

Challenges Faced in Pediatric Cardiology during COVID Pandemic: A Review

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Abstract

COVID-19 emanated from Wuhan (China) in 2019 end. It resulted in the spread of the SARS-CoV-2 (COVID-19) pandemic. Almost every sector, including pediatric cardiology, has been affected due to the pandemic. In the current situation, it is imperative to lessen face-to-face elective outpatient clinic visits for cardiology patients. As a result of the social distancing restrictions globally, there has been a profound interest in the development of telehealth services, also named telemedicine. We are of the view that such technology as telehealth can be of use in pediatric cardiology as well, keeping in view the COVID-19 pandemic. It can have a clanging impact on our daily clinical practice.

Keywords: COVID-19 • Pediatric cardiology • Telehealth • Pandemic • Telemedicine clinic

Introduction

COVID-19 emanated from Wuhan (China) in 2019 end. It resulted in the spread of the SARS-CoV-2 (COVID-19) pandemic. Following this, turbulence came in daily life. It also put a lot of extra burden on the health care system and financial activities across the globe [1-3]. Almost every sector, including pediatric cardiology, has been affected due to the pandemic. There has been a longing among the hospitals' management to find ways to cope with pressures of need for medical supplies and medical staff in the face of the current situation. Upon further investigation conducted by the World Health Organization, it came to light that the cause of this pneumonia belonged to a novel coronavirus family that had resulted in previous outbreaks such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

In the current situation, it is imperative to lessen face-to-face elective outpatient clinic visits for cardiology patients. However, there is an inherent challenge in this because, on the one hand, it is not wise to expose high-risk heart disease subjects to this infection. On the other hand, we have to deliver speedy care to patients on the verge of experiencing a cardiovascular event. Hence, it is a judicious decision on the part of the treating cardiologist to keep the safety of patients. As a result of the social distancing restrictions globally, there has been a profound interest in the development of telehealth services, also named telemedicine. We are of the view that such technology as telehealth can be of use in pediatric cardiology as well, keeping in view the COVID-19 pandemic. It can have a clanging impact on our daily clinical practice [4-8].

Methodology

We did search on PubMed, Medline database publications using: COVID-19, Pediatric cardiology, Telehealth, patient, pandemic, and telemedicine clinic. The publications included were special communications, reviews, conferences papers, books and research studies regarding the subject matter over last eighteen months.

Discussion

Telehealth has not been taken into practice in the provision of pediatric cardiac care in the majority of healthcare facilities. In the current situation, the pros and cons of telemedicine have been rigorously scrutinized. In the current situation, the utilization of telehealth in pediatric cardiology clinics can be of paramount value. It can help in history taking, necessary physical examination, and tests such as EKG, chest X-ray, and echocardiography, which can help in making an accurate diagnosis.

Numerous studies have described the potential role of telemedicine for the provision of extension of pediatric cardiology services to rural or distant areas without a need for an on-site pediatric cardiologist. It can be particularly of benefit for improved access to patients living in low income and distant rural areas [7-11]. Furthermore, the utilization of newer technology such as tele-echocardiography, tele-auscultation, and remote rhythm monitoring has made progress in this regard. Results regarding telemedicine utilization in pediatric cardiology are encouraging [10-15].

Additionally, telehealth has promised notable cost savings and reduction of financial strain on the healthcare system on the whole. Besides this, remote education in the form of tele-education of providers and trainees has also gained a place in this regard. However, there are still few difficulties in the implementation of telehealth such as lack of standardization of telemedicine components, involvement of unclear and complex legal issues and tedious job of licensure requirements, the complexity of insurance reimbursements, and acceptance on the part of the health care provider and patient. That's the reason the recommendations and regulations continue to evolve [13-17].

In general, requirements for running a smooth tele health care, include a stable internet connection, proper scheduling of the time to the visit, sufficient institutional support such as a HIPAA-compliant platform, tech support, equipment, training, care maps and clinical pathways that are consistent across the program, scheduling support, and outpatient templates that accommodate telehealth. Many hospitals achieved success in the expansion of minimum required telehealth infrastructure to cope with the surge in need during the COVID-19 pandemic. They had varying policies and management pathways. Larger hospitals can afford to build the infrastructure necessary to integrate video telehealth via the Electronic Medical Record (EMR), making room for effortless access to patient data during the tele clinic visit. Moreover, patient scheduling, insurance details, and billing matters are easily tackled. Besides these, various translation features are also at hand with these platforms [15-20].

Before planning the telehealth visit of the patient, consent from the patient or parent ought to be acquired. It can be either acquired verbally or in writing. It is worth mentioning here that telemedicine can't fit into all pediatric cardiology patients. For example, telemedicine cannot be an appropriate option in emergency scenarios, wherein the swift quick notification of emergency medical providers is in need for patient safety. However, it can help health care professionals with triaging and patient evaluation if a patient is calling from home with concerns. Video calls can assist in the rapid assessment of patient conditions that may help guide the physician regarding deciding to see a patient in the outpatient clinic in several hours or days. If a patient's condition warrants emergency care, the child can be referred and guided to present to the nearest medical center, or activating emergency medical services is more appropriate [18-22].

Telemedicine cannot be of utility in children wherein objective information regarding the vital signs (pulse rate, oxygen saturation, blood pressure) are required. Hence, telemedicine may not be a suitable option in newborns or any child that is critically ill. Specific and meticulous examination, including subtle change in a murmur, pulse quality, or volume status may also be inadequately assessed by video, or by an examination done by a non-expert or a family member over telehealth [21-26].

Conclusion

Telehealth may prove to be a suitable alternative in times of pandemics in pediatric cardiology patients. Telehealth may also give a better idea about their situation, and environment. It can facilitate in reduction of wait times for appointments and can make room for an effective and timely triage system for in-person clinic visits.

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