


# Austrian study shows that delays in accessing acute paediatric health care outweighed the risks of COVID-19

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The COVID-19 pandemic resulted in a countrywide lockdown in Austria on 16 March, and this may have reduced the overall spread of the virus. We believe that the reduction in paediatric emergency department visits may have been due to fewer traumatic injuries, reductions in non-urgent medical referrals and more parents managing minor illnesses at home.<sup>1</sup>

So far children have accounted for a small percentage of confirmed COVID-19 cases, most have had a mild disease course and deaths have been extremely rare.<sup>2</sup> However, the indirect impact of confinement on children's somatic and psychiatric well-being should also be considered.<sup>3</sup> There could also be issues with delayed access to health care, because of virus infection fears, escalations in child abuse and increases in disease due to the need for social distancing and changes to people's daily routines during lockdown.<sup>1</sup>

Little attention has been paid to this topic by politicians and the medical literature. One paper reported delays in seeking care for 12 paediatric cases from five Italian hospitals due to parental fears of catching the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This included six children who required intensive care treatment and four who died with conditions not related to COVID-19.<sup>4</sup>

Austria has only been mildly affected by the pandemic compared to other countries like Italy. Data from the Johns Hopkins

Coronavirus Resource Centre on July 14, 2020, showed that Austria had a total of 34 455 confirmed cases with eight deaths per 100 000. The respective figures for Italy were 243 230 and 57.86.<sup>5</sup>

This study was carried out in the emergency department of the Salzburg University Children's Hospital, which provides care for more than 69 000 children in the Salzburg region of Austria. It covered the first four weeks of the country's pandemic lockdown from March 16 to April 17, 2020. The charts of all patients presenting with general paediatric needs, including paediatric psychiatry and psychosomatic medicine, and paediatric surgery were reviewed for the direct and indirect effects of the pandemic.

This study was carried out in accordance with the ethical standards of the hospital's institutional and national research committee and the Declaration of Helsinki. No specific ethics approval was necessary, as it was a retrospective review.

Suspected cases were discussed with the respective physician in charge, and a case report form (Appendix S1) was completed. The anonymised case reports were then discussed with all authors and included if a COVID-19 effect was mutually agreed.

During the study period, 660 patients presented to the emergency department. Of these, 274 required general paediatric care and 386 required paediatric surgical care. We calculated the average figures for the same periods in 2019 and 2018, and this showed that

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visits for general paediatric care had fallen by 83% during lockdown and paediatric surgical care visits had fallen by 59%. No child abuse cases were identified. A direct or indirect effect of the COVID-19 restrictions was proven or highly suspected in 33/660 (5%) cases: 21/660 (3%) had general paediatric needs, and 12/660 (2%) required paediatric surgical care.

Of the 33 patients detailed in Table S1, 13 were admitted to the regular ward and one went to the paediatric intensive care unit for further treatment. A local healthcare provider told one family to keep their child at home as the parents were quarantined with COVID-19. This infant had presented some months earlier with hypoglycaemia with viral gastroenteritis. The mother was sleeping next to her child as she was worried and found the child dead six hours later.

Access to health care in these 33 patients was delayed due to fears about SARS-CoV-2 transmission (67%), closed health care facilities (16%) and waiting for a negative SARS-CoV-2 test (16%). In two cases, the parents refused to have their child transported to the hospital with the ambulance that was despatched to them. In four cases, their virus fears led to such a delay that the children presented in a potentially life-threatening situation, with hypoglycaemia and diabetes, dehydration and infection, compromised circulation and infection and compromised circulation and anorexia.

In three anorexia cases, the video phone follow-up was insufficient and the patients were brought to the emergency department because they had deteriorated.

Our data show that the fear of COVID-19 delayed adequate health care in a substantial percentage of children, even though the region was less affected than many others. During this study, we tested 464 paediatric patients for SARS-CoV-2. Of these, eight tested positive, but only two showed clinical findings in line with COVID-19.

Our data on this large cohort confirmed the anecdotal report on 12 Italian patients.<sup>4</sup> This raises concerns, particularly because COVID-19 is normally mild in children, but potentially life-threatening conditions can arise because of missed care. The child who died, which is a potential case of excess mortality linked to the quarantine measures, must have had an enormous impact on the parents.

Our hospital has separate designated areas and staffing teams who care for patients with, and without, COVID-19 to ensure patients receive maximum protection. The data on reduced emergency department visits suggest that we could have done more to inform parents and caregivers about these safety measures.

The anorexia patients require a special mention. The number of beds dedicated to psychosomatic care was reduced to increase

capacity for suspected COVID-19 patients and outpatient and out of hospital care was also reduced. This clearly had a detrimental effect on anorexia patients.

The retrospective character and short-time period were limitations of our study, but we present a snapshot of the potential impact of missed care and hope to raise awareness. Many medical problems may not be recognised during pandemic restrictions. Ongoing fears about becoming infected with the virus could delay routine medical care, including vaccinations, as well as access to acute health care. However, a potentially positive effect of the pandemic restrictions may be that parents feel more confident about managing children with mild conditions at home. This may provide possibilities for health education in this area.

Preventing delays in accessing care and continuing to provide high-quality care should be our top priority and should be adequately monitored during further stages of the pandemic. Parents should be made fully aware that delayed care for more serious conditions poses a great risk that could potentially exceed the risks posed by the COVID-19 pandemic.

#### CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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#### SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.