



# COVID-19 and adolescent suicide and suicidal behaviors: A systematic review

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## Introduction

Globally, suicide accounts for a high proportion of adolescent deaths. COVID-19 pandemic is having an adverse impact on adolescent mental health; increase in prevalence of psychological distress, addictive behaviours, suicidal behavior (self-harm, suicidal ideation, planning and attempts) and suicides are being reported. Better understanding of epidemiology and interventions for adolescent suicide would guide mental health interventions for this population. This systematic review examines the impact of COVID-19 pandemic on rates of adolescent suicidality and interventions to address them.

## Methods

Literature reporting on adolescent suicide and suicidal behaviours published till 31st may 2021 were identified and reviewed. Five databases: Pub Med (Medline), EMBASE, Web of Science, SCOPUS, Cochrane library databases and one registry: ClinicalTrials.gov were searched. Studies reporting original data were included.

## Results & Discussions

Of the 156 studies identified, 20 met the inclusion criteria. These were case reports/case series (4); population record-based suicide data (3); among the surveys were school-based surveys (2), online surveys (2), media report (1), kid's helpline data (1); emergency room visits data (4); data from an eating-disorders center for adolescents (1) and intervention studies (2).

Case reports/Case series: Four reports on attempted and completed suicides were identified. Various COVID-19 related psychosocial factors were reported in the cases. (Table 1).

Number of cases (Country)	Nature of suicide act	Age and Gender	Associated psychosocial factors
Four (USA)	Attempts	11–17, Females:3, Male:1	Preexisting depression, anxiety and social distancing
One (Iran)	Completed	NA Male	Lack of grieving opportunity for father's death due to COVID-19.
One (India)	Completed	15, Female	Lack of access to digital technology for online classes.
Three (Pakistan)	Completed	16, 18 and 20 years, All males	PUBG gaming related.

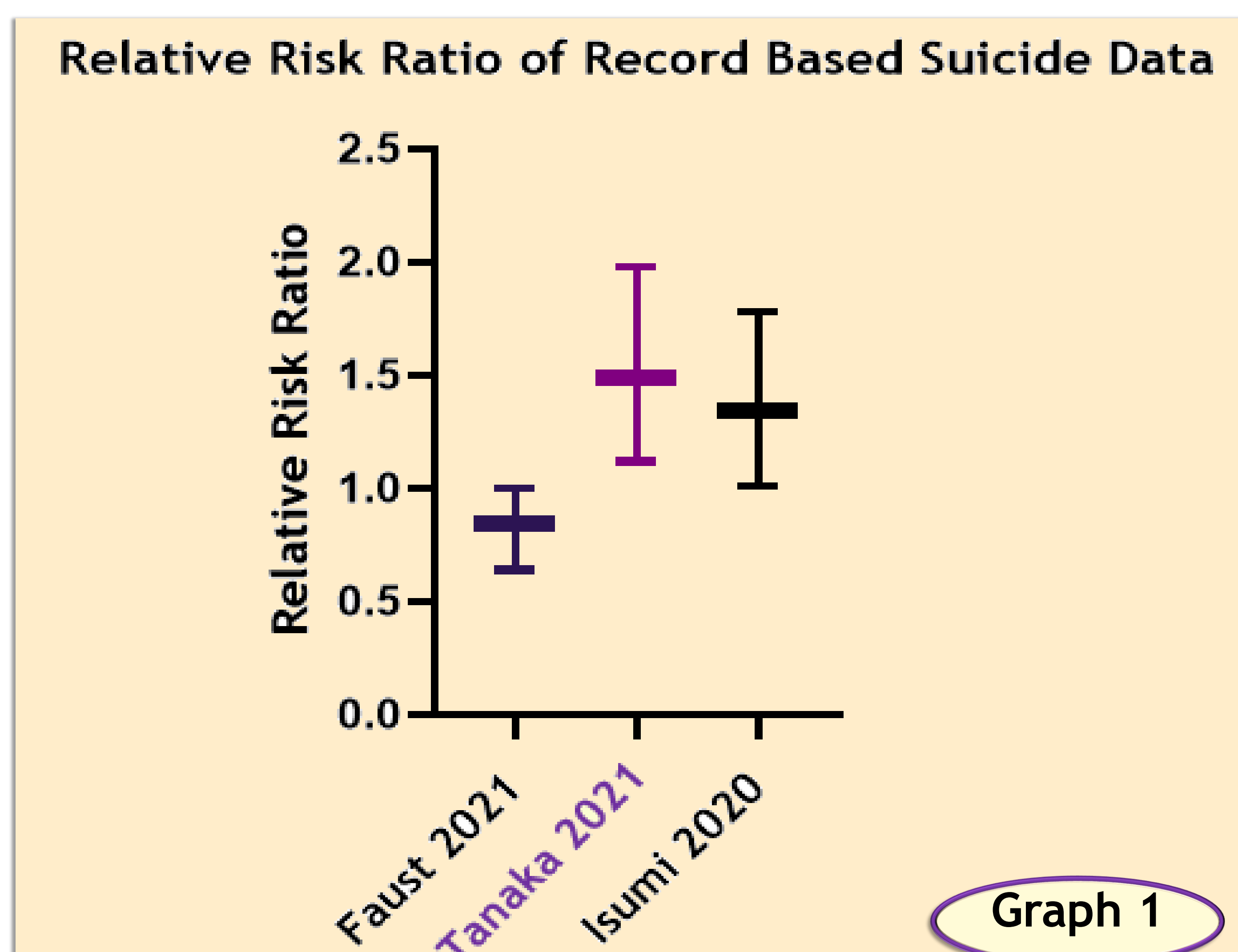
Table 1: Case reports and Case series of adolescent suicides

Of the three studies on population record- based suicide data of adolescent population, only Tanaka et al reported an increase in Relative Risk Ratio of adolescent suicide during the pandemic as compared to the pre-pandemic levels (Graph 1).

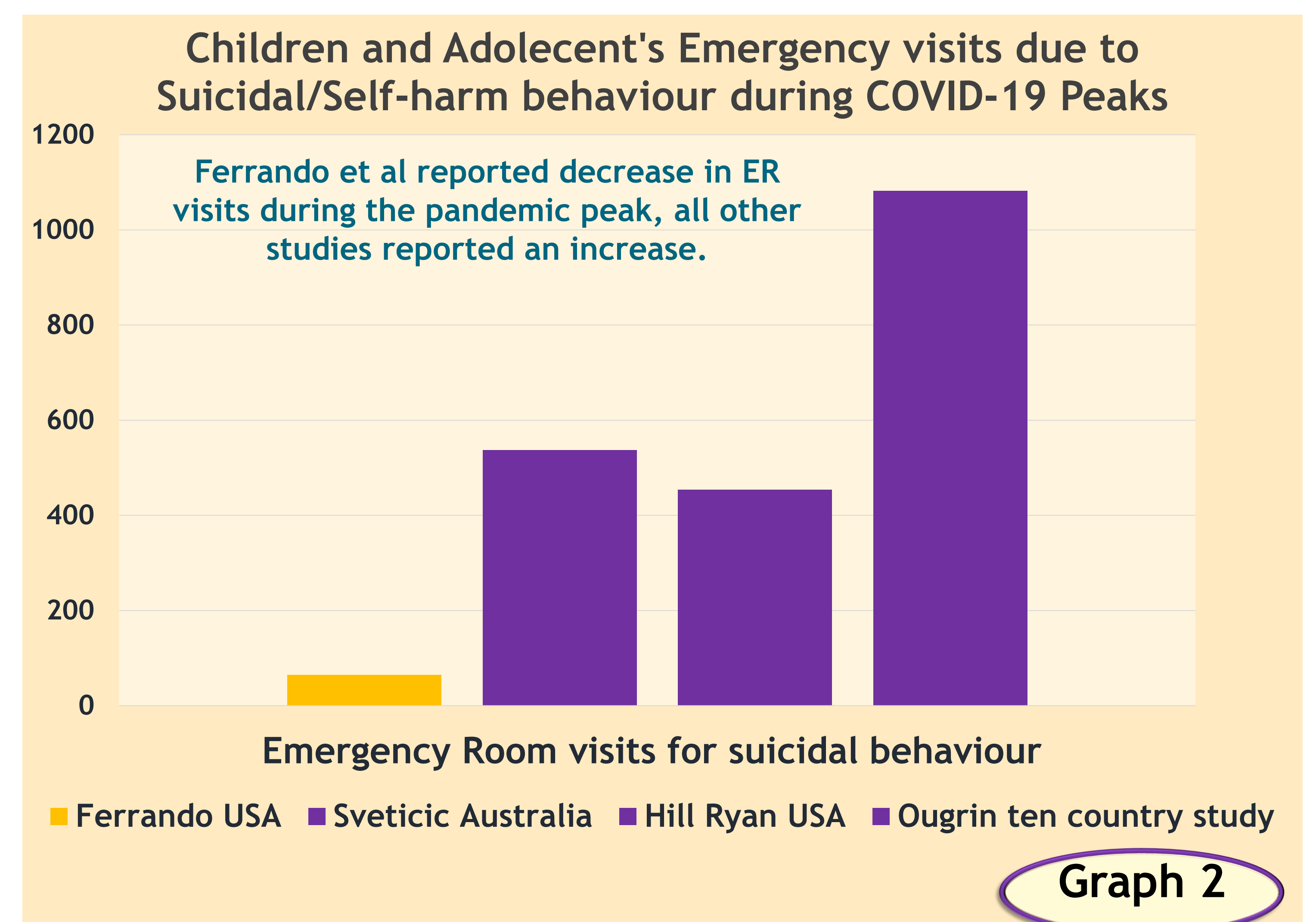
School based surveys and online surveys also reported an increase in self-harm behaviour, suicidal ideation, planning and attempts. One media report and a national kids helpline also reported increase in adolescent suicides corresponding to the COVID19 peaks.

Graell et al, in Eating Disorder clinic reported 50% of adolescents with worsening of their clinical status and 25% with self harm behavior and suicidality. Batchelor et al, in Australian national Kids Helpline reported increase in the use of web based and e-helpline for suicidal ideas, thoughts and self-harm behaviour by adolescents during the pandemic peaks.

Of the four studies on Emergency Room visits to assess the utilization by adolescents resorting to self- harm behavior and suicidality, three studies reported an increase in number of ER visits during the pandemic peak (Graph2)



Graph 1



Graph 2

## Conclusions

The available evidence suggests an increase in adolescent suicidality in many populations. More high quality quantitative research with large sample size are needed to make inferences about region -specific true incidence rates of adolescent suicide during the pandemic. Also, more RCTs are needed to make assumptions about efficacy of interventions for adolescent suicidality during the pandemic.