

# The Mental Health Consequences of Losing a Loved One to COVID-19

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## ABSTRACT

**OBJECTIVES:** This study examined the association between loss of a loved one to COVID-19 and depression, anxiety and suicide ideation among Rhode Island young adults.

**METHODS:** The 2022 Rhode Island Young Adult Survey recruited 1,022 young adults aged 18-25 years who lived in Rhode Island. Logistic regression models were used to estimate the odds of depression, anxiety, and suicide ideation due to experiencing a loss due to COVID-19.

**RESULTS:** The odds of anxiety and suicide ideation were 57% (OR[95% CI] = 1.57 [1.13, 2.18]) and 79% (OR[95% CI] = 1.79 [1.19, 2.70]) greater among participants who lost a close friend or family member due to COVID-19.

**CONCLUSIONS:** Losing a loved one to COVID-19 increases the risk of anxiety or suicide ideation among young adults in RI. Prevention measures such as screening for mental health symptoms and incorporating mental health awareness into college, university and workplace settings should be instituted.

**KEYWORDS:** mental health, suicide ideation, COVID-19, loss, depression, young adults

## INTRODUCTION

Living through a pandemic creates incredible uncertainty, loss of control and routine, and loss of income, each of which can contribute to or trigger emotional distress such as anxiety or depression.<sup>1</sup> The most recent COVID-19 pandemic has been characterized by these attributes as well as concerns about one's health, economic security,<sup>2</sup> and loss of a loved one. In particular, losing a loved one to COVID-19 may heighten mental health symptoms, especially for young adults who experience normative developmental transitions that are already associated with mental health symptoms.<sup>3</sup>

To date, the global death toll associated with COVID-19 is over 6 million documented deaths, with 895,693 deaths occurring in the United States (US) between January 2020 and September 2021.<sup>4,5</sup> Death rates were higher in US populations of color relative to the non-Hispanic White population, and populations of color died at younger ages than the

non-Hispanic White populations, according to data collected between February 1st and July 22, 2020.<sup>6</sup> In the US, 95% of COVID-19 deaths occurred in individuals who were over 50 years old.<sup>7</sup>

In Rhode Island (RI), 3,789 deaths due to COVID-19 occurred as of January 2023.<sup>8</sup> In December 2020 alone, RI had the highest COVID-19 fatality and incidence rates when compared to the rest of the US.<sup>9</sup> While White individuals had the highest crude death counts when compared to residents of other races, Hispanics/Latinos, African Americans/Blacks and Asians have higher age-adjusted death rates. As with COVID-19 death rates in the US, 95% of COVID-deaths in RI were among individuals over 50 years old.<sup>10</sup>

For every COVID-19 death in the US, about nine Americans experience the loss of a close relative or loved one.<sup>11</sup> The toll of COVID-19 deaths has led to a rise in adverse mental health consequences among individuals who have lost a loved one to COVID-19. The sudden and unexpected death of a family member or close friend can cause extreme psychological distress (i.e., depression, anxiety, suicide ideation) and require extra emotional support to grieve the unexpected loss.<sup>12,13</sup> Travel limitations, group gathering restrictions, and required social isolation may have prevented some grieved individuals from seeking and receiving the support needed to adapt to their loss, prolonging the feelings of depression, anxiety, and grief.<sup>14</sup> Bereaved individuals who had lost a loved one to COVID-19 reported guilt, anxiety, and depression due to self-blame for not making greater efforts to visit their loved one during the hospital stay or for not being present during their loved one's death.<sup>15-17</sup> Lack of closure led to feelings of denial and an inability to accept their loss, both of which independently increased the risk of depression, anxiety, or other mental health symptoms.<sup>14</sup> Further, a scoping review of qualitative studies on grief and loss during the COVID-19 pandemic revealed that inconsistencies in or lack of funeral ceremonies further exacerbated an individual's sense of loss immediately post-death, as did contemplating their loss in social isolation, due to COVID-19 restrictions, which increased the risk of suicide ideation.<sup>14</sup>

Although evidence suggests that individuals who have lost a loved one due to COVID-19 experience poor mental health, there is very limited information about the prevalence of losing a loved one due to COVID-19, and even less knowledge about the mental health consequences associated with

such a loss among young adults. It is possible that the combination of losing a loved one to COVID-19 during such a formative stage of a young adult's life may increase the risk of experiencing poor mental health among this population. To our knowledge there is no available information about how young adults in RI have been affected by this issue. To address this gap, we used the 2022 RI Young Adult Survey to determine which young adults were most likely to lose a friend or family member to COVID-19, and whether this loss is independently associated with anxiety, depression, and suicide ideation.

## METHODS

### Sample and Data Collection

The Rhode Island Young Adult Survey (RIYAS) was a self-report, de-identified, cross-sectional survey implemented by the Rhode Island Department of Behavioral Healthcare, Developmental Disabilities & Hospitals. The 2022 RIYAS was a web-based survey that used Qualtrics to collect data regarding young adult behavioral health, risk behaviors, and mental and physical health outcomes. The 2022 RIYAS was administered to young adults, 18 to 25 years old, residing in Rhode Island for at least part of the year. Recruitment included targeted paid Instagram, Twitter, Facebook, and Snapchat ads and was supplemented by recruitment via Reddit, flyers, banners at the Providence Place Mall, and emails to students at an institution of higher education. Participants received \$10 Amazon gift cards as compensation for study participation. A total of  $n = 1,022$  surveys were completed between May and August 2022 and were available for the current analysis. All participants provided electronic informed consent. This study was approved by the Johnson & Wales University Institutional Review Board.

### Measures

*Experiencing a loss due to the COVID-19 pandemic was assessed with a single item:* Have you lost a close friend or family member to COVID-19? Response options included no, yes a friend, and yes a family member. The loss of a friend or loss of a family member were combined into an any COVID-19 loss (coded as 0) category.

*The Center of Epidemiologic Studies Depression Scale, 10-item version (CES-D10)* was used to assess depression.<sup>18</sup> The CES-D10 contains 10 items that measure past week prevalence of symptoms related to the development of depression. Responses were collected on 4-point Likert scales ranging from rarely or none of the time (coded as 0) to most of the time (coded as 3). Aggregated scores ( $\alpha = 0.75$ ) across all items of  $\geq 10$  indicated depression. Test/re-test reliability and convergent reliability of the CES-D10 has been established.<sup>19</sup> *The Generalized Anxiety Disorder 7-item scale (GAD-7)* was used to assess anxiety. The GAD-7 contains 7 items that measure past two-week experiences

of nervousness, anxiousness, worrying, difficulty relaxing, restlessness, annoyance, irritability, and fear.<sup>20</sup> Responses were collected on 4-point Likert scales ranging from not at all (coded as 0) to nearly every *day* (coded as 3). Aggregated scores ( $\alpha = 0.93$ ) across all items of  $\geq 10$  indicate clinically significant anxiety.<sup>21</sup> Reliability and validity of the GAD-7 has been established in adolescent and adult samples.<sup>22</sup> *Suicide ideation* was assessed with: During the past 12 months, did you ever seriously consider attempting suicide? The response options were no (coded as 1) and yes (coded as 2).

Several sociodemographic variables (i.e., age, sex, gender, sexual orientation, race/ethnicity, student status, employment status, social status) were assessed to identify disparities between population groups. Sex (male, female, intersex), gender (woman, man, non-binary, two-spirit, different identity not listed), and sexual orientation (heterosexual/straight, homosexual/lesbian or gay, bisexual, don't know, different identity not listed) were collapsed into a single variable – *sexual and gender identity* – that categorized participants as heterosexual cis-female, heterosexual cis-male, and any sexual or gender minority. *Racial and ethnic categories* included African American or Black, Asian, Caucasian or White, Hispanic/Latino, Native American or Alaskan Native, Native Hawaiian or Other Pacific Islander, and different identity not listed. Participants selected all that applied. Because of low sample sizes, participants identifying as Native American or Alaskan Native, Native Hawaiian or Other Pacific Islander, different identity not listed, or more than 1 race were collapsed into a single Other category. *Student and employment status* were combined to classify participants as not a student/employed, student/not employed, student/employed, or not a student/not employed. The MacArthur Scale of *Subjective Social Status*, which asks participants to rank themselves relative to others in the community on a 1 (worst off) to 10 (best off) scale, was used to assess social status.<sup>23</sup>

### Analysis

The distribution of continuous variables (age, social status) were examined for skew and considered normally distributed. Descriptive statistics are reported for all variables. Disparities in experiencing loss due to the COVID-19 pandemic were identified using multivariable logistic regression models. All sociodemographic variables were specified as the independent variables with loss due to COVID-19 as the dependent. Heterosexual cis-males, White non-Hispanic, and not a student/not employed were the referents. Unadjusted and adjusted logistic regression models were used to estimate the odds of depression, anxiety, and suicide ideation due to experiencing a loss due to COVID-19. Adjusted models controlled for all sociodemographic variables. Analyses were completed using SPSS v28.0 (Armonk, NY: IBM Corp), and statistical significance was determined using 95% confidence intervals (CI).

**RESULTS**

Mean age of the sample was 21.3 (SD = 2.1), and 44.6% of participants identified as heterosexual cis-female (Table 1). A majority (59.8%) identified as White, non-Hispanic. A majority (55%) were students and employed, and mean social status was 5.0 (SD = 1.7). The prevalence of depression, anxiety, and suicide ideation was 51%, 37.9%, and 14.7%, respectively. Overall, 17.3% of participants lost either a friend or family member due to the COVID-19 pandemic (Figure 1).

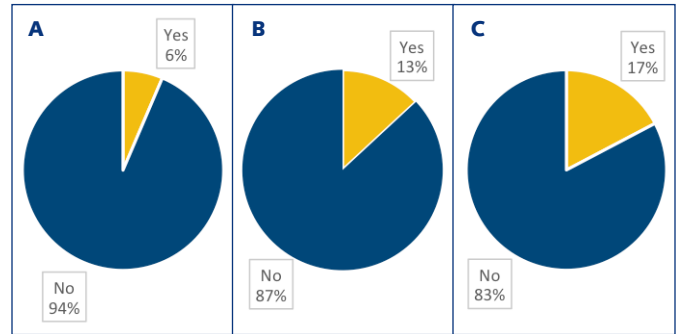
There were two sociodemographic disparities noted in the multivariable logistic regression analysis. The odds of losing a friend or family member due to COVID-19 was 56% greater among participants who were Hispanic (OR[95% CI] = 1.56 [1.04, 2.33]) (Figure 2). Conversely, the odds significantly decreased by 11% for every one unit increase in social status (OR[95% CI] = 0.89 [0.81, 0.99]).

In the unadjusted logistic regression analysis, the odds of anxiety and suicide ideation were 57% (OR[95% CI] = 1.57 [1.13, 2.18]) and 79% (OR[95% CI] = 1.79 [1.19, 2.70]) greater among participants who lost a close friend or family member due to COVID-19 (Table 2). The direction and magnitude of these relationships were maintained in the adjusted analysis. There was no association between losing a friend or family member due to COVID-19 and depression.

**Table 1.** Descriptive statistics of categorical variables (n = 1022)

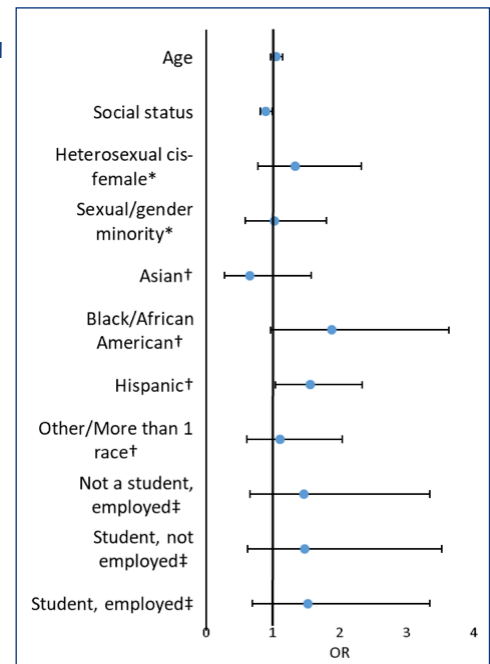
Variable		n (%)
Sexual and Gender Identity	Heterosexual cis-female	456 (44.6)
	Heterosexual cis-male	132 (12.9)
	Sexual/gender minority	434 (42.5)
Race/ethnicity	Asian	59 (5.8)
	Black/African American	54 (5.3)
	Hispanic	210 (20.5)
	Other/More than 1 race	88 (8.6)
	White	611 (59.8)
Student/employment status	Not a student, not employed	59 (5.8)
	Not a student, employed	244 (23.9)
	Student, not employed	157 (15.4)
	Student, employed	562 (55.0)
Depression	Yes	521 (51.0)
	No	501 (49.0)
Anxiety	Yes	387 (37.9)
	No	635 (62.1)
Suicide ideation	Yes	150 (14.7)
	No	872 (85.3)

**Figure 1.** [A] Percent of participants who experienced losing a friend, [B] family member, and [C] a friend or family member due to the COVID-19 pandemic



**Figure 2.** Forest plot of the adjusted odds of losing a friend or family member due to COVID-19 by sociodemographic variables.

\*Relative to heterosexual cis-females; †relative to White, non-Hispanic; ‡ relative to not a student/not employed.



**Table 2.** Unadjusted and adjusted odds of depression, anxiety, and suicide ideation by loss of a close friend or family member due to COVID-19

Variable	Depression		Anxiety		Suicide Ideation		
	OR	95% CI	OR	95% CI	OR	95% CI	
<b>Unadjusted Models</b>							
Loss of a close friend OR family member	Yes	1.17	0.85, 1.62	1.57	1.13, 2.18	1.79	1.19, 2.70
	No	.	.	.	.	.	.
<b>Adjusted Models</b>							
Loss of a close friend OR family member	Yes	1.14	0.80, 1.62	1.65	1.17, 2.33	1.83	1.17, 2.84
	No	.	.	.	.	.	.

## DISCUSSION

Nearly 1 in 5 young adults in RI reported having lost someone close to them due to COVID-19 and Hispanic young adults were more likely to lose a loved one to COVID-19, as were those with lower social status. Study results in combination with recent research on loss of a loved one to COVID-19<sup>2</sup> suggest that while loss to COVID-19 is universal, certain populations may be at a greater risk. National and RI trends alike indicate that populations of color have higher COVID-19 death rates than non-Hispanic White populations suggesting a possible rationale why Hispanic young adults were at a higher risk of experiencing a COVID-19 loss.<sup>6,10</sup>

Social determinants of health may play a role in this loss disparity. For instance, when looking at percentages of people vaccinated in Rhode Island by race, Hispanic or Latinos are the third highest population for being partially vaccinated at 82%, while also being the lowest population for receiving a booster dose.<sup>10</sup> Further, existing literature shows that Hispanic workers are over-represented in front-line lower status occupations and lower status occupations with high-risk exposures to COVID-19.<sup>24</sup> Greater work exposure may contribute to a higher prevalence of COVID-19 and a higher prevalence losing a loved one and/or friend among young adults of low social status and young adult members of the RI Hispanic community.

Experiencing a loss of a loved one due to COVID-19 may increase the odds of anxiety or suicide ideation among young adults in RI. Unexpected death of a loved one is often cited as a traumatic life event that elevates the likelihood of a psychiatric condition.<sup>25</sup> Thus, it is not surprising that losing someone close to COVID-19 increased the risk of anxiety and suicide ideation. Our results are consistent with other studies of pandemics. One study of mental health outcomes during the COVID-19 and SARS pandemics suggests that suicide ideation and suicide-related outcomes may be elevated during pandemics because individuals are fearful of infection, worried about others, and social isolation.<sup>26</sup> Similarly, in another study of the HIV/AIDS pandemic, the loss of a loved one left bereaved individuals with higher levels of anxiety and other depressive symptoms, which included suicide ideation.<sup>27</sup> Lastly, it is plausible that those who lost a loved one to COVID-19 may have had an existing mental health condition, which could increase the risk of suicide ideation, as mental illness increases the risk of suicide ideation.<sup>28</sup>

## Limitations

This convenience sample of young adults in Rhode Island was disproportionately female, with a low-percentage of heterosexual cis-males, individuals identifying as Black/African American and Asian, and a relatively higher percentage of sexual or gender minorities and is not likely representative of the young adult population. The survey used self-reported

questions, which may have led to under-reporting of mental health symptoms, and recall and social desirability bias are a concern. It is possible that those with significant mental health symptoms may not have completed this voluntary web-based survey and therefore prevalence of anxiety, depression and suicide ideation may be underreported. This was also a cross-sectional survey, and causality cannot be assumed. Despite its limitations, this study is among the few studies that examined the mental health of young adults who lost a family member or friend to COVID-19, and it offers insight into the mental health effects of losing a loved one to COVID-19 among young adults in Rhode Island.

## Implications

Young adults who have lost someone to COVID-19 could benefit from interventions to manage loss and grief and thereby reduce the likelihood of developing, or exacerbating, depression, anxiety, or suicide ideation. Medical and public health practitioners should specifically consider ways to design interventions that can target Hispanic and low SES populations without increasing stigma or prejudice. Following the recommendation of the National Academic of Pediatrics, all youth 12 years and older should be screened for suicide risk through primary care offices, university and college health centers, and community health centers.<sup>29</sup> Primary care offices and community health centers should follow the recommendations of the U.S Prevention Service Task Force National Institute of Mental Health to screen for anxiety in young adults.<sup>30</sup> While simple questionnaires such as assessments for anxiety (Generalized Anxiety Disorder-7),<sup>20</sup> suicide ideation (Ask Suicide-Screening Questions),<sup>31</sup> and depression (Patient Health Questionnaire-9)<sup>32</sup> are routinely utilized by community health clinics and Federally Qualified Health Centers (FQHCs), patients who have experienced the loss of a friend or family member to COVID-19 may benefit from receiving a referral to mental health services specifically for grief counseling. Specific actions for young adults dealing with grief recommended by the Centers for Disease Control and Prevention (CDC) include connecting with other people to honor your loved one, creating memories that have significance to them and the loved one who died, or joining support groups, hotlines, or seeking spiritual support from faith-based organizations.<sup>33</sup> Given the proportion of young adults in RI who have lost a loved one to COVID-19 and the associated consequences, the RI Department of Health should consider launching a public education campaign to increase awareness of the associated mental health consequences of losing a loved one to COVID-19.<sup>34</sup> Likewise, college campuses and workplaces, alike, might want to consider launching similar education campaigns such as incorporating mental health literacy training to promote mental health well-being.<sup>35</sup> College campuses should consider initiating grief counseling groups or creative programming that would give young adults an opportunity

to share their experiences of loss.<sup>36</sup> Workplaces may consider securing an Employee Assistance Program (EAP) if they do not have such a service for employees.<sup>37</sup> Workplaces with EAPs might consider working with their vendor to offer grief counseling groups or special programming for employees who have specifically experienced loss of a loved one due to COVID-19.<sup>38</sup>

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