results of the present research support findings from previous studies that indicate an increased vulnerability to mental health issues due to the scenario established by the pandemic, with changes in various patterns of behaviour and care (Faro et al., 2020; Ivatiuk et al., 2022; Wang et al., 2020). Specifically, regarding OCD symptoms, it is known that the pandemic has been considered highly stressful for individuals vulnerable to OCD symptoms, especially those with pre-existing contamination symptoms, leading to a worsening of mental health (Fiaschè et al., 2023; Moreira-de-Oliveira et al., 2023; Siddiqui et al., 2022).

Likewise, individuals with non-normative gender identity and sexual orientation showed higher scores of OCD in the pandemic context compared to the heterosexual population. It should be noted that sexual orientation and gender identity minorities have historically

faced social exclusion (Bordiano et al., 2021), the effects of which were possibly intensified by living with resistant family members during social isolation.

It is important to highlight that the rate of prior depression diagnosis among the LGBTQI+ community is four times higher than that reported among the general Brazilian population. Additionally, sexual orientation and gender identity minorities reported high levels of loneliness and isolation during the pandemic, reflecting lower levels of social support, which, in conjunction with inequality in access to healthcare, contributed to the worsening of mental health conditions in this population during the pandemic (Moore et al., 2021).

The analysis of data by region of residence found higher OCD rates among residents of countryside cities when compared to those living in capitals. The findings may reflect disparities in potential access to the healthcare system, influenced by the socioeconomic characteristics of the population (Gelli, 2021).

The correlation and regression analysis indicated that younger individuals had higher scores, age being a predictor variable. The findings align with previous studies that highlight the vulnerability of younger individuals to various mental health symptoms, including anxiety and depression (Nissen et al., 2020).

Higher OCD scores were recorded among unemployed individuals and students compared to retired people, those employed in formal or informal work, and freelancers. Lower family income and education levels were correlated with higher OCD scores. The data supports findings from previous research, highlighting that the intersection between social vulnerability and the risk of mental health issues was exacerbated during the pandemic (Ivatiuk et al., 2022).

Healthcare professionals showed lower OCD scores compared to the general population, contradicting the expectations generated by the increased risk of contamination and direct contact with stress-inducing stimuli. However, this finding is consistent with other studies (Hildebrandt et al., 2022; Ivatiuk et al., 2022) and may indicate either an adaptation effect due to prolonged exposure to stress-inducing stimuli or reflect the greater access of these professionals to the healthcare system, as well as their health literacy.

Regarding marital status, higher OCD scores were observed among single individuals compared to married ones, which seems to reflect data related to social support. In line with previous studies (Alonso et al., 2021), lower perceived social support was found as a predictor of risk for the disorder.

The presence of adaptive coping strategies proved to be a protective factor against OCD scores in the pandemic scenario, in accordance with the findings of Rosa-Alcázar et al. (2021), aligning directly with the Transactional Model of Stress and Coping, particularly regarding secondary appraisal and the selection of effective coping mechanisms. According to the model, when individuals perceive a situation as threatening, those who recognise sufficient internal or external resources to manage the demands —such as social support and religiosity/spirituality— are more likely to adopt adaptive strategies focused on problem-solving and emotional regulation (Folkman & Lazarus, 1988; Melo et al., 2024b). Such strategies showed an inverse correlation with OCD rates, confirming the findings of Scorsolini-Comin et al. (2020).

Also, in the context of mental illness, the vulnerability of followers of African-derived religions was revealed. In Brazil, they undergo a process of social exclusion influenced by ethnic and political factors. The habit of attending religious temples, part of an active religiosity that also constitutes a source of social support, was associated with lower scores for OCD. Both variables proved to be protective factors for the disorder in the regression analysis.

Regarding health-related variables, higher OCD scores were observed among participants who declared adherence to social isolation compared to those who never adhered to the measure (Rosa-Alcázar, 2023). The findings support previous studies that indicate changes in routines and family relationships, a reduction in perceived social support due to distancing from friends and family members, financial insecurity, and the accumulation of social roles as stressful consequences of isolation and distancing measures (Brooks et al., 2020; Cohen & Wills, 1985; Fahmy & Testa, 2021; Faro et al., 2020; Ivatiuk et al., 2022).

Higher OCD scores were found among participants who reported living with individuals from the risk group, as it involves a responsibility that can contribute to illness, being associated with overall health and the manifestation of symptoms of anxiety and depression (Ivatiuk et al., 2022). This result is in line with other research findings that showed higher levels of concern about the health of family members than about the risk of contracting the disease or not surviving in case of infection (Wang et al., 2020).

A history of COVID-19 infection, resulting in the experience of illness or hospitalisation, was also associated with higher levels of OCD. This finding reflects concerns about physical health and the risk of death that arise from contact with the virus and is consistent with previous studies that indicate the relationship of this variable with overall health and anxiety (Ivatiuk et al., 2022).

Variables related to mental health, such as a history of psychological or psychiatric treatment in the last three years, symptoms of mental illness prior to the pandemic, and higher levels of anxiety and depression, were significantly associated with the manifestation of obsessive-compulsive symptoms during the pandemic, confirming findings from the literature (Alonso et al., 2021; Guzick et al., 2021; Ji et al., 2020). Regression analysis identified previous symptomatology and high levels of anxiety and depression as important predictors of OCD symptoms during the surveyed period.

The associations observed between certain variables and higher OCD scores during the pandemic can be interpreted by means of the Buffering Hypothesis of social support. Individuals living with people in high-risk groups or those who had been infected with COVID-19 themselves likely experienced heightened perceptions of threat and personal responsibility, increasing their vulnerability to stress-related symptoms such as OCD.

Similarly, a history of psychological distress or prior mental health treatment reflects a pre-existing vulnerability that may intensify under stress, but the presence of strong social ties could attenuate the onset or worsening of pathological outcomes by facilitating emotional regulation, offering practical assistance, and promoting healthy coping behaviours (Cohen & Wills, 1985; Fahmy & Testa, 2021).

## Final considerations

In summary, the present study provided substantial findings for identifying factors associated with OCD symptoms in the Brazilian population during the pandemic. Individuals with lower coping levels, a history of mental illness before the pandemic, higher depression scores, young age, less social support, non-attendance at religious centres, high anxiety levels, and not being healthcare professionals may have higher indicators of OCD.

As with any research, there are limitations, especially regarding the sample. Its non-probabilistic nature opens the possibility of a higher representation of certain population sectors, such as females, individuals from the Northeast region of Brazil, and those with higher education levels, which represents a limitation to the external validity of this study. Additionally, the reliance on an online, self-report survey introduces further limitations. Unequal access to the internet may have excluded certain demographic groups, while the lack of control over the conditions under which participants completed the survey could have affected the accuracy or reliability of their responses.

There are also limitations related to the instrumentation. The version of the Yale-Brown Obsessive-Compulsive Scale used in this study was the clinical version, rather than the self-report version, which is not yet available in a validated Brazilian format. Although widely used, this adaptation may introduce bias when applied outside clinical settings. Furthermore, the sample presented relatively low mean scores on the Y-BOCS, which may have reduced the variability needed to detect stronger associations and may reflect an underestimation of symptom severity.

This alignment with the literature reinforces the reliability of the results and highlights the persistent effects of contextual stressors on mental health, especially in marginalized populations. These data are essential to guide public health strategies, as they underscore the need for targeted mental health interventions that prioritise at-risk groups. Future research should aim to use probabilistic sampling methods to enhance representativeness and external validity. Additionally, efforts should be made to expand access to validated self-report instruments for the Brazilian population and to include diverse modalities of data collection (e.g., in-person, hybrid formats) to minimise digital exclusion. Longitudinal designs may also help to better capture fluctuations in obsessive-compulsive symptoms over time and assess causal relationships.

Finally, it is emphasised that these insights can help in the planning of more effective prevention and health promotion measures, based on scientific data, also for future crises or subsequent pandemics.

## References


Alonso, P., Bertolín, S., Segalàs, J., Tubío-Fungueiriño, M., Real, E., Mar-Barrutia, L., Fernández-Prieto, M., Carvalho, S., Carracedo, A., & Menchón, J. M. (2021). How is COVID-19 affecting patients with obsessive–compulsive disorder? A longitudinal study on the initial phase of the pandemic in a Spanish cohort. *European Psychiatry, 64*(1), e45. https://doi.org/10.1192/j.eurpsy.2021.2214

American Psychiatric Association (APA). (2023). *Manual diagnóstico e estatístico dos transtornos mentais: DSM-5-TR* (5. ed., texto revisado). Artmed.

Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., Carr, D., & Nesse, R. M. (2002). Resilience to loss and chronic grief: A prospective study from preloss to 18-months postloss. *Journal of Personality and Social Psychology*, *83*(5), 1150-1164. https://doi.org/10.1037/0022-3514.83.5.1150

Bordiano, G., Liberal, S. P., Lovisi, G. M., & Abelha, L. (2021). COVID-19, vulnerabilidade social e saúde mental das populações LGBTQIA+. *Cadernos de Saúde Pública, 37*(3), e00287220. https://doi.org/10.1590/0102-311X00287220

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet, 395*(10227), 912-920. https://doi.org/10.1016/S0140-6736(20)30460-8

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. https://doi.org/10.1037/0033-2909.98.2.310

Crepaldi, M. A., Schmidt, B., Noal, D. D. S., Bolze, S. D. A., & Gabarra, L. M. (2020). Terminalidade, morte e luto na pandemia de COVID-19: demandas psicológicas emergentes e implicações práticas. *Estudos de Psicologia (Campinas), 37*, e200090. https://doi.org/10.1590/1982-0275202037e200090

Dehghani, M., Hakimi, H., Talebi, M., Hanie Rezaee, Noushin Mousazadeh, Ahmadinia, H., & Almasi, S. (2023). The relationship between fear of Covid-19 and obsessive–compulsive disorder. *BMC Psychology, 11*(133). https://doi.org/10.1186/s40359-023-01112-7

Eisma, M. C., Tamminga, A., Smid, G. E., & Boelen, P. A. (2021). Acute grief after deaths due to COVID-19, natural causes and unnatural causes: An empirical comparison. *Journal of Affective Disorders*, *278*, 54-56. https://doi.org/10.1016/j.jad.2020.09.049

Fahmy, C., & Testa, A. (2021). Stress among older adults with an incarcerated family member: Testing the buffering model of social support. *The Journals of Gerontology: Series B, 76*(10), 2057–2062. https://doi.org/10.1093/geronb/gbab117

Fahmy, C., Testa, A., Woodward, K., & Jackson, D. B. (2023). Depression among incarcerated persons following the death of a loved one: Does social support mitigate grief? *Death Studies*, *48*(2), 79-94. https://doi.org/10.1080/07481187.2023.2188620

Faro, A., Bahiano, M. D. A., Nakano, T. D. C., Reis, C., Silva, B. F. P. D., & Vitti, L. S. (2020). COVID-19 e saúde mental: a emergência do cuidado. *Estudos de Psicologia (Campinas), 37,* e200074. https://doi.org/10.1590/1982-0275202037e200074

Fiaschè, F., Kotzalidis, G. D., Alcibiade, A., & Del Casale, A. (2023). Obsessive-compulsive disorder during the COVID-19 Pandemic. *Psychiatry International*, *4*(2), 102-104. https://doi.org/10.3390/psychiatryint4020013

Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics*. Sage.

Folkman, S., & Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54*(3), 466-475.

Gelli, J. G. M. (2021). *O impacto das condições de acesso ao sistema de saúde namortalidade hospitalar em uma pandemia: o caso da COVID-19 no Brasil* [Dissertação de Mestrado, Pontifícia Universidade Católica do Rio de Janeiro]. https://www.maxwell.vrac.puc-rio.br/53391/53391.PDF

Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., Heninger, G. R., & Charney, D. S. (1989). Yale-Brown Obsessive Compulsive Scale (YBOCS) [Database record]. *APA PsycTests*. https://doi.org/10.1037/t57982-000

Guzick, A. G., Candelari, A., Wiese, A. D., Schneider, S. C., Goodman, W. K., & Storch, E. A. (2021). Obsessive–compulsive disorder during the COVID-19 pandemic: A systematic review. *Current Psychiatry Reports*, *23*(71). https://doi.org/10.1007/s11920-021-01284-2

Hildebrandt, F. M. P., Costa, I. M., Meneses, L. M. S., Araújo Neto, J. L., & Melo, C. F. (2022). Predictors of adherence to the COVID-19 pandemic control guidelines. *Estudos de Psicologia (Campinas), 39*, e200232. https://doi.org/10.1590/1982-02752022 39e200232

Ivatiuk, A. L., Costa, I. M., & Melo, C. de F. (2022). Factors associated with mental health in the Brazilian population during Covid-19. *Psicologia: Teoria e Prática, 24*(2), 1-19. https://doi.org/10.5935/1980-6906/ePTPCP13942.pt

Ji, G., Wei, W., Yue, K., Li, H., Shi, L., Ma, J., He, Ch-Y., Zhou, S. S., Zhao, Z., Lou, T., Cheng, J., Yang, S-C., & Hu, X. (2020). Effects of the COVID-19 pandemic on obsessive-compulsive symptoms among university students: prospective cohort survey study. *Journal of Medical Internet Research, 22*(9), e21915. https://doi.org/10.2196/21915

Kendler, K. S., Gardner, C. O., & Prescott, C. A. (1997). Religion, psychopathology, and substance use and abuse; a multimeasure, genetic-epidemiologic study. *The American Journal of Psychiatry*, *154*(3), 322-329. https://doi.org/10.1176/ajp.154.3.322

Khosravani, V., Aardema, F., Ardestani, S. M. S., & Bastan, F. S. (2021). The impact of the coronavirus pandemic on specific symptom dimensions and severity in OCD: A comparison before and during COVID-19 in the context of stress responses. *Journal of Obsessive-Compulsive and Related Disorders, 29*(100626). https://doi.org/10.1016/j.jocrd.2021.100626

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.

Liu, Y., Wang, W., Wong, W.-K., & Zhu, W. (2024). Effectiveness of non-pharmaceutical interventions for COVID-19 in USA. *Scientific Reports*, *14*(1), 21387. https://doi.org/10.1038/s41598-024-71984-1

Martins, A. M., Soares, A. K. S., Arruda, G. O. de, & Baptista, C. J. (2023). Association between religion, mental health and social distancing during the COVID-19 pandemic. *Psico-USF*, *28*(1), 79-90. https://doi.org/10.1590/1413-82712023280107

Melo, C.F., Almeida, A. M. B., Lins, S. L. B., de Aquino, S. D., Costa, I. M., & Morais, J. C. C. (2021). Giving meaning to the pandemic: What do Brazilians think about the new coronavirus? *Trends in Psychology, 29*(3), 395-413. https://doi.org/10.1007/s43076-021-00078-y

Melo, C. F., Costa, I. M., Pinheiro, A. L. V., Alves, R. S. F., & Seidl, E. M. F. (2024a). In the same storm, but on different boats: The social determination of mental health during COVID-19. *Estudos de Psicologia, 41,* e210128. https://doi.org/10.1590/1982-02752024 41e210128

Melo, C. F., Feijão, G. M. M., Costa, I. M., Seidl, E. M. F., Ramos-Cerqueira, A. T. A., & Arruda, G. H. B. (2024b). Adherence to treatment in chronic kidney disease: Associations with therapeutic modalities and coping capacity. *Estudos de Psicologia (Campinas), 41*, e230042. https://doi.org/10.1590/1982-02752024 41e230042

Melo, C. F., Ferreira, M. P. A., Costa, I. M., Lins, S. L. B., & Lins, A. C. E. (2023). Hope, health and cure: The meanings of the vaccine against COVID-19. *Psico-USF, 28*(3), 547-561. https://doi.org/10.1590/1413-82712023280310

Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*(9), 1190–1197. https://doi.org/10.1097/00004583-200009000-00020

Moore, S. E., Wierenga, K. L., Prince, D. M., Gillani, B., & Mintz, L. J. (2021). Disproportionate impact of the COVID-19 pandemic on perceived social support, mental health and somatic symptoms in sexual and gender minority populations. *Journal of Homosexuality, 68*(4), 577-591. https://doi.org/10.1080/00918369.2020.1868184

Moreira-de-Oliveira, M. E., Bezerra, G. M., Pozza, A., Massa, L., Albertella, L., Davide Prestía, Olcese, M., Fontenelle, L. F., & Donatella Marazziti. (2023). A "transatlantic" follow-up study of the impact of the COVID-19 pandemic on patients with obsessive-compulsive disorder. *Journal of Affective Disorders*, *341*, 313-318. https://doi.org/10.1016/j.jad.2023.08.137

Nissen, J. B., Højgaard, D., & Thomsen, P. H. (2020). The immediate effect of COVID-19 pandemic on children and adolescents with obsessive compulsive disorder. *BMC Psychiatry, 20*(511). https://doi.org/10.1186/s12888-020-02905-5

Pincombe, M., Reese, V., & Dolan, C. B. (2021). The effectiveness of national-level containment and closure policies across income levels during the COVID-19 pandemic: An analysis of 113 countries. *Health Policy and Planning*, *36*(7), 1152–1162. https://doi.org/10.1093/heapol/czab054

Richardson, R.J. (2017). Pesquisa social: métodos e técnicas. São Paulo: Atlas.

Rosa-Alcázar, A., García-Hernández, M. D., Parada-Navas, J. L., Olivares-Olivares, P. J., Martínez-Murillo, S., & Rosa-Alcázar, A. I. (2021). Coping strategies in obsessive-compulsive patients during Covid-19 lockdown. *International Journal of Clinical and Health Psychology, 21*(2), 100223. https://doi.org/10.1016/j.ijchp.2021.100223

Rosa-Alcázar, Á., Parada-Navas, J. L., García-Hernández, M. D., Pozza, A., Tondi, P., & Rosa-Alcázar, A. I. (2023). Severity and changes in OCD dimensions during COVID-19: A two-year longitudinal study. *Brain Sciences, 13*(8), 1151. https://doi.org/10.3390/brainsci13081151

Scorsolini-Comin, F., Rossato, L., Cunha, V. F., Correia-Zanini, M. R. G., & Pillon, S. C. (2020). A religiosidade/espiritualidade como recurso no enfrentamento da COVID-19. *Revista de Enfermagem do Centro-Oeste Mineiro*, *10,* e3723. https://doi.org/10.19175/recom.v10i0.3723

Siddiqui, M., Wadoo, O., Currie, J., Alabdulla, M., Al Siaghy, A., AlSiddiqui, A., Khalaf, E., Chandra, C., & Reagu, S. (2022). The impact of COVID-19 pandemic on individuals with pre-existing obsessive-compulsive disorder in the State of Qatar: An exploratory cross-sectional study. *Frontiers in Psychiatry, 13*. https://doi.org/10.3389/fpsyt.2022.833394

Silva, R. M., Shavitt, R. G., & Costa, D. L. (2021). Obsessive-compulsive disorder during the COVID-19 pandemic. *Brazilian Journal of Psychiatry, 43*(1), 108–108. https://doi.org/10.1590/1516-4446-2020-1189

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729. https://doi.org/10.3390/ijerph17051729