

The impact of the COVID-19 pandemic in pediatric oncology units: A lesson of resilience and hope

Lorena V. Baroni, MD ¹; and Eric Bouffet, MD ²

At the beginning of the pandemic, little attention was paid to children, as early reports suggested that adults and the elderly were the most vulnerable. Initial publications pertaining to children and adolescents described the infection as mild with a low mortality rate.¹ However, in the absence of specific data concerning immunocompromised children, recommendations were made by societies, key opinion leaders, and health care authorities regarding the safest way to control the infection, avoid or minimize patients' contamination, protect health care providers, and adjust management guidelines according to the risks associated with a potential viral infection. In the first part of 2020, the International Society of Paediatric Oncology along with the Children's Oncology Group, St. Jude Global, and other partners brought together experts from all disciplines working in high-income, middle-income, and low-income countries in order to provide a "rapid global response for children with cancer."^{2,3} The aim was to develop recommendations to adapt child cancer services and treatments according to the Health Care System capacity and the prevalence of the infection. This was the early stage, knowledge was still limited, and some recommendations may look outdated today. Further work on the impact of the coronavirus disease 2019 (COVID-19) infection in children with cancer has shown that this population is more vulnerable and can develop severe disease, in particular, in the context of severe neutropenia or lymphopenia or following bone-marrow transplant.⁴

In this context, all pediatric oncology units globally had to adapt to the risks of the pandemic. Like other services, they implemented rules aimed at avoiding the spread of the virus. In addition to the aforementioned recommendation, a website was designed to offer a wide range of resources to pediatric oncology health care providers.⁵

The study by Sniderman et al⁶ characterizes the impacts of the COVID-19 pandemic on pediatric oncology providers globally. The study used a sequential mixed-methods design with a cross-sectional survey followed by focus groups involving a limited number of survey participants. The data collection started in June 2020, and the focus groups were completed at the end of October 2020. A total of 213 institutions from 79 countries participated. Focus groups involved selected participants from 16 different institutions. An effort was made to include both in the survey and the focus groups participants from all World Health Organization regions and all World Bank income groups, public and private institutions, and units of different sizes. The survey identified major changes in clinical care in most institutions. The biggest impact was the decreased availability of clinical staff due to COVID infection, quarantine, lockdowns, limited transportation, changes in roles, reassignment of functions, and transfers to other services. Forty-five percent of institutions reported transfer of personnel to other services to support the COVID-19 response. A number of pediatric hematology/oncology units were closed, or their beds were reassigned for other purposes, removing the ability to deliver adequate pediatric cancer treatment.

The most concerning findings are the physical and psychological impact experienced by pediatric oncology providers. Fifty percent of the participants reported that they did not get the minimal necessary personal protective equipment (PPE), and therefore the risk of contracting or transmitting the virus was increased. In some units, the personnel had to purchase their own PPE because it was not provided by the institution. Eight percent of the participants experienced the loss of health worker colleagues. Fear, guilt, anxiety, and exhaustion were the most common feelings described by the health care system. Despite these stressors, less than half of institutions provided psychological support to health care providers. Teamwork, interpersonal interaction, frequent communication, clear leadership, and a sense of purpose were the only protecting factors pointed out by the health care team in the study.

Corresponding Author: Eric Bouffet, MD, The Hospital for Sick Children, 555 University Avenue, Toronto, ON M5G 1X8, Canada (eric.bouffet@sickkids.ca).

¹Service of Hematology/Oncology, Hospital J P Garrahan, Combate de los Pozos, Buenos Aires, Argentina; ²Division of Haematology/Oncology, The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

See referenced original article on pages 1493-1502, this issue.

DOI: 10.1002/cncr.34089, **Received:** November 8, 2021; **Accepted:** December 14, 2021, **Published online** January 24, 2022 in Wiley Online Library (wileyonlinelibrary.com)

Worryingly, nurses were the most vulnerable group, with the highest illness rates, frequent quarantines and reassignments, PPE shortages, and psychological distress. Moreover, they were more affected by the financial impact, suffering from unexpected expenses such as PPE purchases or increased transportation costs and unpaid leave for illness or quarantine.

Surprisingly, the survey did not identify any difference based on country income groups. Participants in both low- and high-income countries described similar oncologic care limitations. However, the difference in time of pandemic waves in each country may bias the results and impact on health care workers' experience. The early wave mostly affected China, Europe, and the United States, and the real impact of the COVID-19 pandemic in low- and middle-income countries may be underestimated in this survey. One may remember the devastating waves that affected countries such as India or Indonesia later in 2020 and early in 2021.

This survey is unique as it captures the global impact of the pandemic in the context of a discipline, ie, pediatric hematology/oncology. Conducting a similar study would be challenging among health care providers in the adult cancer population. The findings suggest that pediatric oncology often becomes a low priority in the face of an acute health care crisis. In this context, it would be important to measure the long-term impact of the reduction in nurses and staff or the closure of units on survival. This survey also raises numerous questions. It was conducted at a relatively early stage of the pandemic and already identified a major psychological crisis among health care providers. Would we expect an improvement 12 months later? Although the risk of burn-out has been identified, little has been done to try to mitigate the psychological impact of the pandemic and the associated changes in working conditions. Looking at the daily life in pediatric oncology units, the change has been dramatic. Pediatric units used to be places where children were playing, laughing with clowns, and leaving their room as soon as they could to see their friends; parents were supporting each other, and hugs were part of the daily life. All this has disappeared, and children are now isolated in their rooms with their parents, corridors and play areas are empty, clowns are wearing masks, visitors are not allowed, and gestures and expression of compassion have to respect social distancing. For someone who has decided to embrace a career in pediatric

oncology because of its many unique aspects, this period is challenging and the attractiveness of the discipline is at risk in the absence of these very special interactions with children, parents, and families. In this context, the resilience of nurses confronted by such challenges is remarkable, and this survey underlines an exceptional engagement and the power of team communication and collaboration.

At the beginning of the pandemic, implementation of these rules was fast and relatively straightforward in many places. Most of the rules have now been integrated in our daily life, and despite a high rate of vaccination in some places, there is an overall reluctance and fear to return to normalcy. Will we see pediatric units going back to what they were before the pandemic? How long will it take for a nurse or other members of the treating team to share an unmasked smile or give a hug to a child or a parent without any fear or hesitation? This perspective is probably a major driver in the resilience of the health care providers involved in the care of these children.

This survey took place at a relatively early stage of the pandemic, and a follow-up study would certainly provide a different insight. However, the results presented in this study should not be taken lightly. They reflect a serious risk that can ultimately affect the care of children and compromise the success of their treatment. In this context, one cannot emphasize enough the importance of pediatric cancer organizations in their advocacy role.

CONFLICT OF INTEREST DISCLOSURES

The authors made no disclosures.

REFERENCES

1. Dong Y, Mo X, Hu Y, et al. Epidemiology of COVID-19 among children in china. *Pediatrics*. 2020;145:e20200702.
2. Bouffet E, Challinor J, Sullivan M, Biondi A, Rodriguez-Galindo C, Pritchard-Jones K. Early advice on managing children with cancer during the COVID-19 pandemic and a call for sharing experiences. *Pediatr Blood Cancer*. 2020;67:e28327.
3. Sullivan M, Bouffet E, Rodriguez-Galindo C, et al. The COVID-19 pandemic: a rapid global response for children with cancer from SIOP, COG, SIOP-E, SIOP-PODC, IPSO, PROS, CCI, and St Jude Global. *Pediatr Blood Cancer*. 2020;67:e28409.
4. Mukkada S, Bhakta N, Chantada GL, et al. Global characteristics and outcomes of SARS-CoV-2 infection in children and adolescents with cancer (GRCCC): a cohort study. *Lancet Oncol*. 2021;22:1416-1426.
5. Moreira DC, Sniderman E, Mukkada S, et al. The Global COVID-19 Observatory and resource center for childhood cancer: a response for the pediatric oncology community by SIOP and St. Jude Global. *Pediatr Blood Cancer*. 2021;68:e28962.
6. Sniderman ER, Graetz DE, Agulnik A, et al. Impact of the COVID-19 pandemic on pediatric oncology provider globally: a mixed-method study. *Cancer*. 2022;128:1493-1502.