

GENERAL ARTICLE

TELEMEDICINE - GUIDANCE FOR PEDIATRIC PRACTICE

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Abstract: *Advancement in technology is a boon in disguise for mankind especially during this COVID-19 pandemic. Telemedicine provides a platform whereby patients are able to receive treatment even without an in-person hospital visit. With proper care, consent and guidelines, telemedicine paves the way for a better tomorrow. At this time, it also serves to prevent spread of infection by minimizing hospital visits which is of due importance in the vulnerable pediatric group. This article is presented as a guidance for the practicing pediatrician embarking on teleconsultation for the first time - issues to be aware of while prescribing and the legal aspects.*

Keywords: *Telemedicine, Pediatrics, Technological infrastructure, Optimum healthcare.*

Epidemics and pandemics are challenges in providing optimum healthcare for the needy. Access to health care delivery may be hampered in such a scenario due to distance, lack of sufficient manpower, need for social distancing and time. Telemedicine is a useful tool in such situations to provide specialized care, in responding to emergencies and providing access to pediatric care in remote and underserved populations.¹ Exposure to microbes during epidemics can be minimized by telemedicine. With advancement in technological infrastructure on a national scale it is possible to maintain the health of children around the country without unnecessary exposure to the infection.

Telemedicine may be defined as “The delivery of health care services using telecommunication technologies for exchange of information for diagnosis, treatment and

prevention of disease and injuries.” It can also be used for research, evaluation and continuing medical education for improving the health of individuals and their community.² In March 2020, Medical Council of India came out with telemedicine practice guidelines, in partnership with National Institution for Transforming India Commission (NITI Ayog).³ Though telemedicine has been in use for the last 30 years its increasing use in the last 3-4 years especially now during the COVID-19 pandemic has the potential to transform pediatric practice. Any pediatrician is entitled to provide telemedicine consultation to patients in any part of India upholding professional and ethical norms and standards. They would be required to undergo a mandatory online course by the Medical Council of India (within 3 years of start of telemedicine) which is in the pipeline.

Implementation

There are more than 50 platforms which provide telemedicine facility. One must have very good internet connectivity and a computer/ laptop/ smart phone with preferably high resolution camera. Telemedicine has applications in Government, NGO and Private sector. For pediatricians in the private sector, a payment gateway can be integrated into the platform for online payments.

Irrespective of the tool of communication used, the core principles of telemedicine is the same.⁴ Telemedicine applications can be classified in to 4 basic types.

1. **Video:** This gives the nearest experience to an inpatient consultation and real time interaction. It is also the most preferred tool of communication in telemedicine and is expected to replace other tools in the days to come. Patient can be seen and certain signs may be identified. Visual cues can be perceived. Success depends on the quality of internet connectivity at both ends and we have to ensure privacy of the patients. The possibility of abuse or misuse should be kept in mind. Patient records and other documentation can be stored in the cloud and or in hospital servers and accessed as and when required. Confidentiality pertaining to patient treatment should be ensured.

2. **Audio:** Audio can be carried out through mobile or land phone. It is convenient, fast and privacy ensured.

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Real-time interaction is possible. Nonverbal cues will be missed. Visuals and patient identification is not possible.

3. **Text** (chat platforms and messages): It is convenient and documentation is integrated and can be real-time too. May miss verbal cues, difficult to establish rapport and identity is questionable.

4. **Asynchronous** (e- mail or fax): This method is more convenient and provides additional benefit of documentation. Laboratory reports, data and images can be easily shared, and is more useful when accompanied with follow-ups and second opinion. This is not a real time interaction as doctor may not see the mail immediately.^{5,6}

A few elements have to be considered carefully before tele-consultation. Prescribing medicine, without an appropriate diagnosis or provisional diagnosis will amount to professional misconduct. Not all medications can be prescribed via telemedicine. The following list classifies the medications and the safety with which it may be prescribed.

List 0: Very safe drugs like paracetamol, ORS solutions and over the counter (OTC) products.

List A: Can be prescribed during first consultation which is a video consultation. Can be prescribed again to refill during follow up. These are relatively safe drugs with low potential for abuse like i) Ointments/Lotion for skin ailments: Clotrimazole, Mupirocin, Calamine Lotion, Benzyl Benzoate Lotion etc, ii) Local Ophthalmological drops such as: Ciprofloxacin for Conjunctivitis, etc, iii) Local Ear Drops such as: Clotrimazole ear drops, drops for ear wax etc. and iv) Refill medications for diabetes mellitus, hypertension and asthma.

List B: Can prescribe add-on medications in a patient in a follow up consult for the same illness e.g., patient is already on atenolol for hypertension and the blood pressure is not controlled, an ACE inhibitor can be added such as enalapril.

Prohibited list: These medicines have high potential for abuse. Medicines listed in schedule X or any narcotics or psychotropic substances.

Pros and cons of telemedicine

Pros

1. Increases timely access to appropriate interventions. Faster access to otherwise unavailable services.
2. Reduces the cost associated with travel.
3. More prompt documentation and maintenance of records.

4. Availability of laboratory parameters and investigation results online helps the treating pediatricians.
5. Telemedicine prevents the transmission of infection (especially hospital acquired infection) to the healthcare providers and to the patients especially during epidemics and pandemics.
6. Even if the consultant is not immediately available in a tertiary institution, patient can have rapid access to other consultants.
7. Pediatricians can offer counselling about lactation, nutritional counselling and chronic care management through telemedicine.⁷
8. Pain and palliative clinics of children can utilize telemedicine to replace home visits. Health care providers / volunteers can visit their home with laptops and provide them access to the doctor and assist them by providing vital signs of the patient and patient will be happy to see and communicate with his doctor. A palliative medicine doctor can visit only 3 or 4 patients in a day. But through telemedicine he/she can take care of up to 10 to 20 bedridden patients in addition to their routine OPD related work.

Cons

1. Patient cannot be physically examined and hence more chance for bias and errors.
2. Regulatory and industry barriers like which drugs can be prescribed and which are prohibited .
3. Technical glitches may lead to interruption of communication.
4. Awareness and attitude towards telemedicine have been found to be less satisfactory. Further awareness programmes are also required for patients.
5. Acceptance among healthcare professionals has not been studied in depth.
6. Widespread implementation of telemedicine has been a slow process due to poor organization in healthcare institutions.
7. Only very basic care, counselling and advice can be provided.
8. Cannot replace situation which require physical presence such as immunization , growth monitoring , clinical examination, surgery and procedures like dialysis.

Reimbursement for services provided

For pediatricians in the private sector, a payment gateway can be integrated into the platform for online payments. Telemedicine consultations should be treated the same as in-person consultations from a fee perspective. A doctor may charge an appropriate fee for the Telemedicine consultation and also provide a receipt/invoice for the same.

Most platforms for teleconsultation charge an upfront fee to register the doctor services cover managing the appointment, storing patient data, sending an invoice and mailing the prescription. Some platforms deduct 10-20% from the fees charged by the doctor.

A practical way is for the doctor to complete the consultation via a video or audio call following which a photo of the prescription on his/her letterhead may be sent to the patient. This ensures documentation and security of patient data. Fee payment can be made through NEFT / Google pay which circumvents service fee to the platforms and benefits doctor and patient alike.

IAP has also suggested a simple solution using some of the most widely used and secure platforms in the world - WhatsApp Business for consultation or Paytm (for Business) to manage payments. A doctor can start his / her telemedicine practice within 30 mins in 2 simple steps:

1. Download and setup WhatsApp Business and Paytm for Business Apps on the mobile.
2. Activate special Paytm features by registering his/ her account on <https://diapindia.org/telemedpaytm.php>.

Thus, instead of subscribing to an expensive telemedicine software charging Rs. 15-20,000/- per annum, with the ever present 'Damocle's sword' of data misuse, IAP's solution is very simple and employs time tested platforms. And this is completely free for IAP members.

Benefits for IAP members from Paytm

- All IAP doctors will get upgraded as 'Unlimited Merchants' and get payment link enabled. These are enterprise level features and not available to individual Paytm merchants.
- Special deal on physical POS/ EDC machine once the lockdown is over – Paytm field team will be in touch directly. An EDC (electronic data capture) works to make use of POS (point of sale) terminals for credit card processing in addition to its submission to the e-commerce providers of merchant accounts or other types of credit card processors.

- Moreover, there are special offers from Paytm from time to time.

Guidelines pertaining to hardware and software to be used for telemedicine

The Guidelines are silent and do not deal with issues pertaining to hardware, software, technology, data management and other IT related issues. However they mandate that it is the doctors' responsibility to be aware of data protection and privacy laws. The pediatrician has to maintain logs of all teleconsultations, records, prescriptions and has to maintain reasonable degree of confidentiality.

During a telemedicine consult, identification of the patient and the pediatrician is important.⁸

A detailed consent with mention regarding mode of communication and type of consultation is necessary. Besides, we have to keep the following points in mind:

1. Legal aspect
2. Consent
3. Privacy and security of patient data and identity
4. Pharmacy rules
5. Insurance coverage to the patient
6. Indemnity coverage of the consultant
7. Issues of liability and negligence
8. Referral for emergency⁹
9. Misuse and abuse of data
10. Rules pertaining to the place of residence of the patient

Conclusion

During the COVID-19 pandemic, there has been a significant decrease in the number of patients visiting the pediatric outpatient department. While in person consultation is the preferred mode, telemedicine can be used for health supervision visits and acute and chronic care visits. It is useful for essential newborn screening, initial assessment of children with minor illness and follow up visits after discharge from hospital, infection control and immunization advice. Well baby clinics can be encouraged to use telemedicine with the rider that general examination cannot be done during teleconsultation.⁹ Laboratory tests, hearing, vision and oral health screening should be completed in person when circumstances improve. Chronic care can easily be carried out through telemedicine. It is important to remember that telemedicine cannot replace physical examination. With the advent of newer technologies, even some of the requirements for

physical examination can be addressed. Telemedicine despite its limitations, will continue to grow and be adopted by more and more pediatricians and patients in future.

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CLIPPINGS

COVID-2019 infection among health care workers.

Data were collected from January 1 to February 9, 2020. Exposure, epidemiological and demographic information was collected by a structured questionnaire. Clinical, laboratory and radiologic information was collected from electronic medical records. A total of 335 medical staff were randomly sampled to estimate the prevalence of subclinical infection among a high-risk, asymptomatic population. Samples from surfaces in health care settings were also collected. Overall, 110 of 9684 HCWs in Tongji Hospital tested positive for COVID-19, with an infection rate of 1.1%. Seventeen (15.5%) worked in fever clinics or wards, indicating an infection rate of 0.5% (17 of 3110) among first-line HCWs. A total of 93 of 6574 non-first-line HCWs (1.4%) were infected. Non-first-line nurses younger than 45 years were more likely to be infected compared with first-line physicians aged 45 years or older (incident rate ratio, 16.1; 95% CI, 7.1-36.3; $P < .001$). The prevalence of subclinical infection was 0.74% (1 of 135) among asymptomatic first-line HCWs and 1.0% (2 of 200) among non-first-line HCWs. No environmental surfaces tested positive. Overall, 93 of 110 HCWs (84.5%) with COVID-19 had nonsevere disease, while 1 (0.9%) died. The 5 most common symptoms were fever (67 [60.9%]), myalgia or fatigue (66 [60.0%]), cough (62 [56.4%]), sore throat (55 [50.0%]), and muscle ache (50 [45.5%]). Contact with indexed patients (65 [59.1%]) and colleagues with infection (12 [10.9%]) as well as community-acquired infection (14 [12.7%]) were the main routes of exposure for HCWs.

Conclusions: That non-first-line HCWs had a higher infection rate than first line HCWs differed from observation of previous viral disease epidemics. Rapid identification of staff with potential infection and routine screening among asymptomatic staff could help protect HCWs.

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