

Suicide and the COVID-19 pandemic: Trends in Japan and around the world
Professor David Gunnell and Professor Michiko Ueda
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Professor Gunnell began by noting that while suicide was to be discussed in an academic context at this event, it was important to acknowledge that each individual suicide is a tragedy, both for the victim and their friends and family. He went on to give a brief introduction to suicide rates around the world, providing WHO figures which estimate that around 800,000 people a year take their own lives, which equates to one death from suicide every 40 seconds. Suicide is the second largest cause of death amongst 15- to 29-year-olds worldwide. He said that suicide is often discussed using the analogy of an iceberg of distress: for every suicide death, an estimated 20 people make a suicide attempt. Consequently, behind the figure of 800,000 suicide deaths a year worldwide, there are 16 million hospital admissions following suicide attempts. The figure of 20 attempts per death varies from country to country, and for every person who makes an attempt to 'action' suicidal thoughts, another 3 to 10 people experience suicidal thoughts. So, further down the 'iceberg', that 160 million people worldwide experience suicidal thoughts every year, and this is probably underestimating the true number. Furthermore, the factors that lead to those suicidal thoughts, such as depression, substance misuse, and life events such as relationship breakdown, debt, and physical health problems, are far more common.

Professor Gunnell went on to explain that suicide rates vary widely across the world. In former Eastern Bloc countries and India, for instance, suicide rates are greater than 15 per 100,000 people a year, whereas in countries such as the UK and Japan, the rate is less than 5 per 100,000 people a year. The reasons for this are not fully understood, he said, but may include: varying levels of social acceptability of suicide in different religions and cultures; differences in levels of substance misuse, with alcohol in particular possibly accounting for the high rates of suicide in the former Eastern Bloc countries; and varying rates of prevalence of serious mental illness.

Professor Gunnell then turned to focus on Covid-19 within this context of the global epidemiology of suicide. At the time of this webinar, over 3.2 million people had lost their lives to Covid-19 since the onset of the pandemic, which to an extent put the number of suicide deaths (800,000 a year) in some degree of perspective. He added, however, that there are legitimate questions around the impact of the pandemic on suicide, particularly with regard to public health measures that have been put in place to offset or prevent the spread of the virus. These questions include: What will the impact of COVID-19 be on population suicide rates and population mental health? And what can the suicide prevention community do to reduce that impact? Since the beginning of the pandemic, he added, there had been much speculation about the impact of the pandemic on suicide levels, with language such as 'tsunami' and 'epidemic' being used in association with concerns about suicides. He said, though, that at the time of speaking it is still unknown what the impact of the pandemic might be on suicides. Furthermore, there were a number of misleading headlines on the issue in the early stages of the pandemic, and instances of politicians using concerns about suicide for their own political ends in discussions about the public health effect of lockdowns.

Nor do previous pandemics give much useful information or precedent on this issue, Professor Gunnell said. Showing data graphics of recent research he had done with colleagues on the 1918-1920 influenza pandemic in Taiwan, he showed that in this case study there was no detectable impact of this pandemic on suicide rates in Taiwan during the period, from a statistical standpoint. A recent US study on the impact of the 2003 SARS pandemic in Hong Kong and Taiwan indicated a small rise in suicide rates amongst the elderly population in Hong Kong, but not much more than that. Thus, he explained, the knowledge base on this issue amongst the international research community was fairly

limited, and so the community formed the International Covid-19 Suicide Prevention Research Collaboration in the spring of 2021, to gather early intelligence on the impacts of the pandemic on suicide and suicidal behaviour and share that knowledge in order to help people from different countries understand the likely impact of Covid-19 on suicide. About 41 countries were involved in this collaboration, he said, with the webinar's co-speaker Professor Michiko Ueda being at the forefront of the collaboration, sharing vital real-time suicide data from Japan.

Professor Gunnell then outlined the primary concerns this research group had regarding the factors that might influence suicide rates during the pandemic. These include: the impacts of social isolation arising from social distancing, the impact on frontline health and social care workers, the rise in domestic violence and alcohol misuse while people were living in close proximity and experiencing greater levels of stress, and the impact on the economy. For young people, there were concerns over interruptions to education and the consequent impact on mental health. There were concerns about rises in bereavement from the many Covid-19 deaths, and the complicated grief arising from the restrictions on seeing loved ones approaching the end of their lives, and on mourning them after death. Furthermore, he said, there were significant concerns about how the media were reporting the pandemic, which could increase anxiety and the vulnerability of already vulnerable groups, and so one of the things that the collaboration has done has been to work closely with the media and produce guidelines about the safe reporting of suicide during a period of heightened stress.

Moving on to the information gained so far on the impact of the pandemic on suicidal behaviour, Professor Gunnell highlighted recent research from the University of Manchester which indicated that in 10 areas of England which were surveyed from January to October 2020, suicide rates over the period after the pandemic had not increased, and were statistically similar to the same period in 2019. Looking at the international picture, he showed the results from a large-scale study pooling knowledge from 21 countries around the world, examining their observed suicide rates between April and July of 2020 against predicted suicide rates in a non-pandemic scenario if pre-existing trends in previous years and months had carried on. The overwhelming evidence from these studies showed that there had been no rise in suicides in the early months of the pandemic in high-income countries or certain low-income areas, Professor Gunnell said, and this trend seemed to have continued into the later months of 2020. Though there were some exceptions in these data sets, with increases in Japan, Vienna, and Puerto Rico, these were balanced out by decreases in the Thames Valley area, Victoria, and Mexico City.

Turning to look at suicide attempts and self-harm, Professor Gunnell said that hospital admission rates studies in France and England indicated a fall in admissions for self-harm during the pandemic period compared to 2019. Though some have suggested that this may simply reflect people's unwillingness to go to hospitals due to Covid-19 infection risks, these data are supported by population health surveys, which indicate no rise in self-reporting of self-harm, and General Practice studies, which have found no evidence for rising consultations for self-harm. So, he said, the findings for self-harm seem to be consistent with those for suicide.

Professor Gunnell cautioned the audience that what he was showing was early data, which could change as the pandemic progresses and as a result of a possible post-pandemic recession. There is some evidence that certain groups, such as women, ethnic minorities, and those from low-income countries, may be more affected than others. There is comparatively little data on the impacts of the pandemic on low-income countries, with most of the data showed so far in the presentation based on high-income or middle-income countries. Professor Gunnell added that while suicide rates do not appear to have increased, there is clear evidence that levels of mental distress have, posing the question of why suicide rates have not risen during the pandemic. Some possible explanations are an increase in social cohesion, with more support being given and received among friends, family, and

social communities, economic protection measures mitigating loss of jobs and income, and support from services and charities.

Professor Gunnell concluded by saying that while certain indications appear reassuring, there will be a clearer picture over the coming months as research findings are published, the impact of second and third waves are assessed, and the long-term impact on the economy is felt. There has been a significant fall in GDP in 2020, and there are strong associations between periods of economic recession and suicide rates. Summing up, he said that while levels of stress, depression, and anxiety have risen during the pandemic, suicide rates and hospitalisations for suicide attempts have largely remained stable, at least in the early months. However, better data from low-income settings are needed to understand the impact on those communities, and as the effects of 'long Covid' and the pandemic on the economy are felt, continued surveillance and good-quality, ethically conducted research will remain necessary, as will strong economic measures put in place by governments to mitigate recession effects.

Professor Michiko Ueda then began to describe the situation in Japan, which has had a worse performance over the course of the pandemic than the UK. Japan has one of the highest suicide rates among OECD countries as of 2016. She said that when she started studying suicide roughly 10 years ago, the number of deaths from suicide per year in Japan was more than 30,000, which is a huge number. Since then, however, there has been a significant decline, and in 2019 the number was just over 20,000, which, though still a high number, demonstrates a notable downward trend. As in other countries, suicide rates are far higher among men than among women, over twice as high (22.9 per 100,000 men to 9.4 per 100,000 women) in 2019. Supporting Professor Gunnell's comments about the effect of economic stagnation on suicide, Professor Ueda pointed out that there was a 35% increase in male suicides in the late 1990s as the Asian financial crisis impacted the Japanese economy. This was a notably sex-dependent phenomenon, as the increase among women's suicides in this period was comparatively small.

Professor Ueda continued by describing how Japan was affected early on by the Covid-19 pandemic, with the first cases in mid-January 2020 and the *Diamond Princess* cruise ship in Yokohama which brought the virus to national attention. The situation progressed then from school closures to the Prime Minister declaring a State of Emergency in April and May. However, the State of Emergency in Japan was different from other countries, as it did not constitute a lockdown – there were no strict restrictions on movement, many shops remained open, and people were allowed to walk the streets freely. Even though the restrictions in Japan were far more relaxed than in many other countries, the rate of Covid-19 infections and deaths was comparatively low. At the time of this webinar, the number of Covid-19 deaths in Japan over the course of the pandemic was around 10,000, while for context, the number of suicides in 2019 was just over 20,000.

Professor Ueda said that the predicted monthly deaths from suicide in mid-late 2020, based on modelling of recent trends from previous years, would have been around 1600, but the actual figure reached as high as 2200. One thing that was particularly noticeable about this increase in suicides was the dramatic rise in suicides among women, which is unprecedented in modern Japanese history. In the previous three years, the number of female suicides was about 500 per month on average, but in the second half of 2020, that figure rose significantly, to a high of almost 900 (889, to be exact). This was a serious increase, Professor Ueda said, which demonstrated that the current situation is a deviation from the norm. These deaths were mainly among young women, until the high of 889 in October, in which period suicides increased among every age group of women. For women under the age of 60, these figures represent double the average number of monthly suicides over the last 30 years, including a notable proportional rise among female students.

Looking at the total number of suicide deaths in 2019 and 2020, Professor Ueda continued, there has been an overall increase of 912 deaths. It is important to note, however, that suicides among women increased by 935, while suicides by men actually decreased slightly, by 23, which is highly unusual. She said that while she has been trying to discover the reasons for this, there are multiple factors and a lot of uncertainty. One problem is that researchers do not yet have access to individual data, just numbers on a broader scale; Professor Ueda also wanted to emphasise the complexity of suicide as a phenomenon, and so she was hesitant to offer exact reasons which risk oversimplifying the issues. She felt, however, that she was able to offer some possible explanations for the trends that have been noticed.

First of all, Professor Ueda highlighted the economic consequences of Covid-19. One difference from previous economic crises is that the effects of Covid-19 have been felt disproportionately heavily in certain industries, which happen to be those mainly employing women; these include the travel, food, and service industries. Job losses as a result of the pandemic have also been concentrated among non-permanent roles, especially in Japan, and these also tend to be held by women. In fact, figures show that over half of the women employed in Japan are in non-permanent positions, as against fewer than a quarter of men. So job losses have disproportionately affected women, while permanent roles have not been significantly affected.

Professor Ueda then posed the question of what the consequences of these economic changes are on the mental health of the general population. She had been taking a survey of members of the public from April 2020 to February 2021, which asked questions related to depression, anxiety, loneliness, and employment status, among other things. Before Covid-19, studies indicated that less than 10% of the Japanese population had moderate to severe depression; this percentage rose dramatically during the pandemic, with younger people especially affected – the percentage of depression among 18- to 39-year-olds, for instance, increased from 8.6% before Covid-19 (2013) to 28.2% during the pandemic. Professor Ueda said that it is important that we recognise that it is mostly the young generation who have been mentally affected by the pandemic, in Japan at least. There is also a clear link between those who are financially worse off compared to 2019 and the rise in depression, with 45% of 18- to 39-year-olds who are financially worse off experiencing depression. This can easily be confirmed by surveys of depression by employment status, in which depression levels are far higher among the unemployed than those in employment or retirement.

These links between financial status and depression are mirrored by links between financial status and suicidal thoughts, with those who are worse off financially compared with 2019 more likely to have suicidal thoughts. Of course, Professor Ueda said, it is important to keep in mind that not everyone who is depressed or has suicidal thoughts actually dies by suicide, but that these figures indicate that these are the high-risk individuals.

In addition to the underlying conditions of the Japanese population during the pandemic, there were some unfortunate incidents which may have contributed to the increase in mental health problems. One was celebrity suicides, with several celebrities in Japan sadly taking their lives in 2020; two particularly prominent cases were a 30-year-old actor in July, and a 40-year-old actress in September. In Japan, as in other countries, there is always an increase in suicides after media reports of suicide by a prominent figure; in Japan, this effect is immediate (jumping by 5-6% on the first day the case is reported) and lasts roughly 10 days. As shown by studies in 2017 and 2018, this rise in suicides is particularly strong when there is a large reaction on Twitter, and when the deaths were held to be “shocking and unexpected” (rather than just “sad”). The two prominent Japanese cases in 2020 fit both of these conditions, and so these celebrity deaths might account for some of the increased suicides noted in 2020, particularly the spike in October, which came immediately after the actress’s death in late September.

Another factor that should be considered is the impact of school closures, Professor Ueda said. There was one school closure in Japan, which started in early March and lasted for 2-3 months. The impact on the students themselves is not yet fully known, although early studies show adverse effects on their mental health. The relevance of these school closures to the rise in suicides in Japan is that some caregivers, especially female caregivers, had to leave employment or reduce their working hours because of the sudden school closure, in order to take care of children at home. Especially in Japan, the burden of childcare and housework falls disproportionately on women. Figures from the Cabinet Office of Japan state that on average male parents spent 1 hour and 23 minutes a day on childcare and other housework, while female parents spent 7 hours and 34 minutes a day on these tasks. Thus, it is logical to suggest that the burden of childcare responsibilities which increased during the school closure was disproportionately felt by women, and this may also have contributed to the rise in female suicides in 2019.

Professor Ueda concluded by stating that in Japan, we now know that suicide rates have gone up over the course of the pandemic, particularly due to the worsening economic situation. The high-risk groups appear to be relatively young women, economically vulnerable individuals, and students. The implications of this are wider than just Japan, as it is the case in many countries that women work in industries that have been hit hard by the pandemic, have less stable jobs than men, and spend a high proportion of their time on care work. Not only does this have an immediate impact on the people affected, but it can be difficult to re-enter the workforce after having left it, so these issues may continue after the pandemic. Tragically, as mentioned above, this has led to a notable rise in suicides among women in Japan, Professor Ueda finished, and the situation must continue to be closely and carefully monitored.