Perceived Impact of COVID-19 Among Callers to the National Suicide Prevention Lifeline

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Abstract: *Background:* Research indicates that the COVID-19 pandemic caused increases in psychological distress and suicidal ideation. *Aims:* To describe the ways suicidal callers to the National Suicide Prevention Lifeline (Lifeline) perceived COVID-19 to have impacted them and assess whether these callers perceived COVID-19-related stress as contributing to their suicidal thoughts. *Method:* Telephone interviews were conducted with 412 suicidal callers to 12 Lifeline centers. Logistic regression analyses were used to examine the associations between demographic factors and individual COVID-19 stressors and to determine whether callers who endorsed COVID-19-related stress as contributing to their suicidal thoughts differed from those who did not regarding demographics, current suicide risk, history of suicidality, Lifeline use, or individual COVID-19 stressors. *Results:* Over half of callers reported that COVID-19-related stress contributed to their suicidal ideation (CRSSI). Callers who endorsed CRSSI had higher odds than those who did not of mentioning financial difficulties when asked how COVID-19 impacted them. The two groups of callers did not differ on the other factors examined. *Limitations:* Interviewed callers may not be representative of all Lifeline callers. *Conclusion:* Despite the subjective burden of COVID-19-related stress on suicidal Lifeline callers, this was not associated with new suicidality or heightened suicide risk.

Keywords: suicidal ideation, COVID-19, stress, crisis lines, crisis callers

Despite evidence that the suicide mortality rate has not increased in the United States or worldwide during the COVID-19 pandemic (Pirkis et al., 2021), there is clear indication that psychological distress and suicidal ideation have increased. In June 2020, a Centers for Disease Control (CDC) survey of 5,412 adults in the United States found that the percentage of adults who reported having considered suicide in the previous 30 days had more than doubled since a similar survey was conducted in 2018 (10.7% vs. 4.3%; Czeisler et al., 2020). Moreover, approximately a quarter (26.3%) of respondents reported experiencing symptoms of a trauma- or stressor-related disorder (e.g., post-traumatic stress disorder) related to COVID-19. Similarly, in comparing a nationally representative sample of 2,032 US adults in April 2020 to 19,330 US adults who participated in the 2018 National Health Interview Survey, Twenge and Joiner (2020) found that shortly after pandemic's onset, US adults were eight times more likely to meet the criteria for serious mental distress (27.7% vs. 3.4%). They also found that over two-thirds (70.4% compared to 22.0% in 2018) of respondents met criteria for moderate or serious mental distress, illustrating COVID-19's widespread influence on psychological distress.

There is evidence that COVID-19 did not uniformly affect the population. Several studies conducted with national- and state-level data found that while overall Americans experienced a decrease in suicide deaths immediately after the pandemic's onset in March 2020, subgroups of racial and ethnic minorities experienced an increase in suicide deaths (Bray et al., 2021; Curtin & Hedegaard, 2021; Mitchell & Li, 2021). While Hispanic, Black, and White adults reported similar rates of considering suicide when responding to the Substance Abuse and Mental Health Services Administration's (SAMHSA) 2019

National Survey on Drug Use and Health (5%, 4%, and 5%, respectively; SAMHSA, 2020), this changed notably during the pandemic. In the June 2020 CDC survey, all three demographic groups reported higher rates of considering suicide than SAMHSA found in 2019, but Hispanic and Black adults reported markedly higher rates compared to White adults (18.6% and 15.1% vs. 7.9%, respectively; Czeisler et al., 2020).

The COVID-19 pandemic and attempts to contain it had widespread financial consequences for US households. During the pandemic's early stages, Google Trends data queries representative of financial difficulty were significantly elevated (Halford et al., 2020). When responding to the American Psychological Association's 2020 *Stress in America* survey, over half (52%) of the 3,409 surveyed US adults said that COVID-19 caused negative financial impacts (American Psychological Association, 2020). Given that financial difficulty is a known long-term risk factor for suicide, it is too early to know the pandemic's full psychological effect.

The National Suicide Prevention Lifeline (Lifeline) is a network of over 200 independently owned and operated local centers. The network received nearly 2.4 million calls in 2020. The Lifeline is a traditionally high call volume hotline, and call volume remained within typical ranges from March 2020 to February 2021, compared to the period March 2019–February 2020. While not exclusively used by suicidal callers, past evaluations of the Lifeline have indicated that approximately 25% of callers are suicidal (Gould et al., 2013).

The main aims of this study were to assess the ways suicidal Lifeline callers perceived COVID-19 to have impacted them and whether these callers perceived COVID-19-related stress to have contributed to their suicidal thoughts. Secondary aims were to examine whether suicidal callers' demographic characteristics were associated with perceived individual COVID-19 stressors and whether callers' perceptions of COVID-19-related stress contributing to their suicidal thoughts were associated with their demographics, current suicide risk, history of suicidal thoughts and behavior, prior and current use of the Lifeline, and individual COVID-19 stressors.

Methods

Sample

Crisis Centers

Twelve centers in the Lifeline network were selected to participate in this study. Center selection was stratified by call volume as proxy for center size, US census region (Northeast, Midwest, South, and West), and whether centers used volunteer crisis counselors based on centers' responses to the Lifeline's internal 2018 Crisis Center Survey. At the time of the 2018 Crisis Center Survey, average call volume at the 12 centers was slightly above 50,000 calls per year (range = 3,711–183,762). Participating centers came from all four census regions. Four of the 12 centers only used paid staff, 1 exclusively used volunteers, and 7 centers had both paid and volunteer counselors. However, due to COVID-19, some centers that reported having volunteer staff on the 2018 Crisis Center Survey were using only paid staff during data collection. Two of the 12 centers provided national backup coverage to the Lifeline network in addition to being routed local Lifeline calls.

Callers

Suicidal callers to the 12 participating centers were eligible to participate in this study. The caller's current suicidality was identified by the Lifeline counselor after a risk assessment. Additionally, callers had to be 18 years or older, English-speaking, and located within the United States or the US territory of Puerto Rico. A total of 1,036 callers were approached by Lifeline counselors for permission to be contacted by the study team. Of these, 791 (76.4%) agreed to be contacted and 585 were assigned to be interviewed, a random process reflecting pre-existing funding limitations. Of the 585 callers, 412 (70.4%) completed interviews with the study interviewers. The most common reasons for not completing assigned interviews were that the callers could not be reached by an interviewer ($n = 133$) or they declined to be interviewed when reached ($n = 35$).

Procedure

Data collection for this study took place from April 2020 through March 2021. At each center, several shifts on different days and times were designated as shifts when suicidal callers would be approached to participate. Between 4 and 14 crisis counselors at each center participated in approaching callers, totaling 114 counselors across all centers. Roughly three quarters of these counselors (77.2%) were paid staff; the rest were volunteers.

Counselors were directed not to approach callers for contact permission until the very end of the call after all crisis interventions were completed. At the time of contact by the study team, on average 12.38 days after the initial call to the center ($SD = 15.15$, range = 2–97 days), a standardized telephone consent script was used, incorporating the required elements of a written consent form.

To ensure independent assessments, the study interviewers were not crisis center staff but had telephone crisis counseling experience. The caller interview included a protocol to ensure caller safety: Any caller having engaged

in suicidal behavior for which treatment had not been received, or having current suicide plans or serious intent to die at the time of the interview, was reconnected back to the center they had initially phoned. These procedures have been used in earlier studies conducted by the study team (e.g., Gould et al., 2012).

Research Electronic Data Capture (REDCap), a secure web application, was used for data management (Harris et al., 2009). The study's protocol was approved by the Institutional Review Board of the New York State Psychiatric Institute and Columbia University Department of Psychiatry.

Measures

A telephone interview was conducted with callers. The information collected for this study included demographics, history of suicidal ideation and behavior, suicide risk at the time of call, and perceived impact of COVID-19.

Demographics

Age, gender, ethnicity, and race were assessed using the following questions: (1) Age: "Would you mind telling me how old you are?" Age was categorized into the following groups: 18–24, 25–34, 35–49, and 50+ years. (2) Gender: "How would you describe your gender?" Interviewers coded responses as Male, Female, Transgender, Questioning, or Others. (3) Ethnicity: "Would you describe your ethnicity as Hispanic/Latinx?" (yes or no). (4) Race: "How would you describe your race?" Interviewers coded all that apply from the following options: American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, Black/African American, White, Others, or do not know/declined to answer.

History of Suicidal Ideation and Behavior and Suicide Risk at the Time of Call

A modified version of the suicide risk assessment used in the study team's previous Lifeline evaluations was used to retrospectively assess callers' suicide risk at the time of the Lifeline call (Gould et al., 2012). The assessment includes questions measuring the following: (1) lifetime suicide attempts prior to the Lifeline call (yes or no); (2) whether this was the first time caller was thinking seriously about suicide (yes or no); (3) intent to act at the time of call, measured on a Likert scale from 1 (*not at all likely*) to 5 (*extremely likely*); and (4) wish to die at the time of call, measured on a Likert scale from 1 (*definitely wanted to die*) to 5 (*definitely wanted to live*).

Perceived Impact of COVID-19

Interviewers transcribed callers' verbatim responses to the open-ended question, "In what ways has COVID-19 impacted you personally?" Interviewers then coded the presence of 12 a priori individual COVID-19 stressors in callers' responses. After the interviewers' initial coding, the study team reviewed the transcribed responses and interviewers' codes and arrived at a consensus rating. The 12 coded stressors were (1) knew someone who died of COVID-19, (2) exacerbation of pre-existing mental health conditions, (3) decreased access to mental health services, (4) decreased access to medical services, (5) anxiety related to in-person medical visits, (6) essential worker, (7) lost job or other financial difficulty, (8) difficulty adjusting to remote work and school, (9) feeling trapped at home, (10) increased isolation/separation from loved ones, (11) racial profiling/xenophobia, and (12) increased general anxiety/nonspecific fear.

Additionally, the following questions were asked: (1) whether stress related to COVID-19 contributed to suicidal thoughts ("CRSSI"; yes or no), (2) whether stress related to COVID-19 was the primary reason for the Lifeline call (yes or no), and (3) whether this was the caller's first time calling the Lifeline (yes or no)?

Data Analysis

The statistical analyses were conducted using R version 4.0.0. Descriptive statistics for the sample were calculated for all demographic characteristics, suicide risk variables, and each individual COVID-19 stressor.

Mixed-effect binary logistic regression models were used to account for the hierarchical structure of the data (callers nested within crisis centers). The crisis center was entered into each regression model as a random intercept. Associations between each outcome and predictor variable were tested separately in single predictor models. All statistical tests were two-sided; $p < .05$ was considered statistically significant. No adjustments were made for multiple testing. The package lme4 in R was used to calculate these models (Bates et al., 2015).

Results

Description of Callers: Demographics, Suicide History, Current Suicide Risk, and Prior Lifeline Use

The age of interviewed callers ranged from 18 to 81 years with an average age of 30.9 years (Table 1). Approximately 60% of callers were female. Nearly two-thirds (64.6%) identified their race as White; the next most represented

Table 1. Description of Lifeline callers during COVID-19 pandemic (n = 412[a])

Variables	*N* (%)
Demographics	
Age (yrs)	
18–24	176 (42.8%)
25–34	122 (29.7%)
35–49	65 (15.8%)
50+	48 (11.7%)
Gender[b]	
Male	156 (37.9%)
Female	239 (58.0%)
Transgender	4 (1.0%)
Questioning	1 (0.2%)
Others	12 (2.9%)
Race[c]	
American Indian/Alaskan Native (AI/AN)	12 (3.0%)
Asian	20 (5.0%)
Black	55 (13.7%)
Native Hawaiian/Pacific Islander (NH/PI)	2 (0.5%)
White	259 (64.6%)
AI/AN and Black	1 (0.3%)
AI/AN and White	4 (1.0%)
Asian and Others	1 (0.3%)
Asian and White	5 (1.3%)
Black and White	10 (2.5%)
NH/PI and White	2 (0.5%)
White and Others	1 (0.3%)
Mixed/multiracial	8 (2.0%)
Others	21 (5.2%)
Hispanic/Latinx ethnicity	
Hispanic/Latinx	62 (15.1%)
Not Hispanic/Latinx	349 (84.9%)
History of suicidal ideation and behavior and suicide risk at the time of call	
First time seriously thinking about suicide?	
Yes	54 (13.2%)
No	342 (83.6%)
NA, participant says not relevant	13 (3.2%)
Prior suicide attempt?	
Yes	212 (52.0%)
No	196 (48.0%)
How likely was caller to act on thoughts at the time of call?[d]	
1 – not at all likely	101 (24.7%)
2	94 (23.0%)
3 – somewhat likely	130 (31.9%)
4 + very/extremely likely	83 (20.4%)
How much did caller want to die at the time of call?	
Definitely wanted to die	67 (16.4%)
Wanted to die more than live	103 (25.3%)
About equal	104 (25.5%)
A part of them wanted to live more than die	88 (21.5%)
Definitely wanted to live	46 (11.3%)
Prior Lifeline use	
First Lifeline call?	
Yes	212 (51.6%)
No	199 (48.4%)

Note. [a]*N*'s for individual factors vary due to missing data. [b]Transgender, questioning, and others were combined into a noncisgender category for analyses. [c]Individuals who identified as more than one race or as *mixed* or *multiracial* were combined in the analyses as mixed/multiracial. NH/PI was combined with others in the analyses due to a prevalence of less than 3%. [d]Response options four and five were combined in the analyses due to low frequencies.

race was Black/African American with 13.7%. Over one in seven callers (15.1%) identified their ethnicity as Hispanic/Latinx. Approximately 84% of callers said it was not their first time thinking seriously about suicide and roughly half (52%) having made a prior suicide attempt. About half (52.3%) of callers said they were somewhat, very, or extremely likely to act on their suicidal thoughts at the time of their call, and two-fifths (41.7%) reported that they wanted to die more than live or definitely wanted to die. About half (51.6%) of callers reported this was their first time calling the Lifeline.

Perceived Impact of COVID-19

The most frequently cited individual COVID-19 stressor was job loss or other financial difficulty, with over one-third (35.4%) of callers expressing that they had been financially impacted by COVID-19 (Table 2). Nearly one-third (32.3%) mentioned feeling distressed due to increased isolation or separation from loved ones caused by COVID-19. About one in eight (12.6%) mentioned experiencing difficulty adjusting to their or their family members' remote work and school; a similar proportion (12.1%) mentioned that the pandemic exacerbated in a pre-existing mental health condition. Very few callers (3.2%) cited having known someone who died of COVID-19, and none mentioned experiencing racial profiling or xenophobia related to COVID-19. Over half (57.6%) of all callers endorsed CRSSI, and one quarter (25.1%) reported that COVID-

Table 2. Perceived impact of COVID-19 on Lifeline callers (n = 412)

Variables	*N* of yes	% of yes
Individual COVID-19 stressors		
Lost job/other financial difficulty	146	35.4
Increased isolation/separation from loved ones	133	32.3
Difficulty adjusting to remote work and school	52	12.6
Exacerbation of pre-existing mental health conditions	50	12.1
Feeling trapped at home	40	9.7
Essential worker	38	9.2
Increased general anxiety/nonspecific fear	28	6.8
Decreased access to mental health services	25	6.1
Knew someone who died of COVID-19	13	3.2
Decreased access to other medical services	10	2.4
Anxiety related to in-person medical visits	2	0.5
Racial profiling/Xenophobia	0	0
Additional COVID-19 questions[a]		
Did stress related to COVID-19 contribute to suicidal thoughts? (n = 408)	235	57.6
Was stress related to COVID-19 the primary reason for call? (n = 411)	103	25.1

Note. [a]*N*'s vary due to missing data.

19-related stress was the primary reason for their call to the Lifeline.

Association of Demographic Characteristics With Perceived Impact of COVID-19

Several individual COVID-19 stressors were significantly associated with demographic factors. Compared to younger callers (aged 18–24 years; reference group), callers older than 50 years had significantly lower odds of mentioning job loss or other financial difficulty (*OR* = 0.40, 95% CI 0.19–0.82, p = .018). The three older age groups also had significantly lower odds of expressing difficulty adjusting to remote work and school compared to callers aged 18–24 years (age 25–34 years: *OR* = 0.36, 95% CI 0.16–0.74, p = .007; age 35–49 years: *OR* = 0.33, 95% CI 0.11–0.81, p = .029; age 50+ years: *OR* = 0.18, 95% CI 0.03–0.61, p = .019). Females and noncisgender individuals had significantly higher odds of mentioning experiencing an exacerbation in pre-existing mental health conditions than males (female: *OR* = 2.27, 95% CI 1.15–4.83, p = .02; noncisgender: *OR* = 4.06, 95% CI 1.02–13.88, p = .03). Compared to White callers, Asian callers had significantly higher odds of citing an increase in general anxiety or nonspecific fear due to COVID-19 (*OR* = 5.87, 95% CI 1.71–18.11, p = .002). There were no significant demographic differences between callers who endorsed CRSSI and those who did not.

Endorsement of CRSSI: Relationship to Individual Stressors, Suicide History, Current Suicide Risk, and Prior Lifeline Use

Of the individual COVID-19 stressors, only two were significantly associated with CRSSI: lost job or other financial difficulty (*OR* = 1.64, 95% CI 1.08–2.52, p = .024) and difficulty adjusting to remote work and school (*OR* = 1.97, 95% CI 1.06–3.82, p = .041).

When comparing callers who did and did not endorse CRSSI, there were no differences with regard to whether callers had made prior suicide attempts (49.4% vs. 55.5%, *OR* = 0.79, 95% CI 0.53–1.18, p = .245). Furthermore, callers who did and did not endorse CRSSI did not differ in reporting this was their first time thinking seriously about suicide (15.3% v. 11.4%, *OR* = 1.39, 95% CI 0.77–2.57, p = .285). Additionally, callers from these two groups did not differ in their suicidal intent at the time of the call (*OR* = 1.04, 95% CI 0.87–1.18, p = .64) or how much they wanted to die at the time of the call (*OR* = 0.93, 95% CI 0.79–1.09, p = .346).

Callers who endorsed CRSSI had significantly higher odds of reporting COVID-19 was the primary reason for their Lifeline call than those who did not (37.9% vs. 8.1%, *OR* = 6.94, 95% CI 3.89–13.23, p < .001). However, there was no difference between the two groups in whether it was the caller's first Lifeline call (48.9% vs. 55.2%, *OR* = 0.76, 95% CI 0.51–1.13, p = .182).

Discussion

While nearly 60% of callers perceived stress related to COVID-19 as contributing to their suicidal thoughts, these callers were largely similar to callers without this perception. Callers who perceived COVID-19-related stress as contributing to their suicidal thoughts had higher odds of reporting COVID-19-related stress as the primary reason for their call than those who did not. However, those perceiving the pandemic as contributing to their suicidal thoughts were not at higher odds of being first-time callers than those who did not perceive this, nor were they at higher odds of reporting a history of suicide attempts or serious suicidal ideation. Compared to those who did not perceive the pandemic as contributing to their suicidal thoughts, callers who perceived this did not have greater odds of being at higher risk of suicide at the time of their Lifeline call, as indicated by their suicidal intent and wish to die.

The most prevalent individual COVID-19 stressor mentioned by suicidal Lifeline callers, and one of the only individual stressors significantly associated with callers' perceptions that COVID-19 contributed to their suicidal thoughts, was job loss or other financial difficulty. The pandemic caused unprecedented job loss and decreased wages, with unemployment reaching peak levels of 14.8% in April 2020 (Falk, 2020). While governmental financial assistance such as the Economic Impact Payments (stimulus checks) offered brief relief, a 2020 study of 3,169 middle- and low-income US adults found these payments did little to reduce financial distress (Tsai et al., 2021). Financial difficulty has long been understood to be a suicide risk factor, with a 2020 study finding that a combination of factors relating to financial strain such as unemployment and financial debt led to a rate of suicide attempts nearly 20 times higher than in individuals not reporting these factors (Elbogen et al., 2020). Although financial instability has improved for many since the onset of the pandemic (Falk, 2020), the detrimental mental health consequences associated with it make it a continually relevant issue.

Callers who had difficulty adjusting to remote work and school also had significantly higher odds of perceiving COVID-19-related stress as contributing to their suicidal thoughts. Based on a review of callers' qualitative comments made during their interviews, many of these individuals were young adult high-school and college students, reflecting the burden students faced in transitioning to remote education. With schools and campuses abruptly closed, many students were forced to relocate and were removed from their academic and social supports (Copeland et al., 2021). Additionally, some students who depended on mental health services at or near their schools faced disruptions in treatment, further aggravating the challenging circumstances of the pandemic (Liu et al., 2020). Others who expressed difficulty adjusting to remote work and school were parents and caregivers of preschool and school-age children. Many parents faced the increased burden of balancing employment and childcare due to COVID-19-related stay-at-home orders (Verlenden et al., 2021). This unique challenge caused increased levels of emotional distress in parents and caregivers compared to before the pandemic (Adams et al., 2021).

Compared to male callers, females and noncisgender individuals had significantly higher odds of mentioning an exacerbation in pre-existing mental health conditions during the pandemic. The exacerbation of mental health conditions in females may have been due to women's greater representation in job sectors such as the service industry that were negatively impacted by the pandemic, as well as their frequent role as caregivers supporting children and other family members during the uncertainties presented by the pandemic (Xiong et al., 2020). This same association in noncisgender individuals may have been due to a combination of factors, such as the inability to access critical health care and psychological services and being forced to isolate in homes with individuals not affirming of their sexuality or gender identity (Moore et al., 2021).

Although no callers mentioned experiencing racial profiling and xenophobia related to COVID-19, Asian callers had significantly higher odds of mentioning an increase in general anxiety and nonspecific fear compared to White callers. This may reflect the unique burden that Asian Americans faced due to the pandemic's association with China and the resulting increase in discrimination toward Asian Americans (Tessler et al., 2020).

Limitations

One limitation of the current study may be the existence of a selection bias in callers who agreed to participate in the telephone interview compared to those who did not, which may have caused the interviewed callers to be not entirely representative of all Lifeline callers. A bias may also have been present in the Lifeline counselors' selection of callers to be approached for recontact by the research team. However, the participation of several different counselors at each center, as well as standardized counselor trainings on when and how to approach callers, should have minimized this effect. Another limitation of this study is the open-ended structure of the interview question assessing the presence of stressors related to COVID-19. Interviewers asked callers how COVID-19 impacted them overall and coded the presence of specific individual

stressors based on callers' responses. Had we asked separate questions about each individual stressor, it is possible that callers may have endorsed additional stressors that they did not think to mention in their responses to our open-ended question. However, our open-ended question gave callers the opportunity to describe in their own words the stressors that were most salient to them.

Conclusion

Self-reported stress related to COVID-19 was widespread among suicidal Lifeline callers in the first year of the COVID-19 pandemic, with a quarter of callers reporting that COVID-19 was the primary reason for their call and over half indicating that COVID-19 contributed to their suicidal thoughts. Callers who mentioned job loss or other financial difficulty related to COVID-19 and those who expressed difficulty adjusting to remote work and school had higher odds than other callers of reporting that stress related to COVID-19 contributed to their suicidal thoughts. Despite the subjective burden of COVID-19-related stress on suicidal Lifeline callers, this was not associated with new suicidality or heightened suicide risk; callers who said that COVID-19-related stress contributed to their suicidal thoughts did not have higher odds of being first-time Lifeline callers, of being suicidal for the first time, or of being more seriously suicidal than those who did not share this perception. Of important note, this study was conducted during the pandemic's first year, and the cumulative effects of financial hardship may increase some callers' risk of suicide over the longer term. Regardless of any differential in suicide risk, it is important for crisis counselors and other service providers to be aware of and address the perceived burden of COVID-19 on the mental health and suicide risk of individuals, including those with vulnerabilities predating the pandemic period.

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