



Scientific letter

SARS-CoV2 pandemic impact on suicide attempts admitted to pediatric critical care: A monographical observational retrospective study
Analysis of SARS-CoV2 pandemic impact on children suicide attempts

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) pandemic has required public health measures aimed at reducing the spread of the virus. The emotional and psychological impacts of these measures are unknown¹ and can be expressed in various ways.^{2,3}

The study and analysis of paediatric suicide attempts (SA) may be of interest. The number and characteristics may have been affected by what occurred in the last two years. However, few studies about SA and its lethality have described this phenomenon.⁴

In this brief report, our group reviews SA admissions in a paediatric intensive care unit (PICU) over a five-year period. The epidemiological characteristics and required PICU assistance were described. Subsequently, year-on-year differences were analyzed to evaluate possible changes during the years of the pandemic.

This observational retrospective analytical study was conducted between January 2017 and December 2021 in a third-level paediatric monographic hospital. After acceptance by the ethics committee, the medical records of children admitted to the paediatric intensive care unit (PICU) were reviewed. All children under 18 years of age admitted to the PICU for suicide attempts (SA) were included. The study was completed in compliance with ethical standards and with informed consent from the parents or caregivers.

A total of 4478 admissions were reviewed. The number of SA per year were: 15 in 2021; 5 in 2020; 5 in 2019; 5 in 2018 and 10 in 2017. Median age 14.9 years (10–18), of 32/40 women and of 25/40 with a history of psychiatric illness. The variables collected and statistical analyses are described in [Table 1](#).

The polytraumatized SA were 6/13 males (predominance of females in intoxications, $p=0.004$), show more days of admission than intoxications (4 days, 58–1 versus 1 day, 4–1, $p=0.00$) without previously presenting a history of psychiatric illness 10/13 ($p=0.00$). They also required more frequently inotropic 9/13 ($p=0.002$) and mechanical ventilation 10/13 ($p=0.00$).

The median SA admitted to the PICU during the period 2017–2020 was 6.5; in 2021, there was a 230% median increase

with respect to previous years ($p=0.040$). There were no statistically significant differences in epidemiology, characteristics, type of care, or evolution with respect to the previous years ([Supplementary File 1](#)).

In our cohort of patients, SA was more prevalent among women with previously diagnosed psychiatric diseases. This has been previously described by other authors.⁴ These patients showed good evolution with short admissions and low therapeutic complexity. We made two comparison group, polytrauma and intoxication, because they are the two main forms of SA in children. Also, they usually show different epidemiology, requirements, and prognosis.⁴ In polytrauma, we observed a similar percentage of cases between men and women. Previous psychiatric illnesses were much less prevalent. Therapeutic complexity was also high.⁴ Despite this, no deaths occurred during the initial PICU care. Some are associated with posterior sequelae or complications that require prolonged hospital admissions. There was one death later in time in one patient.

Considering the pandemic possible effect on the number and characteristics of the SA, we describe an increase in 2021 compared to four previous years. This increase was significant and did not add a change in epidemiological and clinical characteristics.³ Of course, we cannot establish causality with the impact of the pandemic measures. This observation forces us to pay attention to it as a warning sign. Fortunately, the clinical impact caused in children by SARS-CoV2 is lower than that in adults. Despite this, many decisions made during the pandemic have put children on the back.^{1–3} Emotional and psychological consequences added to disruptions in social relationships, especially in adolescents, must be monitored and evaluated.^{1,5}

This study has several limitations. The retrospective nature and use of medical records may have resulted in loss of information. At the same time, the 2020 data are biased by the lockdown and subsequent limitations imposed. It was not possible to establish causality from our observations.

In summary, SA represents only a small percentage of PICU admissions. The presence of psychiatric diseases and female sex seems to be more prevalent in poisoning. In these cases, the evolution is usually good and requires a few days of admission. In relation to the pandemic, a clear increase was observed with respect to the previous four years. This fact may be a wake-up call and forces us to study and observe its evolution in the future.

Table 1
Variables analyzed and suicide attempt differences.

	Type of suicide attempt				Significative differences
	Intoxication		Polytrauma		
	Median	Rank	Median	Rank	
Age in years	15.29	5.58	14.54	5.75	ns
Days in PICU	1	3	4	57	ns
	Type of suicide attempt				Significative differences
	Intoxication		Polytrauma		
	N	%	N	%	
<i>Procedence</i>					
From other centre	6	22.2%	3	23.1%	0.000
Emergency street attendance	1	3.7%	10	76.9%	
Emergency department	20	74.1%	0	0.0%	
<i>Previous history of psychiatric illness seen by specialist</i>					
No	5	18.5%	10	76.9%	0.000
Yes	22	81.5%	3	23.1%	
<i>Inotropics</i>					
No	27	100.0%	9	69.2%	0.002
Yes	0	0.0%	4	30.8%	
<i>Invasive blood pressure monitoring?</i>					
No	27	100.0%	9	69.2%	0.002
Yes	0	0.0%	4	30.8%	
<i>Mechanical ventilation?</i>					
No	27	100.0%	3	23.1%	0.000
Yes	0	0.0%	10	76.9%	
<i>High flow nasal cannula or non-invasive ventilation?</i>					
No	27	100.0%	10	76.9%	0.009
Yes	0	0.0%	3	23.1%	
<i>Oxygen therapy in nasal glasses?</i>					
No	26	96.3%	8	61.5%	0.004
Yes	1	3.7%	5	38.5%	
<i>Hemodiafiltration or peritoneal dialysis?</i>					
No	27	100.0%	12	92.3%	ns
Yes	0	0.0%	1	7.7%	
<i>Bladder catheterization?</i>					
No	24	88.9%	3	23.1%	0.000
Yes	3	11.1%	10	76.9%	
<i>Parenteral nutrition?</i>					
No	27	100.0%	10	76.9%	0.009
Yes	0	0.0%	3	23.1%	
<i>Nasogastric tube?</i>					
No	25	92.6%	10	76.9%	ns
Yes	2	7.4%	3	23.1%	
<i>Enteral nutrition?</i>					
No	27	100.0%	10	76.9%	0.009
Yes	0	0.0%	3	23.1%	
<i>Antibiotics or antivirals or antifungals?</i>					
No	24	88.9%	5	38.5%	0.001
Yes	3	11.1%	8	61.5%	
<i>Sedoanalgesia drugs?</i>					
No	27	100.0%	3	23.1%	0.000
Yes	0	0.0%	10	76.9%	
<i>Central venous line?</i>					
No	27	100.0%	6	46.2%	0.000
Yes	0	0.0%	7	53.8%	
<i>Blood products?</i>					
No	27	100.0%	8	61.5%	0.001
Yes	0	0.0%	5	38.5%	
<i>Pleural drainage?</i>					
No	27	100.0%	13	100.0%	ns
Yes	0	0.0%	0	0.0%	

Table 1 (Continued)

	Type of suicide attempt				Significative differences
	Intoxication		Polytrauma		
	N	%	N	%	
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Death					
No	27	100.0%	13	100.0%	ns
Yes	0	0.0%	0	0.0%	
Gender					
Male	2	7.4%	6	46.2%	0.004
Female	25	92.6%	7	53.8%	
Dies after PICU					
No	27	100.0%	12	92.3%	ns
Yes	0	0.0%	1	7.7%	

Ns: non significative differences.

Ethical approval

Approved by the hospital ethics committee. The work was completed in compliance with the ethical standards and with consent from parents or caregivers.

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Conflicts of interest

The authors do not have any potential conflicts of interest.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.sjpmh.2023.05.003](https://doi.org/10.1016/j.sjpmh.2023.05.003).

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