

Effects of COVID-19 on Reaction to Death

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Abstract

Grief researchers are concerned that the COVID-19 pandemic will precipitate increases in severe, persistent, and disabling grief, termed prolonged grief disorder or persistent complex bereavement disorder (Boelen, et al., 2020). This study demonstrated that individuals who were not allowed to visit their loved one during the dying process experienced more intense grief and higher depression levels compared to those who chose not to visit or were allowed to visit their loved one. This study also demonstrated that individuals who experienced the death of an unvaccinated loved one experienced more intense grief and higher depression levels compared to the death of one who had been vaccinated. A total of 169 adults, age 18 and older completed an online survey that included questions on sociodemographic and loss-related variables, the Pandemic Grief Scale, and the Beck Depression Inventory.

Key Words: Dysfunctional grief, ambiguous losses, disturbed grief, prolonged grief disorder

Introduction

The first known case of COVID-19 was identified in Wuhan, China, in December 2019. The virus quickly spread worldwide, resulting in the COVID-19 pandemic. With the increasing numbers of deaths in the United States, COVID-19 is one of the deadliest and widespread viral outbreaks in America's history (McKeever, 2021). In December 2020 vaccines were initially made available to adults over 65 and to those with underlying health conditions. Over the next year, vaccines became available to all adults, and eventually to children. By December 31, 2021, the Center for Disease Control (CDC) reported a total of 463,210 deaths with COVID-19 listed as the underlying cause in 90% of deaths and as a contributing cause in the remaining deaths.

It was in this atmosphere that our study was undertaken between October 2021 and July 2022 to understand the effects of COVID-19 on grief and depression in those who experienced the death of someone close to them.

At the outset of the pandemic, the government introduced policy measures, such as social distancing and restrictions on travel and assembly in order to try to reduce the spread of COVID-19. These restrictions resulted in major societal changes affecting our everyday lives, including how we die, mourn, and bury our dead. Although memorialization practices shifted long before COVID-19, there is evidence to suggest that not obtaining closure during the dying process may lead to poorer grief adjustment (Lowe, et al., 2020). Losing a loved one in the era of COVID-19 imposed a unique burden (Pappas, 2021). Visits to hospitals, nursing homes, and retirement centers were forbidden or strictly limited; protective masks blocked faces and one could not share the comfort of a physical embrace. The lack of freedom to interact and care for a loved one during illness as well as the limitations of a final visit can disrupt mental health and lead to bouts of depression (Aguiar, et al., 2022).

Many grief researchers are concerned that those whose loved one died of COVID-19 may suffer from "dysfunctional grief," meaning grief that interferes with daily functioning or leads to conditions that prolong grief (Pappas, 2021). According to Bonanno, et al. (2002) grief is a normal experience, and in many cases, people endure loss without long lasting damage. Although there is emotional pain, the majority of people continue to function; however, COVID-19 has affected the way we grieve losses. COVID-19 has made the mourning process more complicated whether the deceased died due to COVID-19 or from other causes (Aguiar, et al., 2022).

In many cultures, the grieving process is facilitated by rituals that enable a person to connect with their deceased loved one. These rituals help people accept the loss and adapt to the reality of their life without that person (Corr & Corr, 2019). In the absence of rituals such as bedside visits, viewing the body and having a funeral, the picture of reality that the loved one is gone has been disrupted (Corr & Corr, 2019). These experiences of not having closure with the deceased are referred to as "ambiguous losses" (Rhodes, 2020). During COVID-19 many people experienced a loved one going to the hospital and declining rapidly without being permitted to see them through the dying process, thus resulting in ambiguous loss. The person is physically gone, but it still feels as though they are emotionally present. A

recent review of literature demonstrated that no quantitative research had been conducted on grief reactions or depression levels after the loss of a loved one where one was not permitted to visit after the diagnosis of COVID-19. One can hypothesize that the impact on grief and/or depression would differ for those who were not allowed to visit their loved one compared to those who either chose not to visit or were allowed to visit during the dying process.

Thousands of people are dealing with the loss of a loved one who did not receive the COVID-19 vaccine during a time when the shots were readily available (Alberty, et al., 2021). Some people simply did not make getting the vaccine a priority; others may have put off getting vaccinated for other reasons, such as their beliefs, nervousness about the unknown, concern about side effects, etc. Whatever the reasons, many COVID-19 deaths were among unvaccinated people. According to Alberty, et al., (2021) the grieving process of a death that had the potential of being preventable is overwhelming. News articles report the intense grief and depression of survivors who reported they feel their loved ones ignored science and refused to be vaccinated (Reinstein, 2020). A recent review of literature demonstrated that no quantitative research had been conducted on grief reactions or depression levels after the loss of a loved one who was unvaccinated whether by choice or due to lack of vaccine at the time of death. According to Aguiar, et al., 2022, and Wallace, et al., 2020, disturbed grief can lead to bouts of depression. This supports the prediction that grief is more intense and depression levels are higher when the loved one who died was unvaccinated compared to vaccinated.

Method

A local ethics committee approved this study. The data of this study were collected through a survey of adults, age 18 and older. Participants included a population of diverse employment backgrounds, for example, health care workers, students, professionals, government employees, etc. The participants were recruited by the distribution of the online survey through direct emails and peer to peer circulation within professional and social groups. A priori power analysis was conducted using G*Power version 3.1.9.76 (Faul, et al., 2009) to determine the minimum sample size required to test the study hypotheses. Results indicated that the required sample size to achieve 80% power for detecting a medium effect, at a significance criterion of $\alpha = .05$, was $N = 159$ for a One-way Analysis of Variance (ANOVA). Thus, the obtained sample size of $N = 169$ was adequate to test the study hypotheses.

Before completing the survey, participants read information about the study procedure and background (e.g., confidentiality, study purpose, data handling, and voluntariness). If they wished to participate, they provided informed consent. People who did not provide informed consent were excused from the survey.

Participants completed a survey of sociodemographic (i.e., age, gender) and loss related characteristics (i.e., time since loss, relationship with the deceased, visited or not, vaccinated, or unvaccinated). Only participants who had experienced a death, and who furnished complete information were included in the final sample.

The survey began with sociodemographic and loss related questions. These questions identified individuals who may or may not have had the opportunity to visit a dying loved one. Additionally, these identified whether or not the loved one had been vaccinated. Respondents then completed the Pandemic Grief Scale (PDS) and the Beck Depression Inventory (BDI) in order to measure the effect of differences in visitation and in vaccination.

The Pandemic Grief Scale (PDS) is a 5-item scale based on 831 adults who lost someone to COVID-19 (Lee et al., 2020). COVID-19 grief was measured with the PDS, an efficient screening tool that identifies dysfunctional or disturbed grief due to COVID 19 loss with strong reliability (Lee et al., 2020). The PDS was used in this study to measure grief intensity of people who were not allowed to visit during the dying process and those who had loved ones who died unvaccinated.

The Beck Depression Inventory (BDI) is a 21-item self-reporting rating that measures characteristic attitudes and symptoms of depression (Beck, et al., 1961). The BDI was used in this study to measure the depression levels of people who were not allowed to visit during the dying process and those who had loved ones who died unvaccinated.

The descriptive analyzes of the sample can be seen in Table 1. Sixty-eight percent of the participants in the study were female, 31% male and 1% identified as other. The largest number of participants fell in two categories with 31% being between the age of 18-25 and 28% aged between 51-65 years.

Table 1 Characteristics of Study Participants

Demographics	<i>n</i>	%
Age of participant		
18-25	54	31%
26-35	24	14%
36-50	34	20%
51-65	49	28%
65+	8	7%
Sex of participant		
Male	54	31%
Female	114	68%
Other	1	1%

Results

A One-way Analysis of Variance (ANOVA) was used to determine if there was a statistically significant difference in grief intensity of individuals who were not allowed to visit compared to those who chose not to visit or who were allowed to visit their loved one during the dying process. The test for normality, examining standardized skewness and the Shapiro-Wilks test, indicated the data were statistically normal. However, the Levene's F test revealed that the homogeneity of variance assumption was not met ($p = .930$). As such, the Welch's F test was used an alpha level of .05 was used for all subsequent analyses. The one-way ANOVA revealed, Welch's F (2, 167) = 7.10, $p = .001$, indicating a significant statistical difference in the grief intensity of those who lost loved ones not allowed to visit. The estimated omega squared ($\omega^2 = .059$) indicated that approximately 5.9% of the total variation score on grief measure of visitation is attributable to differences in visitation. Games-Howell post hoc procedure were conducted to determine if grief varied according to visitation. These results indicate that there is a statistically significant difference between those who were Not Allowed to Visit ($M = 3.15$, $SD = 1.25$) compared to No Visitation by Choice ($M = 2.14$, $SD = 1.35$). There was no statistical difference in individuals who were Allowed to Visit ($M=2.96$, $SD=1.2$) compared to those Not Allowed to Visit and No Visitation by Choice.

A One-way ANOVA revealed, a significant difference in depression levels of individuals who visited their loved one compared to those who were not allowed to visit or chose not to visit. $F(2, 167) = 10.140$, $p < .001$. The Levene's F test revealed that the homogeneity of variance assumption was not met ($p < .001$). As such, the Welch's F test was used, an alpha level of .05 was used for all subsequent analyses. The estimated omega squared ($\omega^2 = .70$) indicated that approximately 70% of the total variation score on depression measure of visitation is attributable to the differences in visitation.

Post hoc comparisons, using the Games-Howell post hoc procedure, were conducted to determine if depression varied according to visitation status. These results indicate a statistically significant difference in depression levels of individuals who were Not Allowed to Visit their loved one during the dying process ($M = 1.0$, $SD = 1.4$) compared to No Visitation by Choice ($M = 3.8$, $SD = 2.14$). There was no statistical difference in individuals who were Allowed to Visit ($M=3.0$, $SD=2.0$) compared to those Not Allowed to Visit and No Visitation by Choice.

A One-way ANOVA was also used to determine if there is a statistically significant difference in grief intensity of individuals who lost loved ones to COVID-19 who were vaccinated compared to those who were unvaccinated by choice or due to lack of availability of vaccine. The test for normality, examining standardized skewness and the Shapiro-Wilks test, indicated the data were statistically normal. However, the Levene's F test revealed that the homogeneity of variance assumption was not met ($p = .054$). As such, the Welch's F test was used, an alpha level of .05 was used for all subsequent analyses. The estimated omega squared ($\omega^2 = .093$) indicated that approximately 9.3% of the total variation score on grief measure of vaccination is attributable to vaccinated versus unvaccinated.

Post hoc comparisons using the Games-Howell post hoc procedure were conducted to determine if grief intensity varied according to unvaccinated by choice or lack of vaccine. These results indicate that grief intensity of individuals who lost loved ones who were vaccinated ($M = 3.36$, $SD = 1.21$) was statistically different from grief levels in individuals who lost loved ones who were unvaccinated by choice ($M = 2.61$, $SD = 1.29$), as well due to no available vaccine; ($M = 3.59$, $SD = 1.15$).

A One-way ANOVA was used to determine if there is a statistically significant difference in the depression levels of individuals who lost loved ones to COVID 19 who were vaccinated compared to those who were unvaccinated. The Levene's F test revealed that the homogeneity of variance assumption was not met ($p = .062$). As such, the Welch's F test was used. An alpha level of .05 was used for all subsequent analyses.

The one-way ANOVA revealed, Welch's $F(2,167) = 6.94$, $p = .001$, indicating a statistically significant difference in the depression levels of those who lost loved ones who were unvaccinated compared to those who were vaccinated. The estimated omega squared ($\omega^2 = .06$) indicated that approximately 6% of the total variation score on depression measure of vaccine is attributable to vaccinated versus unvaccinated.

Discussion

This study presented the data supporting the hypothesis that individuals who were not allowed to visit their loved one during the dying process had more intense grief and higher depression levels than those who chose not to visit their loved ones during the dying process.

Further, the data supports the hypothesis that individuals who experienced the death of a loved one who died unvaccinated had more intense grief and higher depression levels compared to those who died despite being vaccinated. The lack of ability to follow established rituals of grieving frequently results in disturbed grief (Aguia, et.al, 2022). The restrictions on the grieving process during COVID-19 changed the usual process of coping with loss. This change included prohibiting visitation with a dying individual, limiting the number of mourners allowed at funerals, limiting interactions with the deceased and their loved ones. Disturbed grief can occur when families are unable to grieve in a traditional manner (Wallace, et al., 2020). The impossibility of saying goodbye, and missing the interaction with the loved one is a problem that can cause intense grief and depression.

Strengths of this study provide more evidence that grief and depression are ongoing and important factors of the COVID-19 pandemic that affect families dealing with loss. Because intense grief is a strong predictor of future disturbed grief, this lends support to predictions that the pandemic will lead to a higher prevalence of grief disorders (Eisma, et al., 2020).

Although this research study reached its aims, there are avoidable limitations. This research was conducted on a small size of population of only 169 adults who responded to the survey in a brief time period; therefore, to generalize the results for larger groups, the study should have involved more participants.

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