Brief report: International perspectives on the pediatric COVID#19 experience

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COMMENTARY

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Brief report: International perspectives on the pediatric COVID-19 experience

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Abstract

The 2019 novel coronavirus (SARS-CoV-2) is endangering human health worldwide; scarcity of published pediatric cases and current literature and the absence of evidence-based guidelines necessitate international sharing of experience and personal communication. On 31 March 2020 the International Committee of the American Thoracic Society Pediatrics Assembly recorded an online podcast, during which pediatric pulmonologists worldwide shared their experience on the novel coronavirus disease (COVID-19) in children. The aim was to share personal experience in organizing pediatric care in different health care settings globally, protecting health care workers, and isolation practices. This manuscript summarizes the common themes of the podcast which centered around three main topics: more benign clinical disease and progression in pediatric cases compared to adults, a strong need for strategies to protect health care workers, and social or economic disparities as a barrier to successful pandemic control.

KEYWORDS
COVID-19, disparity, pandemic, pediatric pulmonology

On 31 March 2020 the International Committee of the American Thoracic Society Pediatrics Assembly recorded an online podcast, during which pediatric pulmonologists worldwide shared their experience on the novel coronavirus disease (COVID-19) in children. The aim was not to share centralized information about pediatric patient numbers or treatment protocols which is available through

much international epidemiology and health care websites; but to share personal experience in organizing pediatric care in different health care settings globally, protecting health care workers, and isolation practices. The 2019 novel coronavirus (SARS-CoV-2) is endangering human health worldwide; scarcity of published pediatric cases and current literature and the absence of evidence-based guidelines necessitate international sharing of experience and personal communication.[1,2]

The common themes of the podcast centered around three main topics: more benign clinical disease and progression in pediatric cases compared with adults, a strong need for strategies to protect health care workers, and social or economic disparities as a barrier to successful pandemic control.

1 | BENIGN COURSE OF PEDIATRIC CASES

As depicted in recent articles from China and Korea, pediatric cases constitute a small percentage of the total COVID-19 hospitalized cases worldwide with low mortality being reported in children.[1-3] Evaluation of the symptomatic and asymptomatic children younger than 16 years of age in Wuhan with known contact with COVID-19 cases found that 12.3% of those tested were confirmed to have SARS-CoV-2 infection; pneumonia was the most common diagnosis amongst symptomatic children.[4] Similarly, the Center for Disease Control and prevention in China reported that only 2% of hospitalized cases were younger than 19 years of age; in Korea under 5% of cases were under 19 years of age.[3,5] Fever was not a prominent finding, could occur in around 50% while radiologically ground-glass opacities were commonly encountered. The majority of the children had milder disease and were discharged from the hospital.[1] Moreover, SARS-CoV-2 infection has a wide range of symptoms in children including diarrhea, vomiting, and fatigue.[4] Therefore, children play an important role in spreading of the infection in the community due to the asymptomatic nature of the infection, making extensive testing and isolation of children vital for infection control.

The local experience of the podcast participants was in line with these publications in terms of frequency and severity. Children with severe clinical presentation usually had underlying comorbid diseases such as oncologic malignancies, diabetes, and immunodeficiency. The chronic respiratory disease did not appear to be emerging as a risk factor for severe COVID-19 disease; however, long term follow-up is needed to confirm this observation. Lack of information on long term prognosis of asymptomatic children and those with pneumonia should be a research priority.

2 | SOCIAL DISTANCING MEASURES AND CLINICAL SERVICES

Pediatric care in many hospitals is organized to separate patients with suspected or confirmed COVID-19 from other patients. Emergency departments have separated tracks to avoid contact of suspected COVID-19 patients, who are admitted to a different part of the building. Similarly, wards for hospitalization are separated for suspected and confirmed COVID-19 cases, with separate staff in emergency and inpatients areas.

In many hospitals, elective ambulatory pediatric care, as well as lung function testing, is halted in favor of social distancing measures. Moreover, telemedicine measures are implemented or starting to be implemented in many parts of the world, especially for children with chronic diseases. Telemedicine is used both for consultation by the patients and to keep contact with families and children with chronic diseases. Another concern is the care of children with other diseases. Globally, ambulatory clinics and elective procedures have been curtailed. The availability of urgent health care to children with non-COVID diseases is vital to protect child health. As the number of pediatric COVID cases is low and the ambulatory activities have been drastically reduced, many institutions have pediatricians or health care personnel normally working in the pediatric department to help adult colleagues.

One issue for pediatric care in COVID-19 patients is nebulization practice. Nebulized treatment should be avoided and replaced with inhaled treatment with spacers and meter-dosed inhalers. Nebulizers may carry the potential for the spread of infection due to aerosols generated, whereas spacers are much easier for sterilization issues. Similarly, high flow oxygen should be avoided.

Social distancing seems to be the major tool to prevent the spread of the infection. Although asymptomatic, children may shed the virus especially amongst household members thus separating the elderly from young children is important. However, social disparities will be the major obstacle to implement social distancing measures in many countries.

3 | SAFETY OF HEALTH CARE WORKERS

The safety of health care workers is a major concern raised by all participants. Asymptomatic or mildly symptomatic infections represent an important risk of spreading the infection to health care workers. Some hospitals take measures such as daily fever checks for all those who enter the hospital, including health care workers, and COVID-19 testing for all children requiring hospitalization, even if they do not have respiratory symptoms. Closed-circuit television and online care of patients with COVID-19 was implemented in some institutions to decrease contact of health care workers with the infected subjects. Moreover, health care workers taking care of potentially infected children should perform proper hand hygiene and use of appropriate personal protective equipment (PPE), including use of a respirator, gowns, gloves, caps, and eye protection.[6,7]

There are different practices in terms of the use of masks for health care workers. In some institutions, all hospital workers, including physicians, nurses, and administrative personnel, are using masks, and in some only those working with patients are using masks. The use of universal masks by the public and in health care facilities may reduce transmission of COVID-19 and other respiratory viruses, thus decreasing the burden of respiratory infections on health care facilities.[8]

Availability of surgical and N95 masks is an issue, and these should be reserved for use in health care facilities given the global shortages. Homemade cloth masks are appropriate for use by the public.

Anxiety, stress, and exhaustion among health care workers are also key concerns.

A flexible action plan is important component management. Action plan on quarantine measures, separating health care workers who have contact, and who do not have contact with patients is important. The flexibility of the action plan to move adequate health care workers to the required areas in the hospital will be required during the pandemic.

As the epidemic moves from high-income countries to Africa and Latin America, key concerns about access to PPE for HCWs, the ability of health systems to address the burden, the inability to undertake social distancing and frequent hand washing in poor communities, and potential impact on the severity of disease by highly prevalent diseases like TB or HIV are pressing. Further the impact of the epidemic and on lockdowns on economies and on poverty remain critical issues for child health.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTION

All authors have contributed equally to the content and preparation of the manuscript, therefore, would like to receive credit as first authors.

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