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Suicide attempts and Covid-19 in prison: Empirical findings from 2016 to 2020 in a Swiss prison

Laurent Gétaz^{a,b}, Hans Wolff^a, Diane Golay^a, Patrick Heller^a, Stéphanie Baggio^{a,c,*}

^a Division of Prison Health, Geneva University Hospitals and University of Geneva, Geneva, Switzerland

^b Division of Tropical and Humanitarian Medicine, Geneva University Hospitals and University of Geneva, Geneva, Switzerland

^c Office of Corrections, Department of Justice and Home Affairs of the Canton of Zurich, Zurich, Switzerland

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ABSTRACT

Disadvantaged populations have an increased risk of suicide and suicide attempts because of the Covid-19 pandemic. To date, few studies focused on people living in detention, who have a high burden of mental health problems and are exposed to severe control measures. Our study investigated whether there was an increase in suicide attempts in prison. Data were collected in the largest Swiss pre-trial prison (Champ-Dollon) for the pre-pandemic and the pandemic periods. We identified a statistically significant 57%-increase of suicide attempts. Mitigation measures, access to mental health care, and access to vaccination are needed to protect this vulnerable population.

1. Introduction

The effect of the Covid-19 pandemic on mental health has been debated, but empirical data on this topic are still scarce (Kapur et al., 2021). Population-based studies showed that anxiety has increased and that social isolation is likely to lead to an exacerbation of depression and other psychiatric disorders in vulnerable populations, especially those with pre-existing mental health conditions (Sher, 2020). Analyses of the incidence of self-harm, which often precedes suicide, are considered as useful indicators to explore the impact of the pandemic on mental health (Kapur et al., 2021). A recent meta-analysis suggested high rates of suicide ideation (10.8%), suicide attempts (4.7%), and self-harm (9.6%) in the general population during the pandemic (Dubé et al., 2021). However, another recent US study reported a decline in the suicide rate in 2020 compared to previous years (Ahmad et al., 2021).

The burden of mental health disorders affecting people living in detention (PLD) is higher compared to the burden among the general population (Fazel et al., 2016). As disadvantaged and marginalized populations can experience more negative consequences of the pandemic (Bray et al., 2020; Mitchell and Li, 2021; Sher, 2020), studies focusing on this vulnerable population are needed. To the best of our knowledge and according to the results of a recent meta-analysis, there is no empirical study focusing on suicide attempts in prison (Dubé et al., 2021).

Switzerland has been a country with one of the highest SARS-CoV-2 incidence rate per capita (Salathé et al., 2020). As in other countries over the world, daily life has been disrupted with lockdowns and preventive control measures. Switzerland's largest pre-trial prison in Geneva (Champ-Dollon) is chronically overcrowded (398 places housing an average of 613 PLD from 2016 to 2020). In this prison, international recommendations from the WHO and the Council of Europe have been implemented. It included physical distancing measures, closure of most workshops, decrease in sports activities, and in some cases, reduced contact with the outside world, including families. In December 2020 and January 2021, clinicians and prison staff have been alarmed by a 3.6-fold increase of suicide attempts compared to the same two months of the previous four years. Therefore, our study aimed to investigate more precisely whether the occurrence of suicide attempts has increased during the pandemic period compared to the pre-pandemic period.

2. Methods

The study was conducted in the Champ-Dollon prison, located in Geneva, Switzerland. This prison is the largest pre-trial prison in Switzerland (304 cells and a capacity of 398 places). Some sentenced PLD are also located in this prison (sentences of less than three months). The prison houses mainly adult males, but there is an adult female unit (40 places). PLD are mostly foreigners. This prison is constantly

* Corresponding author at: Division of Prison Health, Geneva University Hospitals and University of Geneva, Geneva, Switzerland
E-mail address: stephanie.baggio@hcuge.ch (S. Baggio).

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overcrowded (on average 175% between 2013 and 2018) and has a high turnover rate (on average 273% between 2013 and 2018). Most PLD spend 23 hours a day in their cell. There is a medical unit located inside the prison, offering low-threshold primary care.

Annual data were collected retrospectively from nurses' records of self-harm events. Self-harm events are systematically recorded using a standardized form, including suicide attempts (self-strangulation/hanging and massive medicine ingestion) and other self-harm events (cuts/scarification, ingestion of blunt items). A trained physician (LG) reviewed all cases to identify unambiguously suicide attempts. We defined two periods: from 2016 to 2019, referred as the "pre-pandemic period" and 2020, referred as the "pandemic period". The prison environment and detention conditions were similar in these two periods, except for Covid-19 control measures (use of masks, physical distancing, washing hands, closure of non-essential workshops, smaller groups of detained persons for daily walks, contact sports abolished, use of Plexiglas windows in the visiting rooms, isolation for 11 days at prison entry, free of charge phone calls) and a reduced overcrowding rate (141% in 2020, compared to an average of 160% in 2016–2019, because of release, transfer, and postponement in case of minor offences).

We reported risks and relative risks with 95% confidence intervals (CI) for each period. Data were anonymously compiled for both periods. Therefore, the study fell outside of the scope of the Swiss legislation regulating research on humans (anonymous data) and no approval of an ethic committee was required. Data were analysed using R 4.0.3.

3. Results

In 2020, we identified a statistically significant 57% increase in the relative risk of suicide attempts and a 57% increase of other self-harm events (see detailed results in Table 1).

4. Discussion

Our study showed significant increases in suicide attempts and other self-harm events during the pandemic period. These increases happened despite a reduced overcrowding rate, which is usually associated with lower rates of self-harm events (Baggio et al., 2018). These findings suggest that the increase in suicide attempts and self-harm events could be related to control Covid-19 measures.

These results are in line with reports in the community or clinical populations (Dubé et al., 2021), suggesting important negative consequences of the pandemic on mental health, including not only suicide, but also suicide attempts. Overall, our study expands the debate on the mental health consequences of the pandemic and control measures used to mitigate its spread (Dubé et al., 2021). It suggests that suicide prevention may be strengthened. More precisely, to minimize the occurrence and consequences of these acts in prison, early identification of at-risk patients, access to psychological support and emotion management programs, accommodation of the most fragile in shared rooms, rapid interventions in the case of events, and continuation of family visits (while respecting barrier measures) must be guaranteed (Zhong et al., 2021). In addition it is essential to consider PLD as a vulnerable population in need of rapid access to vaccination. It will allow re-opening of group activities and therefore decrease control measures in prison.

Despite convincing findings, this study has some limitations. First, we used annual data, with 2020 considered as the pandemic period, meaning that January and February were included in the pandemic period. This could have led to a conservative estimation of the increase in suicide attempts. A more precise Covid-19 period should be used in further studies. Second, as we did not collect individual data, the reasons why people tried to commit suicide are unclear and could not be unambiguously linked to the pandemic. Other factors might explain the increased rate of suicide attempts in 2020 and should be taken into account. Further studies should explore this phenomenon at the

Table 1

Severe suicide attempts and other types of self-harm events among people living in detention in Champ-Dollon prison, Geneva, Switzerland, 2016–2020.

	Risk in 2020	Risk in 2016-2019	Relative risk (95% confidence interval)
Severe suicide attempts (self-strangulation/hanging and/or massive medicine ingestion)	6.97/100 PLD/year	4.43/100 PLD/year	1.57 (1.10; 2.04) <i>p</i> < .001
Other types of self-harm events (cuts/scarifications and/or ingested blunt items)	12.50/100 PLD/year	7.94/100 PLD/year	1.57 (1.23; 1.92) <i>p</i> < .001

individual level. Finally, our study' findings might not be generalizable to other prisons with different organisations and infrastructures. Further studies in other settings and meta-analyses are needed to achieve a better understanding of prison suicide and suicide attempts during the pandemic period.

Overall, vulnerable populations, such as detained persons, disadvantaged and marginalized populations, and minorities seem vulnerable to the negative mental health impact of the pandemic, and should therefore be at focus in future preventive mental health intervention programs and research.

Author contributions

Conceptualization: LG, PH, DG, HW, and SB; methodology: LG, PH, DG, HW, and SB; formal analysis: SB; data curation: LG; writing original draft: LG and SB; writing editing and review: LG, PH, DG, HW, and SB; project administration: LG; funding acquisition: LG; supervision: HW.

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Declaration of Competing Interest

None

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