Prolonged grief in relatives of deceased patients due to COVID-19 is associated with anxiety and depressive symptoms: A survey-based study in Peru

Jeel Moya-Salazar[1] iD, Elizabeth Soto[2], Betsy Cañari[2,3], Eliane A Goicochea[4], Nahomi Zuñiga[2,3], Alexis Jaime-Quispe[2,3] and Hans Contreras-Pulache[1]

Abstract

Objective: Funeral practices have undergone significant changes during the COVID-19 pandemic. Thus, the death of a family member from this disease has altered the typical course of the bereavement process. Therefore, this study seeks to determine the relationship between the levels of grief, anxiety, and depression in relatives of patients who died from COVID-19 in Peru.

Methods: A total of 250 volunteers were obtained, but after applying the inclusion criteria and not being able to contact five of them, the sample consisted of 115 participants over 18 years of age who lost a family member to COVID-19 between 2020 and 2021. They developed the Prolonged Grief Questionnaire-13 and the Zung Anxiety and Depression Questionnaires, in virtual surveys using Google Form™ (Google, CA).

Results: Our analysis revealed that all cases of anxiety (18.3%) were present in individuals experiencing prolonged grief (76.5%), while 49.5% (57/115) of participants exhibited symptoms of depression. Furthermore, we identified a significant association between prolonged grief and both anxiety ($p = 0.005$) and depression ($p < 0.001$). Prolonged grief predominantly affected females (45.2%) and individuals aged 31–40 years (28.7%) ($p < 0.001$). Regarding predictors of anxiety symptoms, we found that both age group ($p = 0.035$) and grief ($p < 0.001$) played significant roles. Gender ($p = 0.019$) and grief ($p < 0.001$) emerged as predictors of depression, while gender alone predicted grief in relatives of individuals who succumbed to COVID-19 ($p = 0.019$).

Conclusion: Our results suggest a clear association between prolonged grief and mental health issues among relatives of COVID-19 patients who have passed away. Consequently, it is imperative to provide comprehensive psychological and spiritual support throughout the grieving process, aiming to mitigate the negative impact of traumatic events.

Keywords

Grief, COVID-19, anxiety, death, depression, Peru, SARS-CoV-2

[1]Digital Transformation Center, Universidad Norbert Wiener, Lima, Peru
[2]Faculties of Health Science, Universidad Norbert Wiener, Lima, Peru
[3]Qualitative Unit, Nesh Hubbs, Lima, Peru
[4]Faculties of Health Science, Universidad Tecnológica del Perú, Lima, Peru

Corresponding author:
Jeel Moya-Salazar, Digital Transformation Center, Universidad Norbert Wiener, 440 Arequipa Avenue, Lima 51001, Peru.
Email: jeel.moya@uwiener.edu.pe

Graphical abstract

Introduction

Grief is a complex emotional response that arises in the face of an irreparable loss, and its intensity can vary depending on the nature of the attachment. Initially, it may be characterized by mild feelings of regret and anxiety, but as it persists and intensifies, it can give rise to disruptive disorders that cause mental and physical distress, profoundly impacting an individual's life.[1] The experience of bereavement is intricately linked to the immediate manifestation of death, often accompanied by funeral ceremonies that blend traditional, religious, and spiritual rites.[2,3] Although modern funeral practices have evolved into more personalized events, their fundamental purpose remains the same: to bid farewell to a loved one. These rituals mark a significant transition in the lives of those grieving, serving as a starting point for the healing process by acknowledging the reality of the loved one's death and facilitating acceptance.[4]

However, the COVID-19 pandemic has profoundly transformed grief rituals, ushering in unprecedented changes.[5–7] The World Health Organization (WHO) has estimated excess mortality associated directly with the disease and, indirectly, with the impact of the pandemic on health systems

and society, resulting in the death of more than 14.9 million people between January 2020 and December 2021.[8] In addition, by June 2022, about 6.3 million deaths would have occurred worldwide because of COVID-19.[9] Peru has had more than 4 million people infected and >214,000 deaths due to COVID-19 by 2022.[10,11] In healthcare settings, the implementation of isolation wards for patients with COVID-19 and the restriction of visitor access have significantly heightened feelings of loneliness and the fear of dying alone. These preventive measures have also limited the presence of family members at funerals, depriving them of the opportunity to bid a final farewell to their loved ones in person. The overwhelming surge in deaths has further exacerbated the situation, leading to logistical challenges in arranging funerals, burials, and cremations. Consequently, many families have been left uncertain and grieving for extended periods as they await proper rituals for their deceased relatives, intensifying their experience of bereavement.[12]

Meanwhile, the global prevalence of anxiety and depression has shown a substantial increase during the initial year of the pandemic, as reported by the WHO.[13] Research focusing on the population affected by COVID-19 has identified several risk factors associated with these mental health

disorders. Worries about contracting the virus, missing loved ones, and facing economic challenges were reported by 37.2%, 29.2%, and 18.6% of individuals, respectively, contributing to feelings of stress (51.1%), anguish (44.4%), fear (43%), and sadness (34.8%).[14] When compounded with the death of a family member and the inability to conduct proper funeral rites, the bereavement process is disrupted, isolating individuals, and prolonging their grief.[3] Moreover, studies indicate that individuals mourning COVID-19-related deaths exhibit higher levels of prolonged grief compared to those grieving natural causes, and they may also simultaneously develop mental health issues such as anxiety and depression.[15]

We aimed to determine the relationship between symptoms of grief, anxiety and depression levels in relatives of patients who died from COVID-19 in Peru. The present study aims to investigate two main hypotheses. Firstly, it hypothesizes that there is an association between grief and mental health disorders, specifically anxiety and depression. Secondly, we propose that women and young participants are more susceptible to experiencing mental health issues when confronted with the loss of a family member during the pandemic. While recent reports in Peru have documented levels of grief among a cohort of patients,[16] there is a significant gap in knowledge regarding the analysis of the association between grief and mental health problems. Thus, this study holds great significance and contributes to the existing literature by shedding light on this crucial relationship.

By exploring the potential link between grief and mental health disorders, this research addresses an important aspect of human well-being during the pandemic. The findings will provide valuable insights into the psychological impact of bereavement and help inform effective strategies for supporting individuals who have lost loved ones. Furthermore, the investigation into potential differences among specific demographic groups, such as women and young participants, adds an additional layer of understanding to the complex interplay between grief and mental health. Ultimately, the results of this study have the potential to contribute to the development of targeted interventions and support systems aimed at mitigating the adverse mental health effects of bereavement during the ongoing pandemic.

Methods

Study design, population, and inclusion criteria

We conducted a retrospective observational study using a survey-based approach to investigate the experiences of 115 relatives who lost a family member to COVID-19 in Lima, Peru, between 2020 and 2021. During this period, Peru faced two major outbreaks of SARS-CoV-2, resulting in significant mortality rates.[10] In selecting our study population, we considered several inclusion criteria. Participants had to be
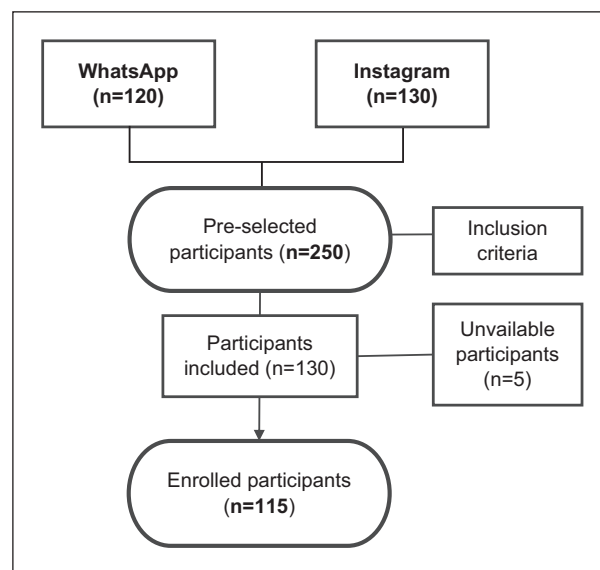

Figure 1. Study participant selection flowchart.

Peruvian, aged 18 years or older, and have had at least one close family member who died from COVID-19 at any stage of the disease severity (mild, moderate, or severe).[17] However, individuals with pre-existing mental disorders, relatives who died from causes other than COVID-19, or non-close deceased relatives were excluded. Non-close deceased relatives were defined as those who had not resided in the same household for at least 2 years or did not have a first or second-degree kinship.[18]

The study employed a recruitment strategy that utilized popular social networks such as WhatsApp and Instagram (Meta, CA) to distribute surveys. A total of 250 volunteers were initially identified, but after applying the study's inclusion criteria, 120 participants were excluded from the analysis. Ultimately, 115 participants were successfully enrolled in the study, with the remaining 5 pre-selected participants being unable to be contacted by the research team (Figure 1). To facilitate data collection, virtual surveys were conducted using Google FormTM (Google, CA). This online platform provided a convenient and user-friendly interface for participants to complete the survey, ensuring efficient and standardized data collection.

Instruments

Three instruments were used in this research. The first was the Prolonged Grief Questionnaire (PG-13) created by Prigerson and Maciejewski,[19] adapted and validated in Spanish in 2016 by Estevan.[20] The PG-13 consists of 13 items with Likert-type responses, and it can be used for both purposes assessing the intensity of grief in a continuous form on a dimensional scale and diagnosing prolonged grief disorder according to the five proposed criteria: grief (necessary prior to filling out the questionnaire in the first place),

symptoms of intense separation anxiety (2 items), duration greater than 6 months (1 item), cognitive, emotional and behavioral symptoms (9 items), and functional impairment (1 item). The questionnaire estimated the process of development of the diagnostic criteria for prolonged grief disorder. According to the scores obtained, the questionnaire categorizes grief as non-prolonged (11–24 points) and prolonged (25–40 points).

The Anxiety and Depression Scales developed by Zung in 1965 and 1971 were used to estimate anxiety and depression. The Zung[21] Anxiety Scale was validated in Spanish by Lusilla et al.[22] It consists of 20 items divided into affective (5 items) and somatic symptoms (15 items). The Zung[23] Depression Scale was adapted to Spanish by Conde et al.[24] and has 20 items divided into persistent affective state (2 items), physiological (8 items), psychomotor (2 items), and psychological (8 items) disorders. Both are assessed on an increasing ordinal Likert scale and are scored positively as never or rarely (1 point), sometimes (2 points), frequently (3 points), always or almost always (4 points), and negatively (5 for anxiety and 10 for depression) in reverse. According to the scores obtained, both questionnaires categorize anxiety and depression as no depression/anxiety (<50 points), mild (50–59 points), moderate (60–69 points), and severe depression/anxiety (70 to more points).

Variables, data processing, and analysis

The study variables were grief disorder (prolonged or non-prolonged) and anxiety and depression based on levels (no depression/anxiety, mild, moderate, and severe depression/anxiety).

Virtual informed consent was used prior to each survey. Data were collected directly from Google storage and exported to the IBM SPSS v4.0 (Armonk, USA) statistical analyzer for Windows. Initially, we used descriptive statistics to determine frequencies for categorical variables and means and standard deviation for continuous variables. The normality of the data was analyzed with the Kolmogorov-Smirnov test, and we used Pearson's test to estimate the correlation between variables and one-way ANOVA with Bonferroni post hoc test to estimate differences between the study variables (i.e., grief, age). Binary logistic regression analysis was used to study the predictors of mental health outcomes, including grief. For all tests, we considered a threshold of $\alpha = 0.05$ and a 95% confidence interval to be significant.

Ethical aspects

The study had the approval of the Ethics Committee of the Universidad Norbert Wiener (Registration 959-2021, 12 September 2021) and has complied with the bioethical principles and the guidelines of the Helsinki declaration.[25]

Table 1. Baseline characteristics of the participants included in the study, $N = 115$.

Variables	Categories	N	%
Gender	Male	49	42.6
	Female	66	57.4
Age group (years)	18–20	3	2.6
	21–30	32	27.8
	31–40	37	32.2
	41–50	31	26.9
	>50	12	10.4

Results

The average age of the 115 patients who participated was 37.8 ± 10.1 years (range 18–63) and 57.2% (66/115) were female. In addition, the age group with the highest frequency was 31–40 with 32.2% (37/115), followed by 21–30 years with 27.8% (32/115) and 41–50 years with 26.9% (31/115) (Table 1).

In addition, 76.5% (88/115) of the participants were experiencing prolonged grief. It was more frequent in females with 45.2% (52/155) although it was not significant ($p = 0.510$). Also, we found differences between age groups ($p < 0.001$), which were more frequent in the age group from 31 to 40 years with 28.7% (33/115) and 41–50 years with 24.3% (28/115) (Figure 2). Among age groups, the frequency of prolonged grief was different between younger (18–20 years vs 31–40 years and 41–50 years, both with $p = 0.002$) versus older (31–40 years and 41–50 years vs >50 years, $p = 0.029$ and 0.028, respectively).

Only 18.3% (21/115) of participants had mild anxiety, affecting mainly females at 13.9% (16/115) and the 41–50 years age group with 6.9% (8/115). We did not find symptoms of moderate and severe anxiety, and we found no differences between genders ($p = 0.055$) or age groups ($p = 0.611$). Although 49.6% (57/115) of the participants did not have depression, 47.8% (55/115) had mild depression, and 2.6% (3/115) had moderate depression. Depression affected more women (41 (35.7%) with mild depression and 2 (1.7%) with moderate depression) and the 31–40 years age group (21 (18.3%) with mild depression and 1 (0.9%) with moderate depression). We only found differences in depressive symptoms between genders ($p = 0.006$).

All cases of anxiety were present in patients with prolonged grief, while 49.5% (57/115) cases of depression were present in family members with prolonged grief (Table 2). We found an association between prolonged bereavement with anxiety ($p = 0.005$) and depression ($p < 0.001$). Predictors of anxiety symptoms were age group ($p = 0.035$) and grief ($p < 0.001$), while gender ($p = 0.019$) and grief ($p < 0.001$) were predictors of depressive symptoms. Finally, only gender was a predictor of
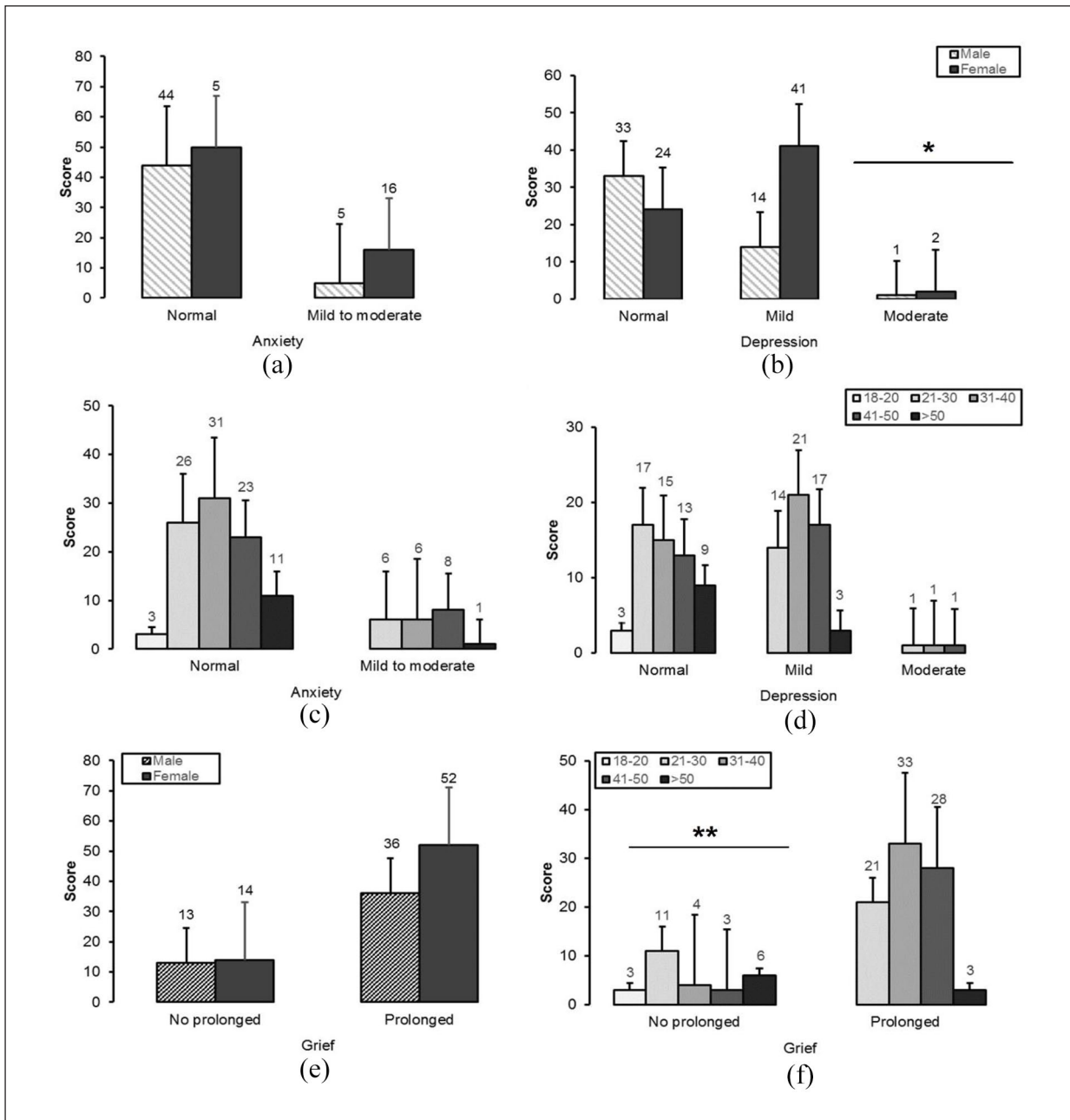
Figure 2. Anxiety (a and c), depression (b and d), and grief (e and f) according to the age group and gender of relatives of deceased by COVID-19 (Data in *N*).
*$p < 0.05$, **$p < 0.001$.

grief in relatives of people who had died from COVID-19 ($p = 0.019$) (Table 3).

Discussion

This research aimed to assess the impact of bereavement on relatives of COVID-19 patients, revealing that approximately three-quarters of participants experienced prolonged grief, with a higher prevalence among adult females. Our findings indicated the presence of mild anxiety levels, and

nearly half of the participants exhibited symptoms of depression, predominantly observed in individuals with prolonged grief. Prolonged grief emerged as a significant predictor of mental health problems in relatives who lost loved ones to COVID-19.

To the best of our knowledge, this study represents the first investigation into prolonged grief and associated mental health issues within the Peruvian population. While we previously provided insights into the bereavement experiences of relatives of COVID-19 patients,[7] this study adds a crucial

Table 2. Prolonged grief associated with anxiety and depression in relatives of patients who died from COVID-19. Data in *N* (%).

Grief	Anxiety		p-Value	Depression			p-Value
	Normal	Mild to moderate		Normal	Mild	Moderate	
Prolonged	67 (58.3)	21 (18.3)	0.005	31 (26.9)	54 (46.9)	3 (2.6)	<0.001
Non- prolonged	27 (23.5)	0 (0)		26 (22.6)	1 (0.9)	0 (0)	
Total	94 (81.7)	21 (18.3)		57 (45.6)	55 (47.8)	3 (2.6)	

Table 3. Binary logistic regression analysis for factors predictive of mental health issues in relatives of deceased by COVID-19.

Variables	Anxiety				Depression				Grief			
	B	SE	p-Value*	95% CI	B	SE	p-Value	95% CI	B	SE	p-Value	95% CI
Age group (years)	−0.087	0.037	0.035	0.663–1.667	−0.027	0.603	0.938	0.710–1.450	−0.311	0.222	0.201	0.487–1.163
Gender	−0.104	0.743	0.889	0.120–1.049	0.294	0.442	0.019	−0.564 to 3.190	0.294	0.442	0.019	0.564–3.190
Grief	−3.126	0.608	<0.001	2.786–32.501	−3.867	1.113	<0.001	0.003 to 0.162	—			

*All $p < 0.05$ marked in bold letters.

dimension by elucidating the relationship between grief, anxiety, and depression during the COVID-19 lockdown. Furthermore, our research contributes significantly to the understanding of death and bereavement in Latin America, as it is one of the few studies conducted in this region,[26] thus filling an important gap in the literature.

One study revealed that while overall levels of grief did not change before and during the pandemic, the experience of grief during this challenging period intensified its impact.[27] This increased intensity can be attributed to disruptions in funeral practices, which have disrupted the normal grieving process and potentially prolonged grief, thereby affecting the well-being of the bereaved.[3,28] Our study findings align with these observations, indicating that relatives of patients who died from COVID-19 experienced prolonged grief (76.5%) along with symptoms of anxiety (18.3%) and mild depression (47.8%), with a smaller percentage experiencing moderate depression (2.6%). These results parallel previous studies conducted in Peru during the initial outbreak, which highlighted the inability of relatives to perform customary funeral practices due to confinement measures.[7] Additionally, our findings resemble those found in a Portuguese population like ours (66.9% women, average age of 37.3 years), reporting a 30.7% prevalence of anxiety symptoms and a 10.2% prevalence of depression during the pandemic.[6]

Our findings are also supported by other studies that have shown that this funeral disruption can lead to prolonged and complicated grief.[12,25,29,30] There is also concern about this becoming a prolonged grief disorder (PGD), as in a Chinese population, whose close relative died more or less than 6 months ago, the prevalence of PGD was between 29.3% and 37.8%.[31] Another study even found that experiencing the death of a family member unexpectedly during the pandemic represents a significant risk factor for developing this disorder.[32]

These results have made it clear that COVID-19 deaths increased the risk of pathological grief in the general population without discrimination. One of the first studies that evaluated risk factors for depression and anxiety in U.S. perinatal women during the pandemic found that in the last weeks of pregnancy, 34.6% and 22.7% reported clinically significant symptoms of depression and generalized anxiety, respectively, in which 8.8% attributed to COVID-19 grief and their high levels were significantly related to both disorders (depression and generalized anxiety, both with $p < 0.001$).[33] Also, a study of Mexican women seeking psychological support for their grieving process found that 93.7% reported symptoms of anxiety and 86.6% of depression. Unemployed females under 30 years with a low educational level and with a recent suicide attempt had a greater association with both symptoms. In addition, those whose loss was more recent (<6 months) showed higher levels of depression and symptoms of problematic grief compared to those with longer times of loss. We also found that the more severe the anxiety, the higher the levels of depression as well as sleep difficulties, avoidance, arousal, and grieving symptoms (all $p < 0.001$).[34] In our study, although we did not link time of grief with mental health issues, there are similarities in regard to demographic characteristics and the presence of anxiety and depressive symptoms. However, there may be differences in the frequency of grief in view of the measures and time of confinement, as well as the changes in funeral rituals between countries. There is a need for multicenter population-based studies to be developed in order to understand grief, PGD, and mental health problems.

Effective communication with patients before their passing is a crucial aspect to consider. A qualitative study of Hindu relatives revealed that difficulties in proper communication created doubts about the death of their loved ones and left them with feelings of remorse for not being able to have

their loved one at home during their last moments.[35] Similarly, close relatives of veterans who died from COVID-19 in intensive care units found that poor-quality communication, particularly the interruption of communication, caused significant distress in families, leading to the development of anxiety, depression, and disruption of the grieving process.[36] In Peru, it has been observed that the lack of communication with hospitalized family members affected by COVID-19 has heightened concerns and generated distress, further exacerbating the experience of prolonged grief.[7] Therefore, it is crucial to ensure high-quality communication even in the face of restrictions, as this can help prevent the onset of prolonged grief or PGD. This is especially important, as individuals bereaved due to COVID-19 are at a higher risk of functional impairment, which can significantly impact their overall well-being and physical functionality.[37]

This study had limitations. First, as we enrolled adults, we did not consider vulnerable populations such as pregnant women, children, or participants with mental health problems, who have been equally or more affected in the face of COVID-19 grief.[32] Second, we did not include healthcare workers who are themselves prone to mental health problems (e.g., stress) when providing healthcare services to the general population and patients with COVID-19. It is possible that the frequency of prolonged grief varies in this occupational group as they have been face-to-face with death every day,[17] seeing hundreds of patients die and deciding who they can save during lockdown.

In conclusion, the findings of this study indicate that relatives of patients who have passed away from COVID-19 commonly experience prolonged grief, accompanied by symptoms of anxiety and depression. Furthermore, bereavement serves as a significant predictor of mental health issues, with women around the age of 30 being particularly vulnerable. To alleviate the difficulties associated with bereavement, it is crucial to establish stable and effective communication measures with patients, ensuring their wishes and needs are met prior to their passing.[36] Additionally, providing psychological and spiritual support is essential in mitigating the negative impact of traumatic events throughout the grieving process,[38] as these experiences can directly contribute to functional deterioration in individuals.[37]

ORCID iD

Jeel Moya-Salazar https://orcid.org/0000-0002-7357-4940

Supplemental material

Supplemental material for this article is available online.

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