

## Uncertainty and COVID-19: Personal and Emotional States - Evaluation at 20 Months of the Pandemic and the Resulting Isolation.

### Incertezza e COVID-19: Stati personali ed emotivi - Valutazione a 20 mesi dalla pandemia e dal conseguente isolamento.

Marcelo R. Ceberio\*, Gabriela Benedicto\*, Romina Daverio\*, Jaqueline Deffina\*, Cristian Biragnet\*, Carlos M. Cejudo\*, Gilda Jones\*

\* Neuroscience and Social Sciences Research Laboratory, (UFLO University)

Keywords: COVID-19, lockdown, emotions, uncertainty, quarantine

Parole chiave: COVID-19, lockdown, emozioni, incertezza, quarantena

#### Abstract

As of the declaration of the COVID-19 pandemic in March 2020, a home confinement program and a whole series of measures were started to protect the population from contagion. The world population faced two main critical situations: the fear of becoming infected and with it the fear of death and, on the other hand, the crisis caused by confinement at multiple levels -personal, family, social, among others-. As a result of this event that affects the entire world, an investigation was developed whose objectives focused on describing the perception of emotions and personal states after 20 months of the pandemic. To this end, we worked with a sample of 740 Argentine adults. The results of this research allow us to reflect on the description of personal and emotional states in the post-pandemic, in order to trace, on this basis, different action strategies in the coming period.

#### Riassunto

A partire dalla dichiarazione della pandemia di COVID-19 nel marzo 2020, è stato avviato un programma di confinamento domiciliare e tutta una serie di misure per proteggere la popolazione dal contagio. La popolazione mondiale ha dovuto affrontare due principali situazioni critiche: la paura di essere infettata e con essa la paura della morte e, dall'altro, la crisi causata dal confinamento a molteplici livelli – personale, familiare, sociale, tra gli altri –. In seguito a questo evento che coinvolge il mondo intero, è stata sviluppata un'indagine i cui obiettivi si sono concentrati sulla descrizione della percezione delle emozioni e degli stati personali dopo 20 mesi di pandemia. A tal fine, abbiamo lavorato con un campione di 740 adulti argentini. I risultati di questa ricerca consentono di riflettere sulla descrizione degli stati personali ed emotivi nel post-pandemia, al fine di tracciare, su questa base, diverse strategie di azione nel prossimo periodo.

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

## Introduction

On March 11, 2020, the World Health Organization declared a pandemic due to the Covid-19 virus worldwide (WHO, 2020). In response, governments implemented social isolation measures that were preventive and mandatory for the population, with varying levels of restrictions and durations. In Argentina, these measures were instituted on March 19, 2020, with restrictions differing across provinces based on contagion rates and lethality and incidence rates.

Both the restrictions and the confinement are understood as effective measures for preventing contagions; however, it is expected that they may lead to potential effects on the mental health of the general population, as they abruptly and involuntarily interrupt tasks and social relationships that contribute to individuals' identities (Sluzki, 2002). Furthermore, the role of work-related activities and the time allocated to them is of great importance for personal development. Humans spend a significant portion of their active lives working, as this is primarily the source of economic remuneration. However, work encompasses much more: it is also a pursuit of satisfaction and recognition (Rosetti, 2001), implying a substantial identity burden.

The pandemic and confinement can trigger significant emotional stress, which needs to be understood to help mitigate it. While mental illnesses affect a large portion of the population during and after quarantine, several stressors that are part of this experience can generate such conditions: the duration of the quarantine period, the fear of becoming infected or infecting others, frustration or boredom due to confinement or loss of routine, as well as the loss of social and physical contact with others (Brooks et al., 2020).

In light of the frustrations, losses, disappointments, and problems brought about by the pandemic and confinement, coupled with the high demands of confronting these situations and diminished capacity for response, a syndrome of both burnout and chronic stress emerges, impacting emotional, behavioral, and physical areas. The uncertainty of the context, lacking a clear future regarding the scope of the disease or its treatments, can engender internal states of hypervigilant alertness that, if prolonged, become potential stress factors for the population. The influence that the pandemic and its consequent confinement have had on individuals is reflected in high levels of stress, anxiety, depression, and anguish within the general population (Brown et al., 2020; Wang et al., 2020).

A recent systematic review on psychological factors in quarantine situations indicated that a positive emotional style was associated with a lower risk of developing illnesses (del Mar Moreno et al., 2020). In India, for instance, suicides associated with the fear of being infected by Covid-19 have been recorded (Goyal et al., 2020). Additionally, numerous studies have explored behavioral reactions and the consumption of various drugs during isolation (Guirgis, 2020; Sun et al., 2020; Wei and Shah, 2020). Consequently, there has been a growing interest in measuring variables such as anxiety, stress, depression, and suicidal ideation (Arias Molina et al., 2020; Cedeño et al., 2020; Huarcaya-Victoria, 2020; Ozamiz-Etxebarria et al., 2020), as well as symptoms of anxiety, insomnia, loss of appetite, worry, and fatigue (Moreno-Proano, 2020).

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

Other authors emphasize the presence of fear of death in the context of COVID-19 (Tomás-Sábado, 2020), self-care preventive behaviors and their relationship with anxiety-depressive symptoms (Galindo-Vázquez et al., 2020), and symptoms of stress such as insomnia, denial, and anger (Lozano-Vargas, 2020). Scientific articles have reported various psychological symptoms in the context of the pandemic (Soca Guzmán, 2020; Saravia-Bartra et al., 2020; Santamaría et al., 2020; Jurado et al., 2020; Jerves Mora, 2020; Sánchez and Aguila, 2020). In the United States, the frequency and protective risk factors of psychological distress during the early stages of the pandemic were evaluated, revealing a significant presence of psychological distress, with the most common symptoms being anxiety, sleep disorders, depression, feelings of loneliness, and hyperactivity (Holingue et al., 2020).

In Argentina, the first mandatory isolation lasted several months, with varying degrees of restriction, generating confusion and a significant degree of vulnerability, along with the potential to trigger various types of behaviors, difficulties, and dysfunctions such as sleep disturbances, irritability, and distress, which can lead to acute stress and/or post-traumatic stress situations (Johnson et al., 2020; Picco et al., 2020; Quezada, 2020; Ruiz et al., 2020).

Le Doux (1999) asserts that emotions serve fundamental biological functions resulting from evolution and epigenetic factors that depend on context: for example, lived situations or various relational experiences demonstrate that the emotional impact of any contextual action (primarily traumatic situations) will modify gene function, consequently generating a specific phenotype. Among the numerous studies that illustrate the influence of context on our genes, one historical representative situation was "the Dutch Hunger Winter," as the nutritional stress experienced by pregnant women during that period left sequelae in their children, leading to metabolic disorders that resulted in diseases such as diabetes or cardiovascular diseases (Painter et al., 2005; Ravelli et al., 1998; Ceberio and Berardino, 2023).

These precedents of epigenetic impacts allow for reflection on potential future afflictions due to the significant emotional impact of this period. Given the adaptability that emotions facilitate, emotional states enable organisms to survive in hostile and dangerous environments, which is why they have remained virtually intact throughout evolutionary history (Le Doux, 1999). These primary emotions constitute the basic repertoire of stress. Both COVID-19 and confinement are among the main stressors. Most research indicates that during the initial period of quarantine, a triad of emotions is associated: fear, anguish, and anxiety (Aliaga Tinoco, 2020; Inchausti et al., 2020; Schmidt et al., 2020). According to the evolution of the pandemic and isolation, a wide range of reactions has emerged among the population, exacerbated by the significant initial uncertainty that persists across various aspects of daily life (Johnson et al., 2020; Medina, 2020; Rodríguez-Castellanos and San-Martín-Albizuri, 2020). The results of Xin et al. (2020) concluded that university students in quarantine were more likely than others to perceive discrimination and exhibit mental distress. Esfahani (2020) reported that 45% of Americans felt that the coronavirus negatively affected their mental health. A similar observation was noted in China

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

regarding the impact on emotional and mental states, revealing an increase in depressive symptoms (Huang & Zao, 2020).

Although there are forecasts regarding the end of the pandemic, there is no generalized and clear consensus on this matter. This lack of clarity contributes to uncertainty remaining a prominent factor in the emotional states developed during confinement, as indicated by research that highlights uncertainty as a key player across different fields and aspects of life (Jácome, 2020; Jurado et al., 2020; Medina, 2020).

In order to evaluate the variation in personal and emotional states in the local context during the implementation of the confinement health measure, a study was conducted exploring these variables among a group of adult Argentinians after 20 months of confinement. This description has taken into account the work by Ceberio et al. (2021), which compared emotional states and coping resources in the first 15 days of isolation and after 6 months of confinement.

#### Objectives

- Describe the emotions and states after 20 months since the declaration of the pandemic and national confinement.
- Determine the emotions and states of men and women 20 months after the onset of the pandemic.
- Explore the states and emotions among healthcare professionals during the same described period.
- Compare the results with two earlier moments (15 days and 6 months after the onset of the pandemic).

#### Method

A cross-sectional descriptive study was conducted through surveys (Montero and León, 2007) aimed at investigating the emotions and symptoms that have emerged or intensified during the 20 months of the pandemic. The sampling method was non-probabilistic and based on volunteers; data collection was carried out using a self-administered questionnaire circulated via social media. A sociodemographic questionnaire was developed to reflect different emotional states of the participants during the specified timeframe; this questionnaire had been utilized in a previous study (Ceberio et al., 2021).

The distribution of the questionnaires and the collection of responses did not allow for the control of quotas for any sociodemographic variables (age, gender, profession, place of residence, educational level). This necessitated a subsequent segmentation of the data for analysis; however, it is important to note that the results for each segment or group may be biased due to the non-probabilistic nature of the sample.

The protocol was uploaded to the Google Forms platform and distributed through social media and mailing lists of the researchers, seeking a snowball effect. Emotional reactions were grouped into mutually exclusive categories, with an open response option (i.e., "other") to ensure that the set of responses was exhaustive. Responses were multiple-choice, allowing respondents to select more than one category for each variable surveyed. All participants were informed

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

about the research objectives, as well as the anonymous and voluntary nature of their participation. Data were analyzed using SPSS for Windows.

The protocol was tested prior to publication by all members of the research group, including students and collaborators. Data collection took place during November 2021. Previously, in 2020, the same survey was conducted to measure emotional states at 15 days and 6 months after the onset of confinement. A descriptive and comparative analysis of the data was performed for each of the time points regarding emotional states: the first at 15 days of confinement, the second after 6 months, and the present one at 20 months.

The analysis was segmented by gender (women and men) after the data collection, based on various studies demonstrating significant differences between the two, with women exhibiting greater vulnerability (Infante Castañeda, Peláez Ballestas, & Giraldo Rodríguez, 2021; Lopez, Bazán, Gutiérrez, Hernández, & Vidrio, 2021). It was therefore deemed appropriate to study this difference in Argentina, comparing both sets of responses and evaluating the percentage variation in the categories of each emotion or feeling. The emotional states chosen by healthcare personnel were also analyzed, given that numerous studies have evidenced how these individuals have been significantly affected by their level of exposure to both contagion and the suffering of COVID-19 patients (Broche-Pérez, Fernández-Castillo, & Reyes Luzardo, 2021; Juárez García, 2020; Izurieta & Izurieta, 2021).

## Results

A sample of 740 participants aged between 18 and 79 years was obtained; 5.01% were aged 18 to 25 years, 21.9% were in the 26 to 40 age range, 49% were between 41 and 60 years, and 24.09% were aged 61 to 79 years. The total sample consisted of 67.6% (500) women and 32.4% (240) men. All participants were Argentine, with a geographic composition divided as follows: 41.5% from CABA (City of Buenos Aires); 40.1% from Buenos Aires Province; 5.1% from Santa Fe; 3.1% from Chubut; 3% from Córdoba; 1.9% from Santa Cruz; 1.1% from Mendoza; and 4.2% from other provinces, with Formosa, Jujuy, La Pampa, and La Rioja having the lowest representation at 0.1% each. Given that the majority of respondents live in CABA or Buenos Aires Province, the results should primarily be generalized to that geographic region. There may also be biases in the results based on gender, as the sample proportions do not reflect the actual percentage distribution (again, due to the non-probabilistic nature of the sampling).

Furthermore, the composition was segmented by other variables: 82% of respondents were married, cohabiting, living with pets, in a couple, or with family, while 18% lived alone. Additionally, 36% of the sample consisted of healthcare personnel.

Participants were asked about the emotions and/or personal states they experienced after 20 months of the pandemic. The following emotions, which had been previously assessed in the earlier study, were proposed to facilitate comparison across the three time points: anguish; joy; sleep disturbance; anger; relief/tranquility; helplessness; anxiety; rest/leisure; annoyance; apathy; feeling of confinement; uncertainty; sadness; frustration; fear; irritability; complaint; and rumination, ranked by priority of choice. (Fig. 1)

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

Consequently, the emotions and states of men and women 20 months after the beginning of the pandemic have been contemplated and the result in terms of priority of selection was as follows. (Fig.2)

Furthermore, for further data exploration, the states and emotions in the healthcare professional population have been analyzed, resulting as in Fig. 3

### Discussion

The research conducted accounts for the dynamics of emotional states of individuals at the onset of the pandemic, at 6 months, and after 20 months. This dynamic allows for reflection on the description of emotions and states during the pandemic. Among the findings, it is evident that uncertainty regarding an unclear future has generated states of alertness in individuals that, if prolonged, could lead to potential stressors.

Uncertainty, anxiety, and annoyance lead the triad of emotions and states reported by the sample in this study, coinciding with findings by authors such as Brown et al. (2020) and Wang et al. (2020), who identify uncertainty as one of the primary causes of stress. The results indicate a high percentage of uncertainty in the general population (59.46%), which aligns with investigations by Jácome (2020), Jurado et al. (2020), and Medina (2020), followed by anxiety (50.54%) and annoyance (37.43%). When segmenting the sample by gender, the same incidence is not reflected; while uncertainty remains the primary emotion, anxiety ranks third among the "male" sample and second among "female" respondents, with annoyance being more significant among "men" than "women." It is also observed that in negative emotional states, women exhibited a higher percentage, in contrast to positive emotional states, where their figures were lower than those of men. Thus, it can be inferred that women have been more negatively affected by the situation, despite employing a variety of coping resources, as highlighted by the work of Ceberio et al. (2021). This leads to questions about whether they have experienced greater burdens from online schooling (Zaurín, 2021) or if there is a heightened self-perception of their emotions. Additionally, studies indicate that women have been more affected by insomnia (Rossi et al., 2020). It would be important to explore this further in future research.

This difference between men and women was also observed in the measurements taken at the other two time points (Ceberio et al., 2021) and coincides with other studies regarding anxiety during the pandemic (Cedeño et al., 2020; Ozamiz-Etxebarria et al., 2020; Moreno-Proano, 2020).

When examining the results for the segment comprising healthcare personnel, two fundamental aspects stand out: first, the triad consists of uncertainty, anxiety, and annoyance, and secondly, the percentages of each are largely consistent with those of the general sample. However, it was evident that in the early days, healthcare professionals experienced greater anxiety (Lai et al., 2020).

It is important to consider that despite having more information than the general population, healthcare professionals reported a higher percentage of uncertainty (63.06%). These aspects are significant because possessing a greater

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

level of knowledge regarding health, the virus, and its consequences, while also living through the pandemic firsthand, does not appear to be sufficient to mitigate the emotional states experienced by the general population. In other words, they may not have more tools that benefit them or greater tolerance for the pandemic's impact. Nonetheless, both healthcare personnel and the general population converge on the triad of uncertainty, anxiety, and annoyance. This is consistent with a study conducted in Italy, which demonstrated that 31.3% of healthcare professionals experienced anxiety, 34.3% reported stress, and 36.7% exhibited post-traumatic stress (Giusti et al., 2020).

Regarding the comparison across the three time points, the aforementioned states—uncertainty, anxiety, and annoyance—remained prevalent, but a significant increase was observed in most negative states, particularly in uncertainty, anxiety, anger, anguish, and annoyance. Rest and leisure experienced a notable decline compared to the initial days (from 27.36% to 7.97%). Sleep disturbance also persisted across the three time points and even increased (from 26.54% to 33.11%). This raises questions about the possible causes, leading to several hypotheses: at the onset of preventive isolation, changes in routines occurred; for instance, individuals, not going to work, stayed up late watching series (Monico-Neto, Thomatieli dos Santos, and Moreira, 2020; Medina et al., 2021). Another hypothesis is that at 20 months, symptoms of post-traumatic stress related to hypervigilance (DSM-5, 2013) could be anticipated. If so, this raises alarms about a potential increase in the prevalence of PTSD, as seen in other studies (Yuan et al., 2021), confirming the importance of this study concerning awareness and the implementation of health policies aimed at preventing this disorder. Some research reveals that insomnia during the pandemic is related to the negative emotional states developed in this context (Vaca and Mayorga, 2021). This underscores the need to promote sleep hygiene, preventing complications associated with this disorder, such as immune system impairment (Besedovsky, Lange, and Haack, 2019; Haspel et al., 2020).

It would be interesting to investigate whether emotional states such as anger, annoyance, and irritability could mask or represent a manifestation of anguish or fear, in order to explain the shift in the selection of these states. A similar result was observed at 6 months into the pandemic, where anguish and fear decreased, being replaced by an increase in feelings of anger, helplessness, annoyance, and apathy, which are different ways of metabolizing anguish (Ceberio et al., 2021).

### Conclusions

The present research allowed for an exhaustive analysis of the results, leading to the determination that uncertainty has been and continues to be the predominant emotional state within the population regarding the pandemic and its uncertain future after 20 months since its onset, with an exponential increase observed. This assertion may have various interpretations concerning its origin, as national and even global information evolves with ongoing research, resulting in partial certainties, thus perpetuating the state of uncertainty. This prompts the question of what might be causing the noted increase; perhaps current uncertainty is more related to the cessation of precautionary measures and the

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

economic, educational, and health situations, all of which have been significantly affected by the pandemic.

It is important to clarify that this study has the limitation of not being generalizable to other countries, as while the world was initially confined, measures were subsequently modified and adapted to each context, generating different "pandemics" within the overarching pandemic, along with the varying socio-demographic realities of different countries facing this crisis in diverse ways. Following this line of inquiry, it would be interesting to explore and compare similar studies conducted in other countries, both in Latin America and Europe.

In the context of confinement, anxiety was prominent among both the general population and healthcare personnel, serving as a manifestation in response to the excessive fears brought about by this unprecedented situation, indicating a significant decline in the quality of life. As demonstrated, within personal and emotional states, annoyance prevailed over the previously mentioned manifestations. The fear and stress experienced by the population transformed into weariness, discomfort, and excessive fatigue, leading to notable negativity, personal conflicts, and issues in familial and partner relationships, relegating sleep disorders to fourth place, followed by anguish and irritability. Sleep disorders may arise not only during pandemic confinement due to disruptions in routines but also as a consequence of post-pandemic stress, given that elevated cortisol levels hinder the hormonal circuitry of circadian rhythms (Del Río Portilla, 2006; Ospina, 2022). Additionally, the COVID isolation has left emotional and psychopathological sequelae (Lasa et al., 2020), which today manifest as psychopathological reactions warranting further study (León and Olivera, 2022). One variable that could reinforce this perspective is investigating whether there has been an increase in requests for consultation and psychotherapy sessions.

Lastly, it is worth questioning whether there will be an epigenetic impact resulting from the traumatic situation of the pandemic. Specifically, what is the likelihood of finding epigenetic effects as a result of this profoundly emotional and stressful experience? Previous research into other social situations has shown changes in gene function due to situational stress. Beyond individual significances—what each person experienced and constructed (the “pandemic of the pandemic”)—this can differentially affect the development of traumatic semantics.

The results evidenced in this research allow for consideration beyond the pandemic, which, although currently under control, suggests a high likelihood that the significant aftermath of this global crisis will be an increase in the prevalence of PTSD (Post-Traumatic Stress Disorder) due to the multitude of traumatic situations arising from this global event (isolation, death in solitude, discrimination, economic loss). Understanding how Argentinians have experienced these events and how they have evolved in response—while identifying the most vulnerable populations—enables proactive measures regarding the aforementioned disorder, implementing secondary and tertiary prevention policies in mental health to address these unequal impacts equitably. For instance, promoting mindfulness workshops in schools and universities to manage uncertainty, as well as psychoeducation regarding PTSD symptoms,



Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

could help mitigate the potential psychological consequences of this unprecedented global crisis.

## References

- [1]Aliaga Tinoco, S. (2020). Síntomas ansiosos y depresivos en población general y personal médico del Hospital Cayetano Heredia asociados a la cuarentena y atención de la pandemia COVID-19 en Lima. *Facultad de Medicina*, 202292-202292.  
<http://repositorio.upch.edu.pe/handle/upch/7889>
- [2]American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM- 5). American Psychiatric Pub.
- [3]Arias Molina, Y., Herrero Solano, Y., Cabrera Hernández, Y., Guyat, D. C., & Mederos, Y. G. (2020). Manifestaciones psicológicas frente a la situación epidemiológica causada por la COVID-19. *Revista Habanera de Ciencias Médicas*, 19.  
[http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1729519X2020000400012](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1729519X2020000400012)
- [4]Besedovsky, L., Lange, T., & Haack, M. (2019). The sleep-immune crosstalk in health and disease. *Physiological reviews*.
- [5]Broche-Pérez, Y., Fernández-Castillo, E., & Reyes Luzardo, D. A. (2021). Consecuencias psicológicas de la cuarentena y el aislamiento social durante la pandemia de COVID-19. *Revista cubana de salud pública*, 46, e2488.
- [6]Brown, S. M., Doom, J. R., Lechuga-Peña, S., Watamura, S. E., & Koppels, T. (2020). Stress and parenting during the global COVID-19 pandemic. *Child Abuse & Neglect*, 104699.  
<https://doi.org/10.1016/j.chiabu.2020.104699>
- [7]Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. El impacto psicológico de la cuarentena y cómo reducirlo: una rápida revisión. *Revista The Lancet*. 2020 [acceso 15/06/2020];395:912-20. Disponible en: <https://fundacionelementos.org/2020/03/17/el-impacto-psicologico-de-la-cuarentena-y-como-reducirlo-una-rapida-revision/>
- [8]Cedeño, N. J. V., Cuenca, M. F. V., Mojica, Á. A. D., & Portillo, M. T. (2020). Afrontamiento del COVID-19: estrés, miedo, ansiedad y depresión. *Enfermería Investiga*, 5(3), 63-70.  
<http://dx.doi.org/10.31164/enf.inv.v5i3.913.2020>
- [9]Ceberio, M. R., & Berardino, B. G. (2023). Contexto, ser humano y

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

epigenética. *Interdisciplinaria*, 40(1), 81-97.

[10] Ceberio, M. R., Cocola, F., Benedicto, M. G., Jones, G., Agostinelli, J., Videla, M. D., & Daverio, R. (2021). Estudio comparativo de los estados emocionales y recursos de afrontamiento en adultos argentinos durante la cuarentena por el COVID-19. *RAC: Revista Angolana de Ciências*, 3(2), 303-326. <https://doi.org/10.54580/R0302.03>

[11] Del Río Portilla, I. Y. (2006). Estrés y sueño. *Revista Mexicana de Neurociencia*, 7(1), 15-20.

[12] Esfahani SE (2020). En Confinamiento por el Coronavirus Artículo. Busca el significado, no la felicidad. *New York Times*. USA. Disponible en: <https://www.impaqto.net/en-confinamiento-por-el-coronavirus>

[13] Galindo-Vázquez, O., Ramírez-Orozco, M., Costas-Muñiz, R., Mendoza-Contreras, L. A., Calderillo-Ruiz, G., & Meneses-García, A. (2020). Síntomas de ansiedad, depresión y conductas de autocuidado durante la pandemia de COVID-19 en la población general. *Gaceta Médica*, 156, 298-305. <http://dx.doi.org/10.24875/GMM.20000266>

[14] Giusti EM, Pedroli E, D'Aniello GE, Stramba C, Pietrabissa G, Man- na C, Stramba Badiale M, Riva G, Castelnuovo G and Molinari E. The Psychological Impact of the COVID-19 Outbreak on Health Pro- fessionals: A Cross-Sectional Study. *Front. Psychol.* 2020 [citado 12 de Ago 2020]; 11:1684. Disponible en: <https://www.frontiersin.org/article/10.3389/fpsyg.2020.01684>  
DOI: <https://doi.org/10.3389/fpsyg.2020.01684>

[15] Goyal, K., Chauhan, P., Chhikara, K., Gupta, P., & Singh, M. P. (2020). Fear of COVID 2019: First suicidal case in India!. *Asian Journal of Psychiatry*, 49, 101989. <https://dx.doi.org/10.1016%2Fj.ajp.2020.101989>

[16] Haspel, J. A., Anafi, R., Brown, M. K., Cermakian, N., Depner, C., Desplats, P., ... & Solt, L. A. (2020). Perfect timing: circadian rhythms, sleep, and immunity—an NIH workshop summary. *JCI insight*, 5(1).

[17] Holingue, C., Badillo-Goicoechea, E., Riehm, K. E., Veldhuis, C., Thrul, J., Johnson, R. M., ... y Kalb, L. G. (2020). Mental Distress during the COVID-19 Pandemic among US Adults without a Pre-existing Mental Health Condition: Findings from American Trend Panel Survey. *Preventive Medicine*, 106231. <https://doi.org/10.1016/j.ypmed.2020.106231>

[18] Huang Y., Zao N. Generalized anxiety disorder depressive symptoms and sleep quality during COVID-19 epidemic in China: a web-based cross-sectional survey. *MedRxiv*. 2020 doi: 10.1101/2020.02.19.20025395.

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

[19]Huarcaya-Victoria, J. (2020). Consideraciones sobre la salud mental en la pandemia de COVID-19. *Revista Peruana de Medicina Experimental y Salud Pública*, 37(2). <https://doi.org/10.17843/rpmesp.2020.372.5419>

[20]Inchausti, F., García Poveda, N. V., Prado Abril, J., & Sánchez Reales, S. (2020). La psicología clínica ante la pandemia COVID-19 en España. *Clínica y Salud*, 31(2), 105-107. <http://dx.doi.org/10.5093/clysa2020a11>

[21]Infante Castañeda, C., Peláez Ballestas, I., & Giraldo Rodríguez, L. (2021). Covid-19 y género: efectos diferenciales de la pandemia en universitarios. *Revista mexicana de sociología*, 83(SPE), 169-196.

[22]Izurieta, I. L., & Izurieta, I. L. (2021). La salud mental del personal sanitario ante la pandemia del COVID-19. *Enfermería investiga*, 6(1), 47-50

[23]Jácome, R. A. (2020). Los pronósticos matemáticos son hipótesis: consideración de la incertidumbre en la presentación de datos sobre la pandemia por COVID 19. *Revista Española de Comunicación en Salud*, 339-346. <https://doi.org/10.20318/recs.2020.5476>

[24]Jerves Mora, R. S. (2020). Pandemia y ansiedad social. *Rev. Fac. Cienc. Méd. Univ. Cuenca*, 13-16. <https://doi.org/10.18537/RFCM.38.01.0>

[25]Juárez García, A. (2020). Síndrome de burnout en personal de salud durante la pandemia COVID-19: un semáforo naranja en la salud mental. *Revista de la Universidad Industrial de Santander. Salud*, 52(4), 432-439.

[26]Jurado, M. D. M. M., Herrera-Peco, I., del Carmen Pérez-Fuentes, M., & Linares, J. J. G. (2020). Análisis de la amenaza percibida por la COVID-19 en población española. *Atención Primaria*, 52(7), 515-516. <https://doi.org/10.1016/j.aprim.2020.05.001>

[27]Lai J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., y Tan, H. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Network Open*, 3(3), e203976-e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>

[28]Lasa, N. B., Benito, J. G., Montesinos, D., Manterola, D., Sánchez, D., García, D., & Germán, D. (2020). *Las consecuencias psicológicas de la COVID-19 y el confinamiento*. País Vasco: Servicio de Publicaciones de la Universidad del País Vasco.

[29]Le Doux. (1999). Citado en Ceberio, M. R. (2017). Los juegos del mal amor: El amor: la comunicación y las interacciones que destruyen parejas. Ediciones B Argentina SA.

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

- [30]León, C. N., & Olivera, E. S. (2022). Revisión sistemática sobre la salud mental en el contexto COVID-19. *Revista de Investigaciones de la Universidad Le Cordon Bleu*, 9(1), 61-78.
- [31]López Rosetti, D. (2001). Estrés, Epidemia del siglo XXI: Cómo entenderlo, entenderse y vencerlo. LUMEN.
- [32]Lopez, T. M., Bazán, C. M., Gutiérrez, E. C., Hernández, G. P., & Vidrio, M. H. (2021). Efecto de la pandemia en hábitos de vida y salud mental: comparación entre dos universidades en México. *Psicología Iberoamericana*, 29(3)
- [33]Lozano-Vargas, A. (2020). Impacto de la epidemia del Coronavirus (COVID-19) en la salud mental del personal de salud y en la población general de China. *Revista de Neuro-Psiquiatría*, 83(1), 51-56.  
<http://dx.doi.org/10.20453/rnp.v83i1.3687>
- [34]Medina, J. (2020). Pandemia por SARS-CoV-2 (COVID-19): entre la incertidumbre y la fortaleza. *Revista Médica del Uruguay*, 36(2), 6-11.  
[http://www.scielo.edu.uy/scielo.php?pid=S168803902020000200006&script=sci\\_arttext&tlng=en](http://www.scielo.edu.uy/scielo.php?pid=S168803902020000200006&script=sci_arttext&tlng=en)
- [35]Medina-Ortiz, O., Araque-Castellanos, F., Ruiz-Domínguez, L. C., Riaño-Garzón, M., & Bermudez, V. (2021). Trastornos del sueño a consecuencia de la pandemia por COVID-19. *Revista Peruana de Medicina Experimental y Salud Pública*, 37, 755-761.
- [36]Mônico-Neto M, Thomatieli dos Santos RV, Moreira Antunes HK. The world war against the COVID-19 outbreak: don't forget to sleep! *J Clin Sleep Med*. 2020; In Press. Available in <https://doi.org/10.5664/jcsm.8502>
- [37]Montero, I., & León, O. G. (2007). A guide for naming research studies in psychology. *International Journal of Clinical and Health Psychology*, 7(3), 847-862. <https://www.redalyc.org/articulo.oa?id=33770318>
- [38]Moreno-Proaño, G. (2020). Pensamientos distorsionados y ansiedad generalizada en COVID-19. *Ciencia América*, 9(2), 251-255.  
<http://dx.doi.org/10.33210/ca.v9i2.314>
- [39]Organización Mundial de la Salud [OMS]. (2020). Alocución de apertura del Director General de la OMS en la rueda de prensa sobre la COVID-19 celebrada el 11 de marzo de 2020. *Discursos Del Director General de La OMS*, 1.
- [40]Ozamiz-Etxebarria, N., Dosil-Santamaria, M., Picaza-Gorrochategui, M., & Idoiaga-Mondragon, N. (2020). Niveles de estrés, ansiedad y depresión en la primera fase del brote del COVID-19 en una muestra recogida en el norte

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

de España. *Cuadernos de Saúde Pública*, 36, e00054020.  
<https://doi.org/10.1590/0102-311X00054020>

[41] Ravelli, A. C., van der Meulen, J. H., Michels, R. P., Osmond, C., Barker, D. J., Hales, C. N., & Bleker, O. P. (1998). Glucose tolerance in adults after prenatal exposure to famine. *Lancet (London, England)*, 351(9097), 173–177. [https://doi.org/10.1016/s0140-6736\(97\)07244-9](https://doi.org/10.1016/s0140-6736(97)07244-9)

[42] Ospina, C. B. (2022, January 12). Estrés, Ansiedad e Insomnio: Asociación de enemigos ocultos que destruyen nuestro equilibrio mental. Reporte de caso. <https://doi.org/10.31219/osf.io/zup2v>

[43] Picco, J., Dávila, E. G., Wolff, S., Gómez, V., & Wolff, D. (2020). Aspectos psicosociales de la pandemia COVID-19 en la población de Mendoza. *Revista Argentina de Cardiología*, 88(3), 207-210.  
<https://dialnet.unirioja.es/servlet/articulo?codigo=7525369>

[44] Quezada, V. E. (2020). Miedo y psicopatología la amenaza que oculta el Covid-19. *Cuadernos de Neuropsicología*, 14(1), 19-23.  
<https://doi.org/10.7714/CNPS/14.1.202>

[45] Painter, R. C., Roseboom, T. J., & Bleker, O. P. (2005). Prenatal exposure to the Dutch famine and disease in later life: an overview. *Reproductive Toxicology (Elmsford, N.Y.)*, 20(3), 345–352.  
<https://doi.org/10.1016/j.reprotox.2005.04.005>

[46] Rossi, R., Socci, V., Talevi, D., Mensi, S., Ntoli, C., Pacitti, F., ... & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in psychiatry*, 11, 550552.

[47] Rodríguez-Castellanos, A., & San-Martín-Albizuri, N. (2020). Covid-19, globalización, complejidad e incertidumbre: algunas reflexiones sobre gestión empresarial en tiempos de crisis y más allá. *Revista GEON (Gestión, Organizaciones y Negocios)*, 7(2), 1-17.  
<https://doi.org/10.22579/23463910.219>

[48] Ruiz, A. L., Arcaño, K. D., & Pérez, D. Z. (2020). La psicología como ciencia en el afrontamiento a la COVID-19: apuntes generales. *Anales de la Academia de Ciencias de Cuba*, 10(2).  
<http://www.revistaccuba.sld.cu/index.php/revacc/article/view/839>

[49] Sánchez, M. V., & Águila, H. D. (2020). COVID-19: respuestas psicológicas y maneras de gestionarlas. *Revista del Hospital " Dr. Emilio Ferreyra"*, 1(1), e33-e34. <https://doi.org/10.5281/zenodo.3856407>

[50] Santamaría, M. D., Ozamiz-Etxebarria, N., Rodríguez, I. R., Alboniga-

Received: 02 August 2024    Revised: 11 September 2024    Accepted: 31 October 2024

Doi: 10.23823/f33yas27

Mayor, J. J., & Gorrotxategi, M. P. (2020). Impacto psicológico de la COVID-19 en una muestra de profesionales sanitarios españoles. *Revista de Psiquiatría y Salud Mental*. <https://doi.org/10.5944/rppc.27569>

[51]Saravia-Bartra, M. M., Cazorla-Saravia, P., & Cedillo-Ramirez, L. (2020). Nivel de ansiedad de estudiantes de medicina de primer año de una universidad privada del Perú en tiempos de Covid-19. *Revista de la Facultad de Medicina Humana*, 20(4). <https://doi.org/10.25176/RFMH.v20i4.3198>

[52]Schmidt, B., Crepaldi, M. A., Bolze, S. D. A., Neiva-Silva, L., & Demenech, L. M. (2020). Impactos na Saúde Mental e Intervenções Psicológicas Diante da Pandemia do Novo Coronavírus (COVID-19). <https://doi.org/10.1590/SciELOPreprints.58>

[53]Sluzki, C. E. (2002). *La red social: frontera de la práctica sistémica*. Gedisa.

[54]Soca Guzmán, C. A. (2020). Frecuencia de miedo, ansiedad y depresión en gestantes en el contexto COVID-19 en un hospital general de Lima-Metropolitana. Repositorio de la Universidad Cayetano Heredia. <http://repositorio.upch.edu.pe/handle/upch/8468>

[55]Tomás-Sábado, J. (2020). Miedo y ansiedad ante la muerte en el contexto de la pandemia de la COVID-19. *Revista de Enfermería y Salud Mental*, (16), 26-30. <https://doi.org/10.5538/2385-703X.2020.16.26>

[56]Vaca, D., & Mayorga, D. (2021). ESTADOS EMOCIONALES Y SU RELACIÓN CON EL INSOMNIO EN EL PERSONAL DE SALUD DURANTE PANDEMIA. *Enfermería Investiga*, 6(1), 20–26. <https://doi.org/10.31243/ei.uta.v6i1.1023.2021>

[57]Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S. y 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>

[58]Wei, Y., & Shah, R. (2020). Substance Use Disorder in the COVID-19 Pandemic: A Systematic Review of Vulnerabilities and Complications. *Pharmaceuticals*, 13(7), 155. <https://doi.org/10.3390/ph13070155>

[59]Xin M, Luo S, She R, Yu Y, Li L, Wang S, Ma Tao F, Zhang J, Zhao J, Li L, Hu D, Zhang G, Gu J, Lin D, Wang H, Cai Y, Wang Z, You H, Hu G, y Lau JT (2020). Correlaciones cognitivas y psicológicas negativas de la

cuarentena obligatoria durante el brote inicial de COVID-19. China. *The new england journal of medicine*. Disponible en: <https://www.nejm.org/doi/pdf/10.1056/NEJMoa2002032>

[60]Yuan, K., Gong, Y. M., Liu, L., Sun, Y. K., Tian, S. S., Wang, Y. J., Zhong, Y., Zhang, A. Y., Su, S. Z., Liu, X. X., Zhang, Y. X., Lin, X., Shi, L., Yan, W., Fazel, S., Vitiello, M. V., Bryant, R. A., Zhou, X. Y., Ran, M. S., Bao, Y. P., ... Lu, L. (2021). Prevalence of post-traumatic stress disorder after infectious disease pandemics in the twenty-first century, including COVID-19: a meta-analysis and systematic review. *Molecular psychiatry*, 26(9), 4982–4998. <https://doi.org/10.1038/s41380-021-01036-x>

[61]Zaurín, M. (2021). Efectos de la escolaridad online.

### Appendix

Fig. 1

	15 days	180 days	20 months
Anguish	28,27%	24,16%	34,86%
Joy	9,78%	0,08%	11,22%
Sleep disturbance	26,54%	27,94%	33,11%
Anger	10,60%	15,78%	20,81%
Relief/Peace	18,00%	17,50%	10,41%
Helplessness	13,89%	22,76%	22,84%
Anxiety	36,32%	38,70%	50,54%
Rest/Leisure	27,36%	14,46%	7,97%
Annoyance	13,72%	25,39%	37,43%
Apathy	4,85%	10,52%	12,97%
Feeling of confinement	19,80%	23,25%	29,19%
Uncertainty	53,74%	51,27%	59,46%
Sadness	14,30%	19,23%	24,86%
Frustration	11,83%	20,13%	22,30%
Fear	24,73%	16,35%	19,86%
Irritability	11,59%	21,28%	27,84%
Complaint and rumination	6,24%	9,12%	15,54%

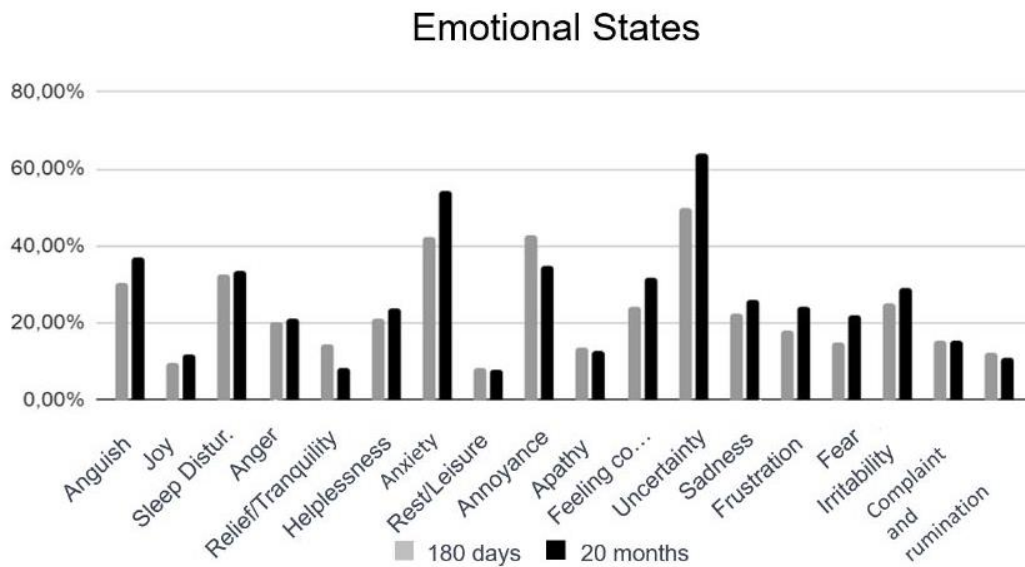


Fig. 2

Emotional States	Women	Men
Anguish	37,00%	30,42%
Joy	12,00%	9,58%
Sleep disturbance	33,40%	32,50%
Anger	21,00%	20,42%
Relief/Peace	8,40%	14,58%
Helplessness	23,60%	21,25%
Anxiety	54,40%	42,50%
Rest/Leisure	7,80%	8,33%
Annoyance	34,80%	42,92%
Apathy	12,60%	13,75%
Feeling of confinement	31,60%	24,17%
Uncertainty	64,00%	50,00%
Sadness	26,00%	22,50%
Frustration	24,40%	17,92%
Fear	22,20%	15,00%
Irritability	29,20%	25,00%
Complaint and ruminaton	15,60%	15,42%



Emotional States at 20 Months into the Pandemic  
(Females vs Males)

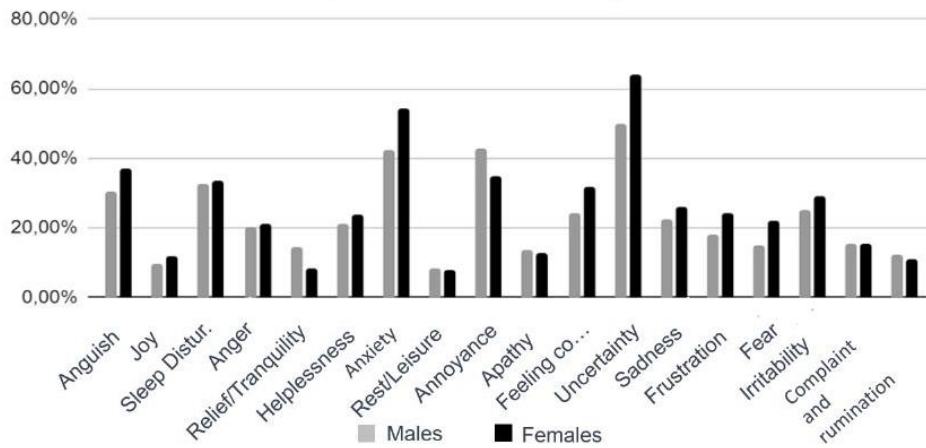


Fig. 3

Emotional States	Healthcare Professionals
Anguish	30,22%
Joy	12,31%
Sleep disturbance	30,60%
Anger	20,52%
Relief/Peace	12,69%
Helplessness	23,13%
Anxiety	45,90%
Rest/Leisure	4,10%
Annoyance	36,94%
Apathy	10,82%
Feeling of confinement	24,25%
Uncertainty	63,06%
Sadness	23,51%
Frustration	23,13%
Fear	16,04%
Irritability	27,99%
Complaint and rumination	16,42%