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Special Feature Article

Increase in Female Suicides in the Context of the Spread of COVID-19 Infections in Japan: Reviewing the Period up to 2021

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Abstract

In the second half of 2020, the term "corona disaster" became common to describe the disaster caused by the spread of COVID-19. In this period, the number of suicides in Japan was much higher than the previous year, with a particularly large increase in suicides among women and children. The number of suicides in 2021 also continued to increase in comparison to pre-corona disaster period levels. There was a significant increase in the number of female suicides during the corona disaster period. As this trend differs from previous post-disaster and economic recessions, we propose that it may be related to sex bias and underlying inequalities in social structure.

Traditionally, the lower suicide rate among women compared to men has been attributed to the stress-reducing effects of communication with others. However, in the case of the corona disaster period, women were likely to feel more isolated due to infection prevention measures and the dismissal of non-regular employees. Our findings suggest that in addition to infection control measures, more appropriate economic policies and expanded support for socially vulnerable groups are necessary.

Keywords: COVID-19, female suicide, non-regulatory employment, DV, "STAY HOME"

Introduction

The first cases of pneumonia caused by the SARS-CoV-2 virus were reported in Wuhan, Hubei Province, China, in December 2019. Since then, COVID-19 has spread globally, and the pandemic's marked impact has been recognized as a CBRNE (Chemical, Biological, Radiological, Nuclear, and Explosive) disaster. As of May 2022 (at the time of writing), this critical situation has persisted globally for two and a half years. Numerous reports have documented the negative impact of major disasters on people's lives and physical and mental health. Even during the recovery process following the Great East Japan Earthquake, some individuals considered disaster-vulnerable, children, the elderly, and people with disabilities, continue to face serious mental health issues to this day.[15)]

The invisible threat of the "unknown virus" that caused the COVID-19 pandemic has created marked anxiety and triggered extreme psychological reactions. Its impact has been felt more strongly by women and children, who are considered socially vulnerable. The prolonged disaster has also markedly impacted children's mental health. A survey by the National Center for Child Health and Development reported that as of December 2021, 9–13% of fifth and sixth graders and 13–22% of junior high school students exhibited moderate to severe depressive symptoms.[6)] Prior to the COVID-19 pandemic, reports indicated a depression prevalence rate of 1.5% among general children from fourth-grade elementary school to first-grade junior high school in Japan.[21)] Compared with this, the current figures represent a significant increase. Furthermore, the rise in suicides among young women with weaker socioeconomic foundations highlights the severity of the economic and psychosocial impacts of the COVID-19 pandemic.

In the latter half of 2020, the number of suicides significantly exceeded the previous year's figure, with particularly large increases among women and children.[8)] In the following year, 2021, while the total number of suicides decreased slightly compared with the previous year (0.4% decrease), an upward trend was observed for the second consecutive year among women and young people.[9)] The increase in female suicides during the COVID-19 pandemic differs from patterns seen after previous disasters or economic recessions, highlighting underlying sex

bias and deep-rooted inequalities within society. This paper discusses the social issues surrounding women that underlie the rise in female suicides during the COVID-19 pandemic, incorporating perspectives from psychiatry.

I. International Trends in Suicide-related Events During the COVID-19 Pandemic

In June 2021, the U.S. Centers for Disease Control and Prevention (CDC) reported that emergency department visits due to suicide attempts among U.S. females aged 12–17 increased by 50.6% from February 21 to March 20, 2021, compared with the same period in 2019.[23] The increase for males in the same age group during the same period was 3.7%. Furthermore, the total number of emergency department visits for 12- to 17-year-olds in the United States during the entire year of 2020 also increased by 31% compared with 2019. Furthermore, among young men and women aged 18 to 25, emergency department visits due to suicide attempts were significantly higher compared with the same period in 2019: 1.6 times higher in spring 2020, 1.1 times higher in summer 2020, and 1.3 times higher in winter 2021, indicating a trend of increased suicide attempts among young people during the COVID-19 pandemic.

A report released by CDC in April 2022 indicated that a survey conducted from January to June 2021 showed 37.1% of adolescents experienced mental distress during the pandemic. Among female students, this rate was even higher, reaching 48.9%. Approximately 26% of female students had seriously considered suicide in the year prior to the survey, and 12.4% of those had actually attempted suicide.[2]

Even before the COVID-19 pandemic, reports from both the East and West indicated that younger individuals, particularly women, showed higher rates of suicide attempts compared with men. However, it has been suggested that young women may experience more severe anxiety and mental distress as a result of the COVID-19 pandemic.

II. Increase in Female Suicides

1. Female suicide trends during the COVID-19 pandemic

According to the Ministry of Health, Labour and Welfare's announcement (January 2021), the total number of suicides in Japan in 2020 was 21,081, showing an increase of 912 (4.5%) compared with the previous year, marking the first increase in 11 years. By sex, while male suicides decreased to 14,055 (decrease of 23 from the previous year), maintaining a downward trend for the 11th consecutive year, female suicides increased significantly to 7,026

(increase of 935, or 15.4%, from the previous year), the first marked increase in two years. This indicates that the overall increase in suicides was driven by the rise in female suicides. Among females aged 10-19, the number rose to 311, a 44% increase from the 216 in 2019, highlighting a sharp rise in suicides among young women.[8] Focusing specifically on female high school students, the number increased significantly to 140 in 2020, a 75% rise from the 80 in 2019.

While economic downturns are generally associated with increased suicides among male workers, this trend did not necessarily hold during the COVID-19 pandemic. According to the Ministry of Health, Labour and Welfare, of the 240 disaster-related suicides recorded in the decade from the Great East Japan Earthquake to end of 2020, 159 and 81 involved men and women, respectively, generating a ratio of roughly 2:1 favoring male suicides. In contrast, during the COVID-19 pandemic, Tanaka, T. et al.[19] reported that while Japan's suicide rate decreased by 14% during the "first wave" (February to June) of spring 2020 compared with the same period over the previous three years, it increased by 16% during the summer "second wave" (July to October). Notably, the rise in suicide rates was particularly marked among women, children, and young people. The increase in the female suicide rate during the second wave reached 37%, being more than five times the 7% increase for men. This is considered to be attributable to a doubling of suicides among housewives (women living with family members). The sharp increase in suicides in October of the same year, reaching 2,230 people, a 44.9% increase compared with the same month the previous year, is considered to be due to the Werther effect caused by the suicide of a famous person reported in September, which compounded underlying factors such as the prolonged economic downturn and worsening employment situation.

2. Motives for female suicides during the COVID-19 pandemic

According to the aforementioned suicide statistics from the Ministry of Health, Labour and Welfare, motives for female suicides in 2020 that showed a significant increase compared with the previous year were health-related (511 more), family-related (123 more), work-related (89 more), and school-related (66 more). Among health-related motives, concerns about and the effects of mental disorders, such as depression and alcohol dependence, accounted for the majority.

A detailed analysis of suicide motives conducted by Koda, M. et al.[4] using the

Ministry of Health, Labour and Welfare suicide statistics data (January 2020 to May 2021) revealed that motives for female suicide increased (showed excess mortality) compared with pre-COVID-19 pandemic levels in the categories of: "family problems," "health problems," "school problems," and "other." Breaking down "family problems" reveals: parent-child discord (4.2–4.5%), marital discord (4.3–39.1%), other family discord (6.2–7.1%), parenting difficulties (22.2–40.0%), and caregiver burnout (25%). The primary motives for male suicides were: "Economics/Living," particularly unemployment (42.9%); "Work," especially job failure (3.4–6.9%); work fatigue (2.0–34.1%), workplace relationships (18.6%), and changes in the workplace environment (8.3%). The "other" category included loneliness (7.4–25.0%), copycat suicide (14.3%), and discovery of crimes (4.5%), contrasting sharply with the female pattern.[4] Thus, the motives for female suicide during the COVID-19 pandemic were clearly different from those for men, and further differences were observed across age groups.

Historically, the lower female suicide rate compared with men was considered to stem from the effective stress-reducing effects of communication with others, which are often attributed to women.[5]

However, during the COVID-19 pandemic, women, who are more likely than men to be in non-regular employment and already bear a heavier burden of household chores, childcare, and caregiving, were likely to be more vulnerable to the impact of spending increased time at home. Consequently, women may have been more strongly affected by the lifestyle changes brought about by the COVID-19 pandemic. The self-restraint measures that limited contact with others outside the family likely intensified their tendency to feel isolated within the home.

3. Relationship with job loss

According to National Tax Agency's Actual Conditions Survey, women account for 22.23 million, or 42%, of Japan's 52.55 million salaried workers. However, the average salary for women is less than 3 million yen, amounting to only 54% of the average salary for men.[7] The non-regular employment rate is significantly higher for women (39%) than men (12%). Although the number of employed women increased by 3.4 million over the seven years from 2012 to 2019, approximately 70% of these new jobs were non-regular positions.

According to Ministry of Internal Affairs and Communications' Labor Force Survey, the annual average number of completely unemployed persons in 2020 was 1.98 million,

showing an increase of 360,000 from the previous year. Conversely, the number of employed persons has continued to decline since April, notably featuring a significant decrease in female non-regular workers, with the reduction reaching 650,000 compared with the previous year.[17] Immediately after the April state of emergency declaration, 320,000 men lost their jobs, while 740,000 women lost theirs (more than twice as many women as men).[13] The deterioration of the employment environment during the COVID-19 pandemic led to large-scale layoffs of female non-regular employees, who had previously served as a buffer for adjusting social and economic conditions, resulting in job losses. According to a report by Motohashi et al., during the normal period from January 2013 to March 2020, a significant negative correlation was observed between the number of non-regular staff and employees and suicide rate.[11] Examining suicide rate trends during the COVID-19 pandemic, the increase in suicide rates from July to October 2020 may be influenced by the decline in non-regular employees and rise in the unemployment rate. The issue of job loss is considered one factor contributing to the significant increase (39% rise) in the number of female suicides during this period. Horita, N. et al. reported that the number of suicides per 100,000 population in fiscal year 2020 increased by 17% for men and 31% for women compared with the projected value calculated from the trend between 2009 and 2019, and that these increases were correlated with the unemployment rate.[1]

Beyond job loss and subsequent financial hardship, the anxiety stemming from an uncertain future likely acted as an extremely potent stressor, negatively impacting the mental health of women with weaker economic foundations. It is also known that a segment of the workforce selects non-regular employment as one option among diverse working styles, the so-called non-regular workers by choice. While it is difficult to generalize, the severe deterioration of the employment environment during the COVID-19 pandemic likely had a significant impact on the lives and physical and mental states of women with unstable employment arrangements. Furthermore, it cannot be ruled out that the rise in unemployment may have negatively affected even those who had previously and proactively chosen non-regular employment before the COVID-19 pandemic.

4. The solitude of closed spaces brought about by “stay home”

Measures like “self-restraint living” and “stay home” policies, implemented

to prevent the spread of COVID-19 by restricting people's outings and suppressing movement, inevitably reduce opportunities for interpersonal contact and interaction, leading to decreased communication. Approximately 20% of women living in Tokyo are estimated to live alone.[16] This situation was underpinned by the consideration that they maintained practical connections through their workplace or personal communities, ensuring points of contact with society. It is likely that this helped mitigate the loneliness and anxiety often associated with living alone. However, the COVID-19 pandemic has shattered this foundation, leaving many people facing situations where their previous lifestyles are no longer sustainable. This disruption of human contact, not limited to those living alone, means that others have less of an opportunity to notice even minor mental health issues emerging in those close to them, leading to delays in the early detection of depression. For those who had been managing some form of mental health issue even before the COVID-19 pandemic, but whose daily interactions with others had allowed them to maintain their lives, being forced into home confinement and isolation sharply increased their latent suicide risk. Among the 7,457 female suicides in 2020, 4,519 (61%) involved "health problems" as a motive (multiple answers allowed), with mental disorders such as depression and alcohol dependence accounting for the majority of these cases, a fact that cannot be overlooked.[4] In this crisis of the seemingly endless COVID-19 pandemic, ensuring and publicizing access routes to society is an urgent task to prevent the isolation of people whose societal connections have been severed by business closures and layoffs of non-regular workers.

Conversely, some view the "stay home" policy positively, arguing that it creates more time for family interactions that is often lacking in modern life and so strengthens family bonds. However, conversely, for families grappling with latent intra-family conflicts, domestic violence, or parenting difficulties, the excessive closeness of relationships can lead to suffocating pressure. It can also intensify feelings of alienation and loneliness from being confined to the same space, potentially leading to a breakdown of the household's normal equilibrium. This is likely not unrelated to the fact that suicides among women motivated by "family problems" have increased. Underlying parental-child or marital discord, parenting anxieties, and caregiver burnout, one can discern the presence of maltreatment arising from psychological distress. We must not forget that phenomena like domestic

violence and abuse, which involve complex psychiatric pathologies, occur within the closed environment of the home rather than workplaces or public spaces, where their pathological nature tends to be amplified.

5. Increase in domestic violence and abuse

According to the 2020 Crime Situation Statistics released by the National Police Agency, the number of children under 18 reported by police nationwide to child guidance centers on suspicion of being subjected to child abuse reached 106,960, an 8.9% increase from the previous year, exceeding 100,000 for the first time since 2004.[3] Among these, psychological abuse accounted for 78,355 cases. Separately, consultations and reports concerning domestic violence (DV) instigated by spouses or partners also reached a record high of 82,641 cases. As mentioned earlier, the extended time spent at home due to the COVID-19 pandemic may have been a factor contributing to these increases. In fiscal year 2021, both the numbers of reports to child guidance centers and arrests for abuse cases continued to show upward trends, indicating a further worsening of the situation.

In fiscal year 2019, the number of abuse consultations handled by child guidance centers nationwide increased by 33,942 cases (21.2%) compared with the previous year, reaching 193,780 cases. This marked the highest number since records began in fiscal year 1990 and also represented the largest year-on-year increase ever recorded.[10] The increase and record-high numbers continued in fiscal year 2020. Concerns are mounting that the COVID-19 pandemic, which has made the work of police and child guidance centers more difficult, is making it increasingly difficult for abuse and violence within homes to become visible. It is likely that the actual number of families needing support and intervention is potentially much higher than the reported figures.

While measures to curb infections during the COVID-19 pandemic, such as restricting outings, “stay home” orders and “social distancing,” are crucial, we must also consider the worst-case scenario: these measures could isolate families needing support regarding abuse or domestic violence, mentally corner women forced to raise children in closed environments, and potentially lead to suicide after depression. A more nuanced and individualized approach to supporting vulnerable families is required, breaking free from traditional frameworks. This includes implementing online parent-child visitation, widely providing information on contact methods and counseling

services accessible without partners' knowledge, and other flexible measures. Concerning DV and child abuse, the problem is not only an increase due to life anxieties and stress from the COVID-19 spread, but also the serious challenge of the issues themselves becoming invisible due to reduced opportunities for contact outside the family. Introducing a "COVID-19 pandemic shift" that flexibly adapts traditional support systems, such as through social media, is essential. We must explore and implement support models that are more accessible and relatable to women of child-rearing age.

6. From the perspective of women's characteristics

Ultimately, how we interpret the phenomenon of increased female suicides during the COVID-19 pandemic will require waiting until the full picture emerges after the crisis subsides. However, at this midpoint in 2022, amidst an unprecedented disaster, I would like to consider this from the perspective of women's characteristics, incorporating my personal view based on clinical experience.

Today, the view that work-related ability depends more on individual differences than on variations between males and females has increasingly become a consensus opinion. It is reasonable and practical to consider that, by viewing sex differences from a positive perspective, males and females as individuals can more readily demonstrate their inherent abilities and achieve results. Focusing on conversation and communication styles, it has been suggested that while men tend to find meaning in "information gathering" or "problem solving," women engage in conversation with the purpose of "empathizing and gaining empathy"; conversation itself is the goal.[20] While stereotypical generalizations should be avoided, such characteristics of women can also be leveraged as strengths in business settings and family life. The "female" characteristic of valuing sensibility, intuition, empathy, and connection can, in normal times, be leveraged for smooth communication with others and the formation of receptive, empathetic attitudes. This can become a strength that reduces stress. In reality, within the normal working environment and social structures where sex-related disparities remain deeply entrenched, such strengths derived from female characteristics have likely also contributed to positively affirming one's sense of purpose and role. However, during the COVID-19 pandemic, these traits may be less effectively utilized, potentially making women more susceptible to loneliness and anxiety than in normal times. The loss of

opportunities to empathize with close others and feel psychological connection can lead to psychological tunnel vision stemming from loneliness and anxiety. This may result in the excessive influence of media reports about celebrity suicides or those that stoke anxiety, all within a limited information environment.[18] Furthermore, unemployment can sever social connections, intensifying feelings of self-worthlessness and negative self-perception. Being placed in a situation where one cannot consult anyone raises concerns about the risk of falling into a vicious cycle of depressive thinking. From the perspective of women's characteristics, it is conceivable that their vulnerability has been further heightened during the COVID-19 pandemic.[22]

III. Latent "COVID Depression"

According to a survey by Organisation for Economic Co-operation and Development (OECD),[14] the proportion of people experiencing depression or depressive states in Japan has more than doubled compared with before the COVID-19 pandemic due to the impact of the outbreak itself. Similar increases have been observed in other countries. Reports indicate this is severe among younger generations, the unemployed, and those in economically unstable situations.[24] This phenomenon aligns with the experiences shared by many psychiatrists in Japan's clinical settings during the COVID-19 pandemic.

The COVID-19 disaster, caused by an unknown virus, has triggered greater nationwide social disruption than situations following natural disasters, precisely because its full nature remains unclear. The uncertainty of an unpredictable future generates intense anxiety, while the unseen threat encourages an excessive overestimation of risk. This heightened anxiety leads to increased reliance on mass media and social networking services (SNS), narrowing judgment criteria and making subsequent actions prone to bias. Even when minor physical changes or trivial symptoms appear, and even in situations where there is no apparent opportunity for infection or supporting evidence, individuals may become hypochondriacal, suspecting their own infection, leading to heightened anxiety and depression. At this stage, consulting others to gain an objective perspective and support significantly increases the likelihood of reducing anxiety and preventing the deepening of depression. However, during the COVID-19 pandemic, the very means of reducing stress, human connection, becomes restricted. Consequently, when this situation is compounded by job loss, financial hardship, family problems, or

occupational issues, the resulting stress can exceed an individual's coping capacity. This can lead to a depressive state, heightening the risk of suicidal behavior as a way to escape the suffering. Isolation due to stay-at-home orders and social distancing during the COVID-19 pandemic, coupled with the absence of close supporters, intensifies loneliness. Increased exposure to suicide-promoting information on social media makes the very act of secluding oneself a risk factor for suicide. The aforementioned CDC report[2] indicates that young people who maintained communication through school life or social media were less likely to experience mental distress. To reiterate, when traditional in-person support activities become difficult, developing alternative "means of connection" is an urgent priority. We must leverage the media and social networking services (SNS) that young people and women are most likely to engage with, appeal to the "real" world within them, and create mechanisms that catch their attention, even if only for a short time. While "COVID depression" is not an officially recognized diagnosis, it is clear that the coping mechanisms previously effective for individuals and society as a whole are failing. Building upon scientifically sound knowledge of infection control, we must foster flexible thinking and practical experimentation across public and private sectors to create new initiatives preventing the isolation of socially vulnerable groups like women and young people. Furthermore, society must positively embrace and support such efforts.

Conclusion

The problems caused by COVID-19 have yet to subside, and with the additional crisis of Russia's invasion of Ukraine beginning in February 2022, the anxiety enveloping people continues to grow. Amid this prolonged global crisis, a wide range of unresolved challenges and issues continue to confront the field of mental health. However, this is not humanity's first encounter with an unknown virus. Although differing in scale and nature, disasters and pandemics have repeatedly occurred throughout human history. Each time, people have responded and ultimately brought the situation under control. The phenomenon of increased suicides among women during the COVID-19 pandemic is not merely a psychiatric issue; it calls into question how society responds to socially vulnerable groups during a crisis. To bring the situation under control and resolve the problem, it is necessary to mobilize interdisciplinary efforts, beyond medicine and health and welfare to include sociological and labor-economic

perspectives, and build systems that allow difficulties to be overcome through connection.

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