

Short Communication

Possible explanations of the decrease in suicide during the initial phase of COVID-19 pandemic in Japan

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The increase or decrease in suicide rates in Japan is attracting media attention. Japan's suicide rates decreased substantially in April and May 2020, the initial phase of COVID-19 pandemic, compared to the previous year. A joinpoint analysis of daily number of suicides in 2020 showed a sharp decrease in the first 3 weeks of April (Figure 1). This occurred after the gradual increasing trend until the end of March, and was followed by the gradual increasing trend from middle of April to the end of May. Then, in early June, the suicide rates began to decrease. No such joinpoint was observed during the same periods in 2018 and 2019.

Many experts have expressed concern that loss of employment, isolation, and socioeconomic stressors in relation to the COVID-19 pandemic could increase the risk of suicide globally¹. Japan experienced the "first wave" of infection between February and May, and the unemployment rate increased from 2.4% in February to 2.9% in May, despite national and local economic measures to support business.

There are several possible explanations for this suicide reduction. First, existing comprehensive suicide prevention measures might have mitigated the impact of socioeconomic crisis, as observed in the 2007-2008 financial crisis^{2,3}. In addition, the national government requested that local governments

strengthen the coordination in suicide prevention policy within and between public services to support the needy people in early March.

Second, socially pervasive collective anxiety about the pandemic from mid-March and government regulations to prevent the spread of COVID-19 might have created the sense of solidarity, and suppressed the Durkheim's "anomic suicide," particularly in vulnerable and socially isolated people. For example, decrease in suicides after the 1995 Great Hanshin-Awaji Earthquake could be explained by the decreased level of anomie⁴. A suicide reduction was also observed after the Great East Japan Earthquake in 2011.

Third, the visualization of social efforts to protect people's lives could have increased the level of trust in government and community, a well-known protective factor against suicide⁵. On March 18, it was announced that the government had begun discussions on cash payment to support households, which later resulted in payments of 100,000 JPY each to all residents. According to the Google Trends, peoples' interests in the word "cash payment", and "corona" associated with collective anxiety started to raise around that time. Daily trends in the interest were significantly associated with the number of suicides in Japan. These findings

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will have valuable implications for suicide countermeasures in other countries.

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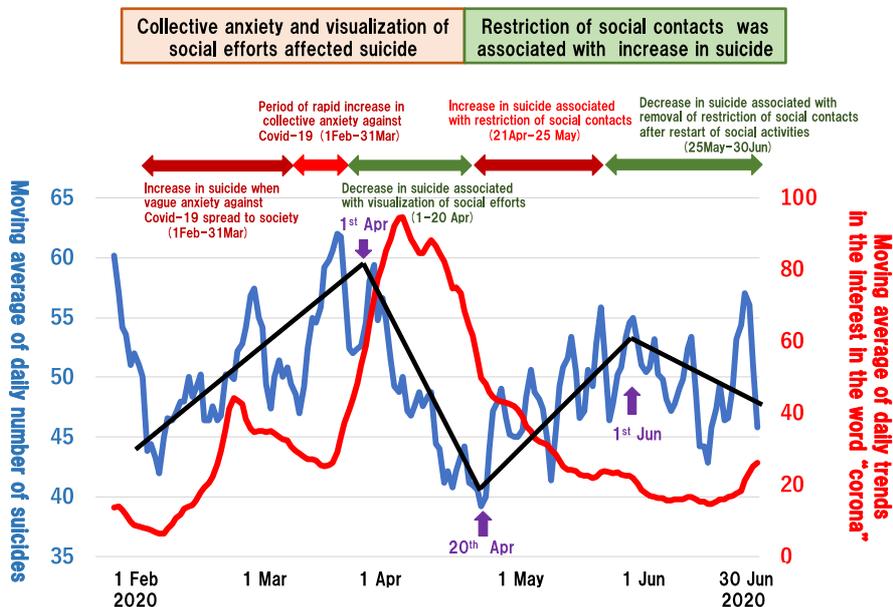


Figure 1. The daily number of suicides and the daily interest in the word “corona” associated with collective anxiety during the initial phase of COVID-19 pandemic in Japan. The time-series data between February 1st and June 30th are shown. There are three statistically significant inflection point days by a joinpoint analysis (1st April, 20th April and 1st June).