

**Tele medicine challenges faced by health care professionals during COVID Era**

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**Introduction**

The novel Corona virus (COVID-19) caused by the SARS-CoV-2 virus has led to many challenges throughout the world, one of which is the delivery of healthcare to patients while they remained at home to reduce the risk of transmission. India responded, as did many other countries worldwide, with telemedicine and other digital health technologies. So the Ministry of Health & Family Welfare established the country’s telemedicine policy guidelines (25 March 2020)(1). Union government institutions and the State-funded ones promptly offered services like e-sanjeevani OPD, a national teleconsultations service, adopted by many state governments and made compulsory for healthcare practitioners.<sup>1</sup>

The WHO has defined telemedicine as “the delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of healthcare providers, all in the

interests of advancing the health of individuals and their communities.<sup>2</sup>

The Covid-19 pandemic added unprecedented burden on an already burdened health-care system in a country like ours. The few studies exploring the challenges in telemedicine have concluded that there is a need of efforts to form guidelines for health care professionals in telemedicine. They recommended that there is a need to overcome technological barriers, ethical challenges, and interpersonal relationship needs of health care professionals.<sup>3</sup> Moreover with the increase of telemedicine usage more challenges in form of medico legal aspect may bother medical fraternity, hence, there is a need to provide proper training to healthcare worker for better medical practices.<sup>4</sup> According to telemedicine practice guidelines, duties and responsibilities of health care professionals has been defined, however challenges in field are still not solved completely.<sup>1</sup> Hence, this study was planned to know the challenges health care professionals are facing in the delivery of health care services through telemedicine.

## Objectives

1. To analyse the perception of health care workers about the difficulty in diagnosis by telemedicine due to a lack of clinical examination.
2. To assess the ethical barriers while consulting patients.
3. To assess the uncertainty among healthcare professionals about their remuneration of consultation.

## Methodology

**Type of study:** This was a non-interventional cross sectional online survey. This was a questionnaire-based study to analyse challenges during telemedicine faced by health care professionals. After IEC clearance & taking consent from the participants, online questionnaire based on the different objectives was made in the format of Google form. The questionnaire was pre-validated in peer group and senior staff. The questions were designed indifferent format like open ended, close ended, linear scale and multiple-choice questions. The questionnaire was circulated to the target population through WhatsApp, email and social media. After collection of responses, the Google form was statistically analysed to get the results.

**Study Population:** Health care practitioners of all specialties working in central India.

**Sample Size:** 50

**Duration of study:** 2 months

**Inclusion Criteria:** All medical practitioners of all specialties practicing in either individual or corporate hospitals in central India were included in the study.

**Exclusion criteria:** The health care practitioners not using telemedicine.

## Results

**Statistical Analysis was done using software: IBM SPSS 2020.**

Responses from 50 health care workers using telemedicine were analyzed. 15(28.4%) were General Physicians, 1 (1.9%) was a critical care specialist, 5 (9.4%) were dentists, 6 (11.3%) were Dermatologists, 5 (9.4%) were Obstetrician and Gynecologist, 4 (7.5%) were Ophthalmologist, 4 (7.6%) were Surgeons, 6(11.3%) were Psychiatrists, 1 (1.9%) was a Respiratory Medicine Specialist and 1 (1.9%) was a Radiologist. The majority of the respondents either owned an Individual practice (48%) or worked in a Collaborative Multi specialty Hospital (34%) vs Government (8%) or Corporate Hospitals (16%). (Table 1).

98% respondents gave their consent to participate in the study. 90% of the respondents were not practicing telemedicine before the Covid era. 50% respondents were aware about the updated practicing guidelines issued by the Ministry of Health and Family Welfare along with the Medical Council of India. Regarding receiving training for practicing telemedicine only 2 respondents(4%) of the 50 underwent any professional training while majority 21 (42%) simply picked up the skills by practice. When given a leading question 35 (70%) of the respondents felt that they are worried about ethical issues while practicing telemedicine 31(62%) felt that telemedicine poses barrier to build relationship between doctor & patient. 66% respondent are reluctant to take telemedicine as a routine practice (Fig 2b). In assessing the need to improve the guidelines of practicing telemedicine 88% of the respondents replied in the affirmative. And finally, 64% of the respondents still look forward to using telemedicine as a tool for providing healthcare services in the post Covid Era. (Table :2)

When asked about barriers and challenges with consultations, respondents were able to choose more than answer. The other common challenge raised was the lack of physical examination & managing emergency

conditions which was felt by 27 (54%) & 60% of the respondents respectively. 16 (32%) of the respondents often & 20% always felt that maintaining patient record was an obstacle in telemedicine. Technical issues in conducting telemedicine sessions & communicating prescription was only sometimes perceived as a challenge by 42% & 38% of the respondent respectively. Initiating teleconsultations was not a problem for majority of doctors as it is initiated by patients mostly.

Recovering consultation fees in telemedicine was not big hurdle seeing mixed responses of the respondent as majority 42% doctors were flexible according to patients wish however 40% were rigid to recover fees before consultation.(Fig: 1)

Majority of the respondents tried to overcome the challenge of adapting by practice (42%), following guidelines of the Ministry of health and family welfare along with Medical Council of India (30%) and CME on Telemedicine (24%), while very few underwent professional training (4%).

Table 1: Descriptive Statistics		
	Frequency	Percent
<b>Age group</b>		
20-40	21	42.0
40-60	27	54.0
60-80	2	4.0
<b>Speciality</b>		
Criticalcare medicine	1	2.0
Dental	2	4.0
Dermatologist	6	12.0
General physician	14	28.0
Obstetrics and gynecology	5	10.0
Ophthalmology	4	8.0
Paediatrics	5	10.0
Psychiatry	6	12.0
Respiratory medicine	1	2.0
Surgery	6	12.0
<b>In which hospital do you practice?</b>		
Collaborative Multispeciality Hospital	14	28.0
Corporate Hospital	8	16.0
Government Hospital	4	8.0
Individual Practice	21	42.0
Individual Practice, Collaborative Multispeciality Hospital	3	6.0
None	2	3.8

Descriptive statistics of personal profile of participants of the study

Table 2: Descriptive Statistics		
	Frequency	Percent
<b>Opting to fill questionnaire is taken as your consent to participate in the study.</b>		
Agree	49	98.0
Disagree	1	2.0
<b>Have you been practicing telemedicine before Covid era?</b>		
No	45	90.0
Yes	5	10.0
<b>Have you been ever worried about ethical issues during practicing telemedicine?</b>		
Maybe	12	24.0
No	3	6.0
Yes	35	70.0
<b>How did you overcome uncertainty over consultation fees?</b>		
By opting paid before the consultation	20	40.0
By taking fees after the consultation	3	6.0
flexible according to need of patient	21	42.0
None	6	12.0
<b>Are you aware about the guidelines present in India to regulate telemedicine practice?</b>		
No	25	50.0
Yes	25	50.0
<b>Do you think there is a need improvement in regulation and guidelines in</b>		
No	6	12.0
Yes	44	88.0
<b>Did you find telemedicine poses barrier to build relationship with patient?</b>		
Maybe	12	24.0
No	7	14.0
Yes	31	62.0
<b>Would you like to continue telemedicine practice in as a routine practice?</b>		
No	33	66.0
Yes	17	34.0

Descriptive statistics on perception of participants regarding telemedicine practices

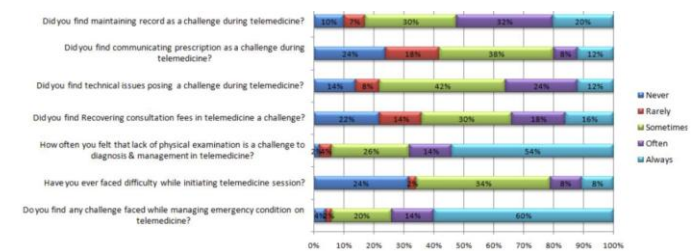


Figure 1: Frequency of telemedicine challenges perceived by participants

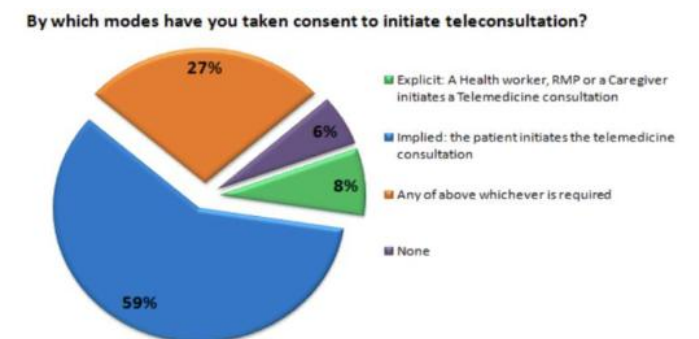


Figure 2a: Preferences to initiate teleconsultations by health care workers

How did you overcome challenge of adopting to telemedicine platform?

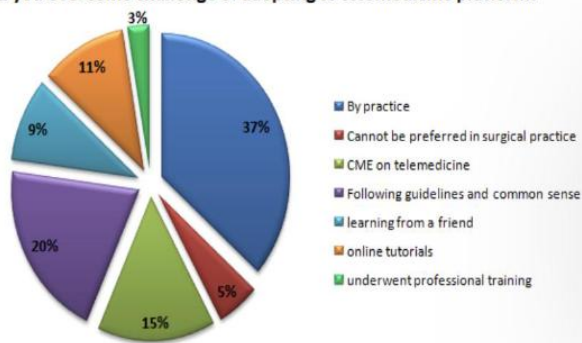


Figure 2b: Methods adopted by health care workers

Which technical difficulties you faced most often during telemedicine?

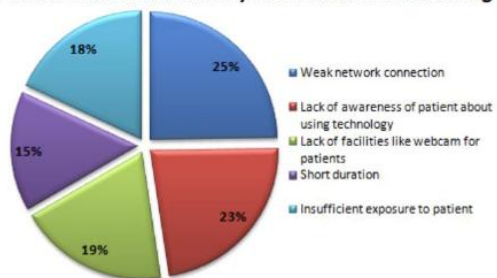


Figure 2c: Technical difficulties faced by practitioners during telemedicine

### Discussion

During the COVID-19 pandemic, a countrywide lockdown in India reduced access to regular healthcare services. As a policy response, the Ministry of Health & Family Welfare along with Medical Council of India, which exercises jurisdiction over telemedicine in India, rapidly issued India's first guidelines for use of telemedicine.

A limited research has been reported in Indian telemedicine technology, and the studies lack a theoretical framework covering the barriers hampering the telemedicine adoption in India. Hence, our survey focused on the challenges faced by healthcare workers in adapting to the telemedicine platform.

The survey found out that health care workers, both in individual practice and working in corporate multi-specialty hospitals, were quick to adopt the telemedicine technology in response to the Covid 19 pandemic and

delivered care via video, audio and text medium using the easily available platforms facilitating video calls, such as WhatsApp or they were sending scanned prescriptions. In our study E seejavni, the government web portal was least used medium since most of our participants were from private practice. Though providers were using social media platforms due to emergent situation, they had concerns about patient privacy and data security while using these platforms.

Our analysis supports the theory that guidelines must be expanded to address the challenges and obstacles arising in the practice of telemedicine which are not yet adequately explained in the existing guidelines, such as ethical concerns about the use of privacy, patient data and its storage; the medico legal repercussions arising from the same, the lack of physical examination hampering the diagnosis, maintaining the patient records, technical issues and recovering consultation fees from the patients.<sup>1</sup>

In line with our results that ethical barriers have emerged as a major challenge in every step of the way during practicing telemedicine, telemedicine must be administered fairly and to the highest standard of ethics.<sup>5</sup> The existing guidelines lack clarity about privacy and data usage, for patients and practitioners. They place the responsibility entirely on health care workers to maintain records of all exchanges of communication between themselves and patients. The guidelines do not yet specify duration for storing data or limits to further use of that data.<sup>1</sup>

Privacy concerns also arise as details, including a patient's address and other 'reasonable' identification, is required to be recorded by the practitioner.<sup>1</sup> Our results showed that health care workers preferred to maintain records of the telemedicine interaction (phone logs, email records, chat/text record, video interaction log, etc). But

use of third-party apps (eg. WhatsApp) to transmit personal information has made users of telemedicine wary.<sup>6</sup> However, the presence of reliable and dedicated apps for telemedicine from verified app developers can solve this problem as data needs to be stored safely.<sup>7</sup>

In our study our participants only sometimes felt that initiating teleconsultations was a challenge because most of the time the patient initiated telemedicine consultation by themselves which is equivalent to having consent, still legal or documented way of taking informed consent is lacking in telemedicine. Which is why there is a need to redefine what “Informed” consent means during practice of telemedicine.<sup>8</sup>

In accordance to our results that a lack of physical examination was a huge hinderance in diagnosis of diseases, highlighted that health care providers are not comfortable using technology for delivering care owing to risks of misdiagnosis, and the medico legal repercussions it might bring on the practitioners.<sup>9</sup> However they tried to compensate need of physical examination by asking patient to get checked by nearby health care professionals or getting follow up appointment.

In our study participants were comfortable adapting to telemedicine by self practicing & following guidelines, However lack of professional training would fail to maintained standardisation pf telemedicine practices. Hence we can support the recommendations by few studies to include telemedicine courses in early days of their professional career.<sup>10</sup>

As most of the participants were practicing in private sector, our results demonstrates that practitioners were only sometimes uncomfortable in using telemedicine but in contrast several studies confirm that health care workers lack awareness and thus show resistance to adopt telemedicine.<sup>11</sup>

Reimbursement of telemedicine services has been reported as one of the important barriers in practicing telemedicine<sup>12</sup>. Our study supports this finding which can be justified by the high cost of implementation and poor reimbursement policy regulating telemedicine.<sup>13</sup> Although our participants were flexible in receiving consultation fee according to the need of patient but most of them opted to be paid before the consultation which can be justified with the response that telemedicine poses a barrier to build relationship with patients. (Figure 2a) Because it is globally accepted that telemedicine-based programmes have an immense potential to improve prevailing health care settings in developing countries, this study endeavours to understand the barriers that may have a bearing on physician's inclination towards embracing and utilization of telemedicine. Removing the hindrance factors will facilitate the adoption of telemedicine by doctors thereby improving the overall performance of telemedicine.<sup>14</sup>

We offer insight into the current scenario of consultations offered through telemedicine by practicing healthcare workers in an India context where these challenges and barriers remain largely unexplored and unaddressed. And as these risks serve as impediments in successful implementation of telemedicine, the time has arrived to minimize these barriers for the hassle-free expansion of telemedicine network across the country for the benefit of humanity.

### **Conclusion**

Our research aims to provide significant inputs to the practitioners as well as to the policymakers that can be applied to and help update the current policies and laws and help overcome the outlined challenges. Times are truly changing as pandemics pose unique challenges to health care systems and in a world where the demand for easy-to-access and round the clock services keep on

increasing it seems only prudent that the health care workers need to adapt soon. However, guidelines need to be redefined with special mention about ethical regulations and lack of physical examination in telemedicine for health care workers and patients. We recommend the provision of dedicated mobile apps to take care of data privacy. But telemedicine cannot replace in person consultation totally. But the swift change to telemedicine during the pandemic has left no doubt that telemedicine is here to stay.

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