

PATHOLOGICAL GRIEF IN GERIATRIC AGE GROUP AFFECTED BY COVID-19 DEATHS: A COMMUNITY-BASED STUDY

ABSTRACT:

Background: Deaths by COVID-19 have left behind nearly 12 million recent bereaved individuals worldwide and researchers have raised concerns that the circumstances of COVID-19 related deaths will lead to a rise in prevalence of prolonged grief disorder (PGD) cases. Nevertheless, no research has looked at the PGD incidence among older Indians who have lost a loved one to COVID-19. The aim this research is to determine the prevalence of PGD and the demographics of older people who have experienced COVID-19-related bereavement.

Methods: This is a cross-sectional study and house to house survey was conducted between August 2022 and August 2023. Forty geriatric adults aged above 60 years, who consented to participate were assessed for PGD. Demographic details and loss-related information were collected. Self-reported prolonged grief symptoms were measured using Pandemic Grief Scale (PGS) and Traumatic Grief Inventory Self Report (TGI-SR). Anxiety and depression were measured using Hamilton Rating Scale for Anxiety (HAM-A) and Hamilton Rating Scale for Depression (HAM-D). Multiple linear regression analysis was used to determine the associated factors of grief symptoms.

Results: Our study indicates that individuals who experienced loss due to COVID-19 exhibited higher levels of grief. Most of the participants were females (65%). Prevalence of PGD was 10% by TGI-SR. HAM-A scores (14.28 +/- 1.42) were higher than HAM-D scores (12.02 +/- 1.58).

Conclusion: It is essential to counsel families early and offer supportive services to prevent pathological grief associated with COVID-19 deaths.

Keywords: Prolonged grief disorder, grief, old age, geriatric, COVID-19, pandemic, India

INTRODUCTION:

On March 11, 2020, the World Health Organization (WHO) declared COVID-19 as a pandemic, following the occurrence of 118,000 diagnosed cases and 4291 deaths in 114 countries. ⁽¹⁾ As of November 30, 2023, there have been 772,052,752 confirmed cases of COVID-19 and 6,985,278 deaths worldwide, as reported to WHO. ⁽²⁾ In India, as of November 30, 2023, there have been 45,001,764 confirmed cases of COVID-19 with 533,298 deaths reported to WHO. ⁽³⁾

Prolonged grief disorder (PGD) was incorporated as a novel diagnosis in the World Health Organization's **International Classification of Diseases, 11th edition (ICD-11) recently**. This disorder is defined by enduring and pervasive feelings of yearning, longing, or persistent preoccupation with memories of the deceased, accompanied by other **indicators** of grief-related emotional distress. **It results** in notable impairment or distress in daily functioning, persisting for a minimum of six months, surpassing societal, cultural, or religious expectations. ⁽⁴⁾ This syndrome also encompasses various forms of emotional distress. Factors such as the circumstances and aftermath of deaths during the COVID-19 pandemic are likely contributors to increased rates of PGD[20-21].

A recent study in USA, has observed that for each COVID-19 death, about 9 family members would be affected by grief. When the process of adaptation is obstructed or interrupted, it often leads to the development of PGD, as observed in various studies. Approximately 9.8% of individuals experience symptoms indicative of PGD following the loss of a loved one. One study reported that individuals bereaved by COVID-19 exhibit heightened levels of shock, disbelief, and hallucinations regarding the deceased, along with feelings of estrangement from others. Furthermore, COVID-19-related deaths are associated with an increased likelihood of developing probable PGD, particularly among older adults, as **shown** by a study showing elevated risk in the geriatric population at the 12-month mark post-loss. ^(5,6,7)

Consequently, older adults who have lost a spouse to COVID-19 and display specific distress symptoms may require clinical intervention for PGD. ⁽⁸⁾ **PGD is a diagnosis that applies to few affected by a death, who are at risk of experiencing significant distress and dysfunction.**

Mourners who meet the criteria for PGD have been shown to benefit from specialized, targeted treatment for this condition. ⁽⁹⁾

The diagnosis of PGD according to both DSM-5 and ICD-11 is grounded in a unidimensional grief construct, potentially blurring the differentiation between primary and additional symptoms. With the potential rise in PGD prevalence linked to the COVID-19 pandemic, practitioners have to ascertain the diagnostic criteria used for PGD before commencing treatment, and to consider a stepped-care approach when uncertain about the presence of full-blown PGD. ⁽¹⁰⁾

The COVID-19 pandemic highlighted psychiatry's lack of readiness to effectively manage sudden grief among older patients. A study suggested that many healthcare providers felt unequipped to address grief and bereavement in the geriatric population. ⁽¹¹⁾

Notably, there is a scarcity of research focusing on the geriatric population within the Indian subcontinent. Therefore, the present study aims to investigate pathological grief among the elderly who have experienced the loss of a partner, child or family member due to COVID-19.

METHODS AND MATERIALS

After interviewing 100 community households, 40 persons who fell within the geriatric age category were chosen for data compilation. Adults over 60 are considered to be of geriatric age according to the WHO. ⁽¹²⁾ Adult males and females over 60 who gave their consent for the study, lost a spouse, ward, or family member, and had their deaths recorded in the COVID-19 death register kept by Attibele PHC, Jigani PHC, and Haragadde PHC all located in rural Bangalore were included in the assessment for prolonged grief disorder. **The study's aim is to evaluate PGD in older adults who have experienced a loved one's death.** The study excluded participants who did not give their consent, had mental retardation, or had previously been diagnosed with psychiatric illnesses.

The research has institutional ethical clearance. All family members were counseled about the study and given written informed permission after meeting the selection criteria. When

conducting interviews, the following scales were used in conjunction with a semi-structured proforma.

1. PANDEMIC GRIEF SCALE (PGS)

PGS is a 5-item Likert rating scale using 4-point time-anchored scale that spans a 2-week period (0 =not at all to 3 = nearly every day), participants rated how frequently they experienced each grief symptom. The PGS measures COVID-19 grief equally across demographic groups, and discriminates well between persons with and without dysfunctional grief using an optimized cut score of ≥ 7 (87% sensitivity and 71% specificity).

2. TRAUMATIC GRIEF INVENTORY (TGI)

It is a self-reported inventory of 18 items used for the assessment of symptoms of Prolonged Grief Disorder (PGD). Scoring is done using a 5-point Likert rating scale. A total score of 61 is considered as a cutoff for provisional diagnosis of PGD.

3. HAMILTON RATING SCALE FOR ANXIETY (HAM-A)

HAM-A is the most frequently used scale to evaluate anxiety. It contains 14 items; each item is rated on 0 to 4 scales. Score below 7 is normal, 8 to 14 is mild anxiety, 15 to 23 is moderate anxiety, and > 24 is severe anxiety.

4. HAMILTON DEPRESSION RATING SCALE (HAM-D)

HAM-D is an observer-rated scale on the basis of clinical interview to evaluate depression. Score norm: 7 and below is considered as normal, 8 to 13 is mild depression, 14 to 18 is moderate depression, 19 to 22 is severe depression, and 23 and above is very severe depression.

The data was collected, and assessed with SPSS v21, where continuous variables were represented as mean and standard deviation, and the categorical variables were represented as frequencies and proportions. Student's t-test, Mann Whitney U test and Pearson's correlation test was used where deemed necessary.

RESULTS:

This study included 300 participants out of which 40 study participants of geriatric age group fit the inclusion and exclusion criteria.

Table 1: Demographic details of geriatric caregiver

Variable		Frequency (N=40)	Mean \pm SD
Age			64.57 \pm 5.93
Sex	Male	13 (32.5%)	66.46 \pm 7.31
	Female	27 (67.5%)	62.96 \pm 4.13
Religion	Hindu	39 (97.5%)	
	Muslim	1 (2.5%)	
Education	Up to 10th	10 (25%)	
	Uneducated	30 (75%)	
Socio – economic status	Upper	0 (0%)	
	Middle	5 (12.5%)	
	Lower	35 (87.5%)	
Staying with family		40 (100%)	
Rural		40(100%)	
Closeness with deceased		40 (100%)	
Conflict with deceased		0 (0%)	

Figures in parenthesis are in percentage

According to table 1, majority of geriatric caregivers in this study are female (67.5%), with a mean age of 64.57 years. Nearly all caregivers are Hindu (97.5%). Most caregivers have received education only up to the 10th grade or are uneducated (75%). Socio-economically, a significant majority are from lower-income backgrounds (87.5%). All caregivers stay with their families and report a close relationship with the deceased individual they care for, with no reported conflicts.

Table 2: Demographic and clinical details of deceased

Variable	Frequency (N=40)
Age of deceased	64.4 +/- 12.12

	Male	63.96 ± 13.02
	Female	59.85 ± 12.29
Role of deceased	Spouse	34 (90%)
	Child	6 (10%)
Occupation of deceased	Employed	14 (35%)
	Unemployed	26 (65%)
Expectedness of death	Expected	32 (80%)
	Unexpected	8 (20%)
Type of setup	ICU	30 (75%)
	Non-ICU	5 (12.5%)
	Home care	5 (12.5%)
COVID wave	1 st	26 (65%)
	2 nd	12 (30%)
	3 rd	2 (5%)

Figures in parenthesis are in percentage

Table 2 provides a detailed demographic and clinical profile of deceased individuals. a significant majority of the deceased were spouses, highlighting the impact on families in terms of loss. A higher percentage of the deceased were unemployed at the time of their death. Majority of deaths were expected deaths, and were admitted in ICU, possibly due to underlying health conditions or known risks. 65% of the deaths occurred during 1st wave of COVID – 19.

Table 3: Statistical analysis of scales used

Clinical variable	Mean ± SD
PGS score	5.17 +/- 1.52
TGI score	40.71 +/- 14.33
HAM – A score	14.28 +/- 1.42
HAM – D score	12.02 +/- 1.58

As per table 3, mean of PGS and TGI scores do not meet the cut off. Mean of HAM-A and HAM-D meets cut off for mild anxiety and mild depression respectively.

We observed that the majority of the study participants were females i.e. 65%. Of these the mean age of the males was found to be significantly higher than the females. ($P = .042$)

Similarly, we assessed the age of deceased, and the age of the females was significantly lower than that of the males. ($P = 0.09$)

In this study, we noted that most were staying with family in the rural area with a low socio-economic status. Most patients were managed in the hospital. Of these, 75% required ICU care with non-invasive ventilation or mechanical ventilation. These patients were at a high risk of succumbing to COVID-19. Majority of the deceased were in the 1st wave of COVID-19. All 40 participants were close with the deceased and they did not have any conflict between them.

There was a weak positive correlation of age of participant with PGS which was non-significant ($r = 0.16$, $P = .32$) also positive correlation of age of deceased with PGS which was statistically significant ($r = 0.32$, $P = .004$)

There was a weak positive correlation of age of participant with TGI-SR which was non-significant ($r = 0.28$, $P = .08$) also a positive correlation of age of deceased with TGI-SR which was statistically significant ($r = 0.44$, $P = .004$)

4 out of the 40 participants meet the cutoff of PGD ($TGI-SR \geq 61$) with a prevalence of 10%.

Using Mann Whitney U test, we found that there was no correlation with sex and PGS. ($r = 0.17$, $P = .301$). When we correlated the two scores, i.e. PGS and TGI-SR, we found a significant positive correlation between the both. ($r = 0.82$, $P = .001$)

Table 4. Correlation between age and scales used.

		Mean diff.	Std. Error	t	p	95% CI lower limit	95% CI upper limit
Age	Pandemic Grief Scale (PGS)	58.73	0.973	60.373	<.001	56.76	60.69
Age	Traumatic Grief Inventory (TGI-SR)	20.9	2.792	7.487	<.001	15.25	26.55
Pandemic Grief Scale (PGS)	Traumatic Grief Inventory (TGI-SR)	-37.83	2.198	- 17.205	<.001	-42.27	-33.38

When we correlated age of the interviewed geriatric adults with the scores used in the study, we found a positive correlation between age and the two scores independently.

Similar correlation was performed between PGS and unexpectedness of the death, and we found a significant association.

We found a weak positive correlation between age of participant and anxiety measured using HAM-A value but it was not statistically significant. ($r=0.20$, $P= .21$)

We found a weak positive correlation between age of participant and depression measured using HAM-D value but it was not statistically significant ($r=0.23$, $P= .15$)

DISCUSSION:

In the wake of the COVID-19 outbreak, there is an urgent requirement to put into action interventions that have the potential to mitigate the negative effects of mourning. It is possible that we may do this by teaching the general population about the stages of grieving and healing, as well as the ways in which the pandemic may impact loss and grief. A dominant focus on imagining alternative scenarios and/or rewriting our role in the story of the death, an excessive avoidance of reminders of the loss, social isolation, survivor guilt, or a persistent strong aversion to experiencing positive emotions are some of the characteristics that are associated with post-

traumatic stress disorder (PTSD). In addition, disruptions in regular activities such as eating, sleeping, or exercising might make it challenging to regain a sense of well-being. In the same way as the risk of COVID-19 is higher for older persons and especially those who have a persistent physical illness, the risk of PGD is likely to be higher for those who are older and who have a history of psychiatric conditions. It is possible that family members should be urged to keep a careful eye on these extremely susceptible populations. ⁽¹³⁾

In a recent study in United States, eighty adults participating in a randomized controlled trial for depression prevention who lost a spouse. The study highlights the unique challenges faced by older adults who lost a spouse to COVID-19, such as sudden and unexpected deaths, limited mourning rituals due to pandemic restrictions, and social isolation. These factors contribute to specific symptoms of distress, including shock, hallucinations, and estrangement from others. This was similar to the findings of our study. Most of the deaths were expected (80%). But each participant was close to the deceased which increased the grief. The findings underscore the importance of screening and providing clinical care for COVID-bereaved older adults, as they are at increased risk of developing PGD. Given the potential comorbidity of PGD with depression, anxiety, and post-traumatic stress, tailored interventions addressing these conditions are essential. ⁽¹⁴⁾ In our study, as most deaths occurred during the first wave, the grief was more. This could be due to the unpreparedness for the pandemic.

In a recent study in India, majority of the participants who lost a relative due to COVID-19 who were males in the age-group of 60 years and above. Grief was found more in males and in relatives whose loved ones died of COVID-19. There was a statistically significant difference between groups (COVID deaths vs non-COVID deaths) for pathological grief. ⁽¹⁵⁾ However, in our study there was no relation between sex of the individual and grief. This could be due to the small sample size and rural population. In rural India, the society is mainly patriarchal, where men are expected not to express their emotions.

The findings of our study aligned with a similar study in Brazil, which highlighted those individuals of lower socioeconomic status face heightened vulnerability to morbidity and mortality due to residing in crowded housing conditions. Social connectedness serves as a crucial support system for those in lower and middle classes, aiding in navigating life's challenges.

However, the restrictions imposed during COVID-19 deprived them of this support, negatively impacting their typical coping mechanisms. Our study had all participants from rural, lower socio-economic status who were dependent on the deceased which is in agreement to the study from Brazil.⁽¹⁶⁾ The caregivers were more anxious than depressed due to the financial instability ahead of them due to economic constraints. (*P* value .001)

The findings of this study were in line with a study in Netherlands which observed that acute grief reactions following COVID-19 deaths were more pronounced in affected families compared to deaths resulting from other natural causes (non-COVID). The higher prevalence of pandemic grief among males might be attributed to their greater representation among the relatives of COVID-related fatalities. In our study, as the age of the deceased reduced, the grief as per TGI-SR was noted to be higher as younger males were the sole breadwinners for the family ($r = -0.44$, $P = .004$).⁽¹⁷⁾

According to research, for every COVID-19 death, approximately nine Americans will experience the loss of a close relative. The data from various studies suggest that if we consider different epidemiological scenarios, the number of bereaved individuals could be significantly higher than the number of deaths. For instance, if 190,000 Americans were to die from COVID-19, this could result in approximately 1.7 million Americans losing a grandparent, parent, sibling, spouse, or child. Similarly, if 1 million deaths were to occur over a longer period, around 8.9 million individuals could be bereaved. In our study, we found a prevalence of 10% for Prolonged Grief Disorder with 4 out of the 40 participants meeting the cutoff for the diagnosis of PGD. This is in line with study from USA which suggests that grief is higher in older adults after loss of kin.⁽¹⁸⁾

A study from Iran suggests that advancing age raises the likelihood of both contracting COVID-19 and experiencing mortality due to it. Nonetheless, findings from various researches indicate that amid the pandemic, individuals aged 21–40 are notably experiencing heightened levels of anxiety, depression, and stress.⁽¹⁹⁾ In our study we noted that HAM-A scores (14.28 +/- 1.42) were higher than HAM-D scores (12.02 +/- 1.58) which is in agreement with the above study.

The limitations of our study were that the sample size is small (N=40) and the study was not done immediately after the death of the kin. It was done in rural population and it cannot be generalised.

CONCLUSION:

COVID-19 has brought about a significant mental trauma to people all over the world. Especially in families that have to deal with the death of their relatives from afar, it worsens the mental morbidity associated with COVID-19.

It is essential to counsel families early, and offer supportive counseling services to prevent the pathological grief associated with COVID-19 deaths.

The current study indicates that individuals who experienced loss due to COVID-19 exhibited higher levels of grief. This highlights the importance of conducting further research to follow up with surviving family members of COVID-19 victims, with extra care towards geriatric adults, specifically to examine potential psychological consequences such as complicated grief. This study also shows light on grief in elderly and geriatric mental health in the community.

Ethical Approval:

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

Consent

As per international standards or university standards, respondents' written consent has been collected and preserved by the author(s).

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Details of the AI usage are given below:

- 1.
- 2.
- 3.

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