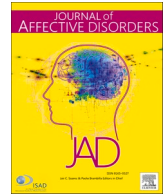




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Correspondence

Is the COVID-19 pandemic a risk factor for suicide attempts in adolescent girls?

ARTICLE INFO

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ABSTRACT

Background: The COVID-19 pandemic might increase suicide behaviors. However, results are still limited and inconclusive, especially in adolescents.

Methods: To provide a preliminary evidence of the effects of the COVID-19 pandemic on suicide attempts (SA), we compared data from the Catalonia Suicide Risk Code (CRSC), during the first 12 months of Spain COVID-19 pandemic (March 2020 to March 2021) with data of the previous 12 months (March 2019 to March 2020). The CRSC is a well-established population-based registry of suicide attempts (SA) which allows monitoring of the dynamic changes that COVID-19 may produce in a Spanish region.

Results: SA among adolescents increased 25% during the COVID-year, whatever, SA among adults decreased 16.5% in the same period. The increase of SA in girls was especially prominent in the starting school period in the COVID-year (September 2020–March 2021), where the increase reached 195%.

Limitations: This study did not evaluate other individual risk factors of SA in the context of the COVID-19 pandemic, so is unable to make concrete causal inferences.

Conclusions: These findings suggest that SA increased in adolescent girls during the last period of the COVID-19 pandemic, underscoring the need to implement effective preventive measures by public health systems and stakeholders into response during this public health crisis.

Detrimental effects of the COVID-19 pandemic on mental health have been identified in multiple reports (Holmes et al., 2020), and are particularly associated with depression and anxiety in adolescents (Nearchou et al., 2020). Secondary consequences of the social changes due to the COVID-19 pandemic may increase the risk of suicide (Reger et al., 2020) however, current evidence is not well established (John et al., 2020).

Due to the limitations to identify suicide rates in real time, monitoring suicide attempt (SA) rates is an important approach to assess the dynamic changes that COVID-19 may produce on population mental health (Kapoor et al., 2020).

The Catalonia Suicide Risk Code (CRSC) is a secondary suicide prevention program established by the Catalan Ministry of Health in 2014, that provides a specialized follow-up care for individuals at a high risk of suicide in order to reduce the likelihood of suicide re-attempts. The strengths of the CRSC include not only a proper acute care and follow-up treatment for high-risk individuals, but also the registration of suicide attempts including a systematic collection of data related to suicidal behavior, which is the key to develop preventive actions (Perez et al., 2020). This well-established population-based registry of suicide attempts (SA) allows monitoring of the dynamic changes that COVID-19 may produce in this Spanish region.

We compared the CRSC data during the first 12 months of Spain COVID-19 pandemic (March 2020 to March 2021) with data of the previous 12 months (March 2019 to March 2020). During the pandemic, 690 adolescent SA were registered (12–18 years old), representing a 25% increase in SA when compared to the previous year, when only 552 SA were registered. This contrasts with SA among adults which showed a

significant decrease of 16.5% in the same period ($X^2=41.5524$, $p<0.00001$).

Pre- and post-pandemic SA changes among adolescents differed by gender: while SA rates did not change in boys (32.1–32.3/100.000), in girls they increased substantially (from 99.2 to 146.8/100.000). The increase of SA in girls was especially prominent in the starting school period, i.e. from September 2020 to March 2021, where the increase reached 195% (74.3 to 219.3/100,000 person-years), compared to the previous six months. Some increase in girls' SA was also observed during the same period in the pre-pandemic year (March to September 2020), but just up to 54% (77.9 to 120.5/100,000 person-years). This observed annual increase in SA among girls (Fig. 1) was significantly higher in the COVID-year than in the pre-COVID-19 year ($X^2=21.411$, $p<0.000001$). No statistically significant effect of the COVID-19 year was found for boys ($X^2=0.0489$, $p=0.824916$).

An increase in suicidality may be due to the interaction of the pandemic with pre-existing risk factors: psychological factors (i.e., depression, anxiety, previous suicide attempt – the strongest predictive factor of future suicide attempts-, drug and alcohol use, and other comorbid psychiatric disorders); stressful life events (i.e., early childhood traumatic experiences, family problems and academic stressors that act as precipitants); personality traits (i.e., neuroticism and impulsivity) and a family history of suicide (Carballo et al., 2020).

The increase of SA among adolescent girls in Catalonia may be due to an increase in stress levels during the COVID-19 pandemic, especially from September 2020 to March 2021. In this period, adolescents have been exposed to more academic stress in contrast to previous school closed period, added to continue with social isolation due to

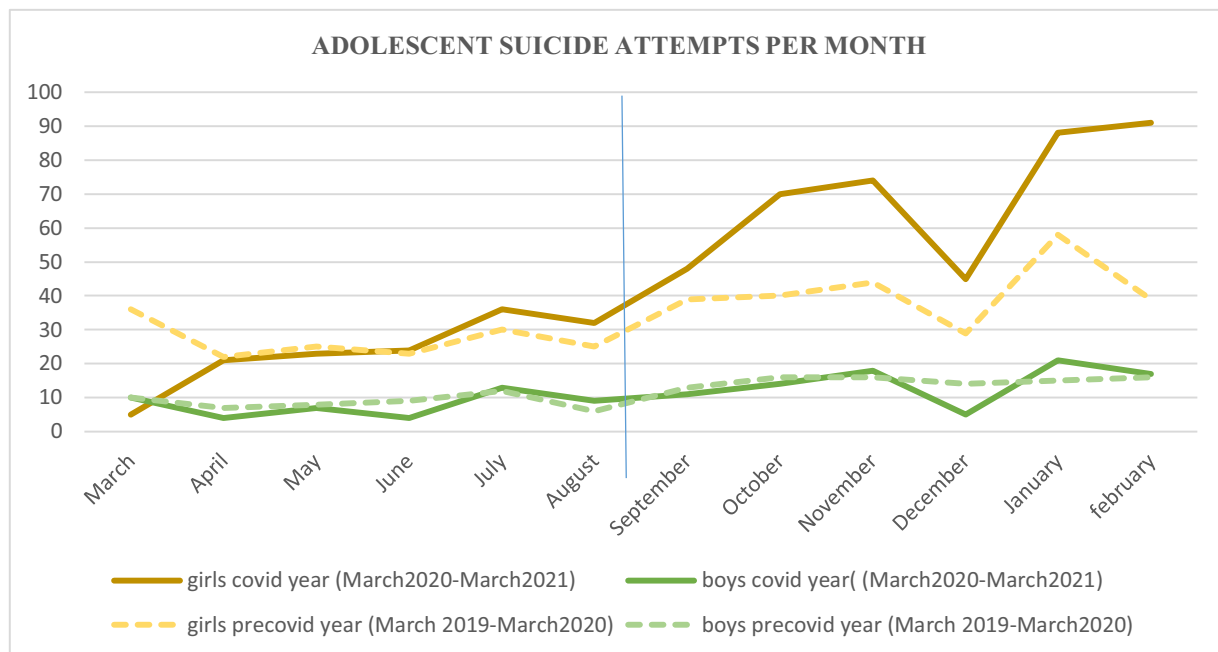


Fig. 1. The increase in SA in girls during the second half of the COVID-19 period is statistically significant $X^2=21.411$, $p<0.000001$, compared with the pre-COVID period. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

maintenance of social distancing measures. Stress is a risk factor for internal disorders, which has been proved to be a specific girl suicide factor, as well as emotional problems or peer relationships difficulties (Miranda-Mendizabal et al., 2019). Furthermore, the loss of protective factors (i.e., social support and social activities) added to an increase of suicide risk factors could explain gender differences in SA registered in Catalonia during the COVID-19 pandemic. It may be possible that these findings related to the COVID-19 pandemic could be given in other western countries.

Our findings call for the public health system and stakeholders to implement measures to reduce the risk of suicide in an effective way, including a rapid assessment of at-risk youngsters and the development of adequate policies. The identification of adolescents at high risk for suicidality and their elements of resilience will improve preventive measures in targeted subgroups, especially in the aftermath of the COVID-19 pandemic.

Authors' contributions

RG, MP and DP wrote the first draft with substantial contributions from the other authors. All the authors critically reviewed drafts and approved the final the final manuscript.

Declaration of Competing Interest

The authors declare that they have no competing interests.

Role of the Funding Source

The founders had no role in the study.

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