Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Leveraging telemedicine to preserve pediatric global health missions in the era of COVID-19

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ABSTRACT

This paper outlines the use of a global telehealth program to leverage the potential of telehealth to not only 1) preserve the previous progress of our pediatric surgical airway global teaching mission, but also: 2) to provide rapid, international dissemination of information related to care of pediatric COVID-19 patients; 3) to virtually support the attainment of self-sufficiency of our host countries in relation to our teaching mission; and 4) to inspire host countries to be local champions for each other during the COVID-19 crisis.

1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic continues to deluge already fragile health systems with poor infrastructure and scarce resources around the world [1]. Compounding this harsh reality, pediatric global health programs have been forced to halt their international work secondary to personal protective equipment (PPE) shortages, travel restrictions and financial instability [2]. Healthcare personnel additionally may have apprehension regarding the risk of virus transmission during international missions for an indefinite period of time and host countries may, in parallel, continue to ban the arrival of foreign practitioners due to the fear of inadvertent spread of the contagion. Although several reports have described the negative ramifications of COVID-19 for global health programs, few have described strategies to sustain the progress of previous pediatric teaching mission trips [2–4].

2. Discussion

We believe that global health missions should take advantage of these unprecedented times to more expediently propagate the progressive autonomy of the host countries. Many recent reports have described the vital role telehealth has played amidst the pandemic in providing virtual patient care in local settings [5,6]. We sought to leverage the potential of telehealth to not only 1) preserve the previous progress of our pediatric surgical airway global teaching mission, but also: 2) to provide rapid, international dissemination of information related to care of pediatric COVID-19 patients; 3) to virtually support the attainment of self-sufficiency of our host countries in relation to our teaching mission; and 4) to inspire host countries to be local champions for each other during the COVID-19 crisis.

In the midst of the COVID-19 pandemic, we published data regarding our ten-year experience with leading a multidisciplinary pediatric surgical airway teaching mission, called Operation Airway, in three countries over 14 consecutive missions [7]. With the advent of COVID-19, we questioned how our host countries could sustain the progress of our previous teaching missions. We hypothesized that the potential of telehealth could be harnessed to not only sustain the work of global health missions but also aid rapid dissemination of knowledge related to care of COVID-19 pediatric patients to low- and medium-income countries (LMICs). We held our first global telehealth conference on April 13th, 2020 led by our pediatric intensive care unit (ICU) team to describe our experience with treating COVID-19 patients. There were 57 participants from the capital cities of four LMICs: Colombia, Peru, El Salvador and the Dominican Republic. Information was presented in English with live translation into Spanish by a professional interpreter. We reviewed specific cases of COVID-19 patients treated in our pediatric ICU and ended the conference with a question and answer session.

As the COVID-19 pandemic showed no signs of fading, we strategized to leverage the power of global telehealth to build upon the work of our prior teaching mission trips. We asked each host country to create a presentation about a current, challenging surgical airway case, which was then sent out to the Operation Airway team to review one week prior to the scheduled telehealth conference. We scheduled weekly two-hour long global telehealth conferences in which 30 healthcare providers participated from the capital cities of four LMICs. Cases were presented in both English and Spanish and all participants were given the opportunity to ask questions. Our colleagues from the Dominican Republic, a host country that met our mission's graduation criteria in 2019, presented their recent successful, autonomous management of a pediatric patient with tracheal stenosis. They utilized the global telehealth platform to ask the Operation Airway team advanced level questions and to teach and to inspire the other host countries. We have hosted three such global telehealth conferences thus far and have received astounding positive feedback from our participants from LMICs.

3. Conclusion

Herein, we provide a framework demonstrating how global

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telehealth conferences can help local champions sustain the work of pediatric teaching mission trips unable to currently provide direct patient care and on-site teaching. These conferences are also a way to rapidly disseminate current information on intensive care management of COVID-19 patients on a global platform. Through telehealth consultation, leaders of global health missions can virtually expand the capacity and expertise of local physicians, who in turn gain the confidence to autonomously carry out the teaching missions' aims. The LMICs that we have supported via our telehealth conferences have additionally been inspired to aid their neighboring LMICs in the pursuit of improving patient outcomes and providing more advanced care. Despite the innumerable challenges faced by pediatric global health missions in the era of COVID-19, we call upon organizations to embrace this as an opportunity to virtually empower their host countries to navigate an expedited pathway to self-sufficiency.

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Declaration of competing interest

None.

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