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## Pitfalls in telemedicine consultations in the era of COVID 19 and how to avoid them



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#### ABSTRACT

Background and aims: With restrictions on face to face clinical consultations in the COVID-19 pandemic, Telemedicine has become an essential tool in providing continuity of care to patients. We explore the common pitfalls in remote consultations and strategies that can be adopted to avoid them.

Methods: We have done a comprehensive review of the literature using suitable keywords on the search engines of PubMed, SCOPUS, Google Scholar and Research Gate in the first week of May 2020 including 'COVID-19', 'telemedicine' and 'remote consultations',

Results: Telemedicine has become an integral part to support patient's clinical care in the current COVID-19 pandemic now and will be in the future for both primary and secondary care. Common pitfalls can be identified and steps can be taken to prevent them.

Conclusion: Telemedicine it is going to play a key role in future of health medicine, however, telemedicine technology should be applied in appropriate settings and situations. Suitable training, enhanced documentations, communication and observing information governance guidelines will go a long way in avoiding pitfalls associated with remote consultations.

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## 1. Introduction

Since the novel coronavirus SARS-CoV-2 (COVID-19) outbreak is highly contagious, there has been an urgent need to devise and identify new models of delivering health care to avoid 'face-to-face' consultation between clinician and patient and thus reducing the risk of disease transmission. To prevent the spread of this contagious virus, national governments have introduced 'lockdown' measures with infection control strategies including 'social distancing' and 'self-isolation' guidelines which severely restricts the movement of people and affects their daily life [1,2].

Telecommunication strategies such as telephone or video consultations play a key role especially during the current pandemic in exchange of valid information for diagnosis and management of diseases [3,4]. In the wake of COVID-19 pandemic, the Ministry of Health and Family Welfare (MOHFW), Government of India, and the Medical Council of India (MCI) have recently come forth with

Telemedicine Practice Guidelines that clearly states the role and limitations of tele-consultations [5]. Telemedicine (TM) has an evolving role in various specialities in India including Diabetes care and managing orthopaedics [6-8]. A further initiative inthe National Health Service (NHS) United Kingdom has been the implementation of web based programmes such as "Attend Anywhere" NHS digital technology supported and promoted by the National Health Service England (NHSE) during the current pandemic for video consultations [9,10]. Thus it has been acknowledged that TM or remote consultations are essential in delivering heath care now and in the future.

The TM and Remote consultations are terms used interchangeably. Telemedicine literally means "healing at a distance". The World Health Organization (WHO) defined TM as "The delivery of health-care services, where distance is a critical factor, by all health-care professionals, using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and the continuing education of health-care workers, with the aim of advancing the health of individuals and communities."

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The General Medical Council (GMC) and Medical Council of India (MCI) have published TM practice guidelines enabling registered medical practitioner/s (RMP) to provide health care [5,11].

We believe that adopting good practice guidelines and avoiding poor practice while undertaking remote consultations will prevent common pitfalls in telemedicine technology (Table 1).

#### 2. Role and constraints of telemedicine consultations in India

The TM has revolutionized the way we deliver health care in India specially in the context of CIVID-19 with a need to avoid 'Face to face' consultation and thus reduce the risk of disease transmission [6,8] and its applications have been applied in other specialities like endocrinology, oncology care and ophthalmology [6,12,13]. In chronic diseases such as diabetes and hypertension it allows remote monitoring [14]. However, the implementation of TM technology in India has not been without its inherent problems [15], with various roadblocks for end-users that need to be negotiated and pitfalls avoided in preventing medico-legal issues [7,16]. Steps can be undertaken to avail TM facility for effective and safe patient care. We highlight the standards of practice for effective telemedicine and steps that can be taken to avoid common pitfalls.

# 3. Standards of practice for effective telemedicine consultations and preventing pitfalls

## 3.1. Training

Training and learning of skills in dealing with remote consultations is essential to provide safe and effective patient care. Supervision should be appropriate with regular review of practice. Training will ensure appropriate communication, triage, improved efficiency, and patient satisfaction.

# 3.2. GMC and MCI updated guidance on remote consultations during COVID-19

The GMC core Good Medical Practice (GMP) principles apply as much too remote consultations as to any other e.g. face to face consultations [11].

## 3.3. Consent

A valid consent is a must for remote consultation and hence an explicit patient consent is required if a health worker, RMP or a caregiver initiates a TM consultation [5,10] as per MCI and GMC

recommendations. If, the patient starts the TM consultation, then the consent should be implied. Though consent may be implied, it is crucial to safeguard personal and confidential information. Patient should be informed about the limitation of remote consultation [5,11]. Patient capacity to make decisions must be assessed and recorded. For example "Yes, I consent to avail consultation via telemedicine".

## 3.4. Confidentiality

Principles of medical ethics, including professional norms for protecting patient privacy and confidentiality as per MCI and GMC Act shall be binding and must be upheld and practiced. Remote consultation is carried out in an appropriate environment with consideration of privacy and sensitive information. The patient should be reassured about the nature of remote consultation and that the conversation is secure and confidential.

### 3.5. Protocols

**"Virtual handshake"** Preparation and confirmation of patient details prior to the consultation. Introduction of the clinician. Appropriate clinical assessment. Summarization of management plans discussed to avoid confusion and miss-interpretation. Explanation of follow-up plans. Allow patient to clarify or ask questions.

#### 3.6. Enhanced documentation

Consent is obtained in case the conversation is recorded as per guidance [17]. These recordings will form a part of patients' medical records and should be safely stored. Consent for recording is documented in the records. A major limitation to the use of TM is making wrong clinical decisions (at times), due to non-examination of the patient and relying on their investigation reports and history [14]. To compensate for lack of clinical examination it is essential to ensure enhanced documentation to minimise potential risk of remote consultations which clinicians are anxious to avoid including an agreed management plan and confirmation of follow-up assessments.

## 3.7. Clinical photographs and GMC guidance

The same GMC principles apply to Visual photographs and recordings as audio recordings especially related to sensitive parts of the body, children and hence appropriate consent is taken and

**Table 1**Practice guidelines to avoid pitfalls in Telemedicine consultations.

Good Practice suggestions	Poor Practices
Follow principles of medical ethics	Do not prescribe medicines from the specific restricted list e.g. Opioids without appropriate authentication
Protecting patient privacy and confidentiality	Never misuse patient images and data
Confirm Remote-Tele or Video equipment set-up working properly	
Practice MCI and GMC practice principles for remote consultations	
Confirm reason of remote consultation is appropriate for the clinical setting	
'Virtual handshake'-confirm identity	
Verification of verbal consent for conducting remote consultation	Avoid taking consent
Undertake complete assessment of patient's symptoms and virtual signs	Do not prescribe Medicines without an appropriate diagnosis/provisional diagnosis
Summarize the consultation and ensure patient understands the management plan.	
Allow the patient opportunity to clarify	
Organise appropriate follow-up arrangements	
Undertake enhanced documentation	
Communicate with patient's primary care or referring doctor	
Ensure and practice information governance, data protection	Do not solicit patients for telemedicine through any advertisements or inducements.

confidentiality is protected [17].

#### 3.8. Communication

A copy of patient consultation should be sent to patient's primary care doctor e.g. General Practioner (GP) or the referring clinician for the continuity of care [18].

#### 3.9. Safety netting

The remote consultation should allow 'Risk stratification' and if need be a face to face appointment is organised to allow clinical assessment. e.g. suspicious skin lesion which is not clearly clarified on remote consultation to rule out malignancy or atypical skin rash in a child to rule out serious meningococcal infection [19].

## 3.10. Information governance and data protection

Data is made, stored, transferred, protected, or disposed as per Data protection laws and NHS Digital information Governance guidelines to avoid any potential breaches.

#### 3.11. Medical indemnity

Appropriate indemnity is held to the level of clinical care provided and assist in any medico-legal claims.

### 4. Conclusion

COVID-19 has made doctors move rapidly from traditional 'face-to-face' appointments to telephone or video consultation in challenging circumstances. Appropriate training and following GMC core Good Medical Practice principles, enhanced documentations, communication and observing information governance guidelines will go a long way in avoiding pitfalls associated with remote consultations. Regular review of remote consultation including audits and patient feedback will reinforce clinical practice. Telemedicine technology is a key factor in delivery of health care in the future and ensuring correct practiced during remote consultations will avoid complaints and medico-legal issues associated with them.

## **Author's contributions**

VJ and KPI involved in Conceptualization, literature search, manuscript and revision writing of the original draft. RV supervised overall submission and approved revision final draft. All authors read and agreed the final draft submitted.

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#### Statement of ethics

All our clinical procedures were fully compliant with the ethical standards in accordance with the local consenting and ethics guidelines. The current submitted article is not a clinical study and does not involve any patients.

## **Declaration of competing interest**

The authors declare no conflict of interest.

#### References

- Centers for Disease Control and Prevention. https://www.cdc.gov/ coronavirus/2019-nCoV/index.html. [Accessed 22 May 2020].
- [2] World Health Organization. Coronavirus disease (COVID-19) advice for the public. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/ advice-for-public. [Accessed 22 May 2020].
- [3] van Galen LS, Car J. Telephone consultations. BMJ 2018;360. k1047.
- [4] Greenhalgh T, Wherton J, Shaw S, et al. Video consultations for covid-19. BMJ 2020:368, m998.
- [5] Ministry of Health and Family Welfare, Government of India. Telemedicine practice guidelines. https://www.mohfw.gov.in/pdf/Telemedicine.pdf. [Accessed 25 March 2020].
- [6] Ghosh A, Gupta R, Misra A, Telemedicine for Diabetes Care in India during COVID19 Pandemic and National Lockdown Period: Guidelines for Physicians, Diabetes & Metabolic Syndrome: Clin Res Rev,https://doi.org/10.1016/j.dsx. 2020.04.001.
- [7] Ghosh A, Dutta K, Tyagi K, Gupta R, Misra A. Roadblock in application of telemedicine for diabetes management in India during COVID19 pandemic, Diabetes & Metabolic Syndrome. Clin Res Rev 2020. https://doi.org/10.1016/ i.dsx.2020.05.010.
- [8] Lal H, Sharma DK, Patralekh MK, Jain VK, Maini L. Outpatient Department practices in orthopaedics amidst COVID-19: the evolving model [published online ahead of print, 2020 May 18]. J Clin Orthop Trauma 2020. https:// doi.org/10.1016/j.jcot.2020.05.009. 10.1016/j.jcot.2020.05.009.
- [9] NHS England and NHS Improvement. Attend Anywhere. https://england.nhs. attendanywhere.com/resourcecentre/Content/Public\_Topics/Discover.htm. [Accessed 22 May 2020].
- [10] Remote consultations. NHS England and NHS improvement coronavirus. specialty guides for patient management. Available, https://www.england. nhs.uk/coronavirus/publication/specialty.guides/. [Accessed 22 May 2020].
- [11] General Medical Council. Good medical practice. Updated 29 April 2019, https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/ good-medical-practice. [Accessed 22 May 2020].
- [12] Mayadevi M, Thankappan K, Limbachiya SV, et al. Interdisciplinary telemedicine in the management of dysphagia in head and neck. Dysphagia 2018;33(4):474–80. https://doi.org/10.1007/s00455-018-9876-9.
- [13] Banerjee M, Chakraborty S, Pal R. Teleconsultation and diabetes care amid COVID-19 pandemic in India: scopes and challenges [published online ahead of print, 2020 may 21]. J Diabetes Sci Technol 2020. https://doi.org/10.1177/ 1932296820929391. 1932296820929391.
- [14] Vaishya R, Bahl S, Singh RP. Letter to the editor in response to: telemedicine for diabetes care in India during COVID19 pandemic and national lockdown period: guidelines for physicians. Diabetes Metab Syndr 2020;14(4):687–8. https://doi.org/10.1016/j.dsx.2020.05.027.
- [15] Sood SP. Implementing telemedicine technology: lessons from India. World Hosp Health Serv 2004;40(3):29–43.
- [16] Chellaiyan VG, Nirupama AY, Taneja N. Telemedicine in India: where do we stand? J Family Med Prim Care 2019;8(6):1872–6. https://doi.org/10.4103/ jfmpc.jfmpc\_264\_19.
- [17] General Medical Council (GMC). Guidance for doctors. https://www.gmc-uk. org/ethical-guidance/ethical-guidance-for-doctors/making-and-using-visualand-audio-recordings-of-patients. [Accessed 9 May 2020].
- [18] Stone J. Communication between physician and patients in the era of e-medicine. NEIM 2007;356:2451–544, 2007.
- [19] Katz HP, Kaltsounis D, Halloran L, Mondor M. Patient safety and telephone medicine: some lessons from closed claim case review. J Gen Intern Med 2008;23(5):517–22. https://doi.org/10.1007/s11606-007-0491-y.