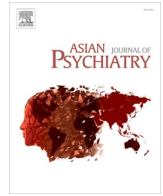




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## Short communication

# Telephonic follow-up during COVID-19 to maintain continuity of care for persons with psychiatric disorders



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## ABSTRACT

We describe the utility of telephonic aftercare services (including liaising with primary healthcare providers) rendered to persons with psychiatric disorders (n = 1049) during the lockdown period of COVID 19 pandemic in India. Such consultations can be continued even after the COVID 19 period for suitable patients.

## 1. Introduction

In the wake of the novel COVID-19 pandemic, the Government of India notified had implemented nationwide lockdown envisaged to take effective measures to contain the spread of COVID-19 in the country from 25th March 2020 ([Government of India issues Orders prescribing lockdown for containment of COVID-19 Epidemic in the country, 2020](#)). Non-emergency medical services were shut down to minimize the risk of COVID-19 transmission leading to the closure of outpatient departments across the county ([Ministry of Health and Family Welfare 2020b, 2020](#); [Ministry of Health and Family Welfare, 2020b](#)). However, telemedicine practice guidelines ("[Telemedicine Practice Guidelines](#)," 2020) were published to enable healthcare professionals to use advancements of technology in providing medical consultation to patients. In keeping with the lockdown guidelines, the National Institute of Mental Health and NeuroSciences [NIMHANS], Bangalore had closed its outpatient department (OPD) from 25th March, 2020 to 31 st May, 2020 ("[IVRS Based Telephone Outpatient Service – Nimhans](#)," 2020).

In this background, we report our experience of immediate adaptation of technology abiding to the latest telemedicine practice guidelines that had aided in maintaining continuity of care to already registered psychiatric patients who were due for their follow-ups during the closure of OPD. We performed audio- and video-based teleconsultation during this period. In this report, we describe on the clinician-initiated, audio-based, teleconsultation and patients' acceptance, satisfaction and other

experiences.

## 2. Methods

We had electronic data registry of patients who came for OPD consultation as well as of those discharged from inpatient wards between 1st October 2019 and 25th March 2020 under unit-V of Department of Psychiatry, NIMHANS. We had the list of patients, their unique hospital identity number (UHID) and their contact mobile/landline number. One psychiatrist occupied each consultation room in the OPD where the landline telephones were enabled with outgoing calls to any mobile or landline numbers. A team of psychiatrists and psychiatry junior residents (trainee psychiatrists) went to OPD between 9am and 1 pm, 6 days a week to initiate teleconsultation process with patients. The institute's ethics committee has approved to conduct this chart review of patients who were contacted for teleconsultation.

### 2.1. Selection of patients, explicit consent and documentation for teleconsultation

Prior to contacting any patient, their medical records were thoroughly reviewed for any litigious matters for instance, an on-going civil or criminal legal proceeding and those diagnosed with paranoid personality or persistent delusional disorders. Since it was essentially clinician-initiated teleconsultation, we did not contact 32 patients due to

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documented legal proceedings (divorce – 29, property damage/disputes – 2, domestic violence – 1) and 2 patients for documented paranoid personality traits in their medical records.

Following screening of the files, either a qualified psychiatrist [senior resident] or a MD resident [junior resident] in the supervision of senior resident dialed each patient's registered contact number, introduced oneself by our name first "Hello, I'm Mr. X(doctor) speaking, may I speak to Ms. Y(patient)?" After confirming the receiver is the patient by his/her name and his/her father's or spouse's name as recorded in our medical record, the resident disclosed his/her identity further, stating, "I'm Dr. X, calling from NIMHANS hospital. Because our regular OPD is closed, we are providing consultation through telephone. I am contacting you as you were due for follow-up. Are you willing to have a telephonic consultation with me?" Only after obtaining a verbal consent from the patient, the resident continued the call further for reviewing the patient's clinical status, treatment adherence and drug related adverse effects. At the end of first time teleconsultation, we checked if patient is willing to be recontacted by us for follow-up calls and feedback on teleconsultation process. We documented the process of clinician-initiated teleconsultation in this template "Ms. Y has been contacted by Dr. X from (landline number) on (date) at (time). Ms. Y has confirmed her identity by her name, father's name and UHID number provided at NIMHANS. She had verbally expressed her acceptance to continue the call for audio-based teleconsultation with Dr. X"

## 2.2. Teleconsultation process – clinical review and treatment

During the teleconsultation, we reviewed the patients' symptomatic status and classified them as maintaining remission or with residual symptoms, early relapse of illness, and complete relapse of symptoms warranting hospitalization. We also enquired about drug-related adverse effects and need for immediate medical attention. They were advised to continue to the same treatment if they maintained remission and suggested minor treatment changes such as altering the dose of psychotropics if any residual symptoms, drug-related minor adverse effects were reported. In severe conditions, if patient needed immediate psychiatric attention such as delirium tremens, suicidality, extreme aggression or agitation they were advised to consult the nearest hospital. But if the patient has had relapse with less severity or had drug-induced side effects, they were offered video teleconsultation at the earliest date for virtual physical examination and to make major treatment changes such as switch to or combine with another psychotropic medication. Twelve patients experienced relapse of their symptoms to the extent that they were not amenable for teleconsultation, and their close kin were advised to consult the nearest emergency psychiatric centers/hospitals.

The latest treatment prescriptions were sent either via email or WhatsApp to the numbers provided by them from a smartphone used by the treating team exclusively for this clinical care. We advised them to reach the nearest healthcare centers empowered with District Mental Health Programme (DMHP) (an implementation arm of India's National Mental Health Programme) to procure medication. However, some patients had no access to email, WhatsApp or were not digitally literate enough to access text messages in their phones. In such cases, patients were asked to note down our landline numbers, reach their closest primary care centre with the latest treatment prescription provided to them during their last in-person consultation and contact us on our landline number any day except Sunday between 9am and 1 pm. Ninety-four patients had facilitated telecommunication between the primary care doctors (PCDs) and our tertiary care hospital and we advised the PCDs to examine the patient and guided them to rationally choose suitable treatment available in their stock. We have followed-up each patient on an average of 3–6 times once in every 3–4 weeks until in-person, regular, out-patient consultations resumed.

Door delivery of medicines through online pick up and drop services was attempted for 7 patients who could not access specific or all prescribed medications. Thirteen patients were advised for video

teleconsultation.

## 3. Results

Seventeen hundred and forty-eight patients were due for their outpatient follow-ups in the adult psychiatric unit-V based on the hospital digital registry following the start of nation-wide lockdown. Among them, 1049 patients (60.01 %) had valid phone numbers and were provided with consultation telephonically until regular outpatient services resumed on 1 st June 2020. Socio-demographic and clinical profile of patients are detailed in Table 1.

Of 1748, 699 (39.9 %) have not availed teleconsultation services due to the following reasons

- A 526 patients had their medical records created prior to digitization of hospital records, did not have their phone numbers in our records.
- B 139 registered phone numbers did not belong to patients. It could possibly happen because patients are often brought to emergency services by their relatives or friends who provide their own contact numbers while opening the medical record. We discontinued the call to prevent breach in confidentiality, and missed their follow-up consultation.
- C 34 patients had documented litigious history.

**Table 1**  
Socio-demographic and clinical profile of patients engaged in clinician-initiated teleconsultation.

Socio-demographic & Clinical variables [N = 1049]		Number of patients [percentage]
Age [in years]	Mean + SD	37.3 ± 12.3
	Median	35
	Range	18–81
Gender	Male	562 [53.6 %]
	Female	487 [46.4 %]
SES	Above poverty line	545[52 %]
	Below poverty line	504[48 %]
	Karnataka	746[71.1 %]
	Tamil Nadu	113 [10.8 %]
State of residence	Andhra Pradesh	128[12.2 %]
	Rest of India – West Bengal, Bihar, Chattisgarh, Jharkhand, Maharashtra, Assam, Manipur, Tripura, Uttar Pradesh, Madhya Pradesh and Kerala	62 [5.9 %]
	Psychotic disorder	456 [43.5 %]
	Mood disorder	343 [32.7 %]
	Substance use disorder	175 [16.7 %]
Primary diagnosis	Common mental disorder [does not include major depressive disorder]	56 [5.3 %]
	Neuropsychiatric – dementia, organic brain syndromes	13 [1.2 %]
	Developmental disorder – IDD, ASD	6 [0.6 %]
	Maintaining remission or with residual symptoms	972 [92.7 %]
Patient's clinical condition during teleconsultation	Early relapse of illness	65 [6.2 %]
	Complete relapse of symptoms warranting hospitalization	12[1.1 %]
	Continued previous treatment	959 [91.4 %]
Treatment advice	Minor treatment changes	65 [6.2 %]
	Emergency psychiatry referral	12[1.1 %]
	Video tele consultation	13[1.3 %]
Source for procurement of medication	Local pharmacy	642[61.2 %]
	DMHP healthcare centers	337 [32.1 %]
	Private clinics	70[6.7 %]

ASD – Autism Spectrum disorder, DMHP - District Mental Health Programme, IDD – Intellectual Developmental Disorder, SD- Standard Deviation, SES- Socio-economic status.

### 3.1. Patients on clozapine and lithium

Eight patients had either reduced the dose or stopped clozapine by themselves during the initial few weeks of lockdown. Since these patients did not have practical means to obtain absolute neutrophil count, we restarted or escalated the dose of clozapine with one baseline total and differential white blood count and reduced frequency of hematologic monitoring to once in every 3 months and weekly telephonic review of pulse rate and blood pressure (BP) (six patients checked at their nearest clinic and two patients checked using digital BP apparatus at home), signs of infection, clozapine-related adverse effects, in accordance with the latest international consensus statement (Siskind et al., 2020). Seven patients were on regular clozapine treatment for a minimum of one year. They were advised to have once in 3 months hematologic monitoring. No patient was started on lithium for the first time telephonically. 59 patients were on lithium maintenance therapy. None reported to have lithium-related adverse effects.

### 3.2. Patients' perspective on teleconsultation

We intended to assess patients' feedback about the telephonic follow-up services during the COVID-19 pandemic using a semi-structured tele-interview during their third teleconsultation. We contacted the first 100 patients who were available telephonically during their third round of teleconsultation, stable on medications, and had been procuring medications from either the District Mental Health Program (DMHP) or local pharmacy during lockdown in Karnataka. Forty-four belonged to Bangalore and others were from rest of Karnataka, with mean age of 40.4 years (range: 19–81 years), 45 belonged to below-poverty line and 53 were males. Seventy one patients expressed their preference for teleconsultation and 29 opted for in-person consultation at NIMHANS

Amongst the 71 patients who expressed their preference for teleconsultation over in-person consultation at NIMHANS, fifty-four (76 %) mentioned no preference between audio and video (either modality is fine), twelve (17 %) said 'they would prefer video teleconsultation only' and five (7%) wanted audio-based teleconsultation as they did not have smartphone and digitally illiterate. All these patients reported higher satisfaction and acceptance of clinician-initiated teleconsultation services and did not find this approach to be intrusive. These patients opted for teleconsultation if regular supply of their medicines from DMHP or local pharmacy is ensured.

29 patients opted for in-person consultation at NIMHANS (over telephonic follow-up) because they perceived one of the following: personal satisfaction (comfortable discussing in-person than over the phone/video) (38 %), digital illiteracy (3.4 %) and healthcare system-related reasons such as 'NIMHANS doctors understood/treated me better' (17.3 %), continuity of supply of medicines at NIMHANS (17.3 %), doctors at NIMHANS explain how to take medicines (13.8 %), correctness of prescriptions (6.8 %), medicines supplied by NIMHANS are more effective (3.4 %)

## 4. Discussion

It is psychiatrists' initiated, patient-centric initiative that had established 'continuous caring relationship' with patients not only to render clinical consultation but also to collaborate mental healthcare with local healthcare teams. This report has shown that the telephonic consultations are not only feasible, but also provide useful means to reach out to patients, who particularly require routine follow-up consultations. Such consultations can be continued even after the COVID 19 period, as it is well established that such aftercare services save a lot of time and money for patients (Das et al., 2020). Though challenges were present, they seem to be surmountable easily. Patients being under single clinical unit and comprehensive medical record maintenance have facilitated the team in selecting suitable patients for

teleconsultation, integrating new illness-related information and arriving at clinical decisions without much extensive clinical review. Clinician-initiated telephonic consultation was feasible within the ambit of telemedicine practice guidelines ("[Telemedicine Practice Guidelines](#)," 2020).

There was no scope to obtain prior consent from all these patients. Thus, there was some degree of breach in patient's safety and confidentiality. We were unable to provide care for those dealing with ongoing legal issues or paranoid personality as a-priori consent from the patient was not sought and the compromise of patient's confidentiality might have led to undesirable consequences.

Nearly forty percent of patients were not traceable and did not receive telecare from our centre. 40 % is a huge proportion and we do not have information as to what happened to them during the pandemic. Therefore, we recommend development of universal health record system for each individual available at all levels of healthcare (primary to tertiary care centers). Two initiatives in this directions are worth mentioning in the context: The Mental Healthcare Management System of Karnataka (which seeks to digitize all the operational aspects of the Mental Healthcare Act, 2017) (Math et al., 2020) and the National Digital Health Mission announced by the Hon'ble Prime Minister on the independence day speech once operationalized will go a long way in taking care to the doorsteps of patients in the country ("[PM Modi announces launch of National Digital Health Mission](#)," 2020).

### Funding

This is non-funded, research study.

### Ethics approval

This study has Institute's ethics committee approval.

### Consent to participate

This study is a retrospective chart review.

### Consent for publication

The Institute's ethics committee has permitted to conduct chart review and publish the study findings.

### Availability of data and material (data transparency)

Yes, data of the chart review has been secured and available for further scrutiny and analysis.

### Code availability

Yes. The data has been analyzed in the licensed MS excel software.

### Authors' contributions

All authors have contributed equally in rendering the clinical services, extracting the data from patients' charts, conceptualizing, writing and analyzing the data for this manuscript.

### Transparency document

The [Transparency document](#) associated with this article can be found in the online version.

### Declaration of Competing Interest

The authors report no declarations of interest.

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## References

- Das, S., Manjunatha, N., Kumar, C.N., Math, S.B., Thirthalli, J., 2020. Tele-psychiatric after care clinic for the continuity of care: a pilot study from an academic hospital. *Asian J. Psychiatr.* 48, 101886 <https://doi.org/10.1016/j.ajp.2019.101886>.
- Government of India Issues Orders Prescribing Lockdown for Containment of COVID-19 Epidemic in the Country, 2020.
- IVRS Based Telephone Outpatient Service – Nimhans, 2020. URL <https://nimhans.ac.in/ivrs-services/> (Accessed 31 October 2020).
- Math, S.B., Manjunatha, N., Kumar, C.N., Dinakaran, D., Gowda, G.S., Rao, G.N., Parthasarathy, R., Srikanth, T.K., Gangadhar, B.N., 2020. Mental Healthcare Management System (e-MANAS) to implement India's Mental Healthcare Act, 2017: methodological design, components, and its implications. *Asian J. Psychiatr.* 102391. <https://doi.org/10.1016/j.ajp.2020.102391>.
- Ministry of Health and Family Welfare 2020b, 2020b. Advisory for Hospitals and Medical Institutions. Government of India, New Delhi [WWW Document]. URL <https://www.mohfw.gov.in/pdf/AdvisoryforHospitalsandMedicalInstitutions.pdf> (Accessed 6 August 2020).
- PM Modi announces launch of National Digital Health Mission, 2020. *The Economic Times* [WWW Document] URL <https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/pm-modi-announces-launch-of-national-digital-health-mission/articleshow/77560108.cms> (Accessed 11 September 2020).
- Siskind, D., Honer, W.G., Clark, S., Correll, C.U., Hasan, A., Howes, O., Kane, J.M., Kelly, D.L., Laitman, R., Lee, J., MacCabe, J.H., Myles, N., Nielsen, J., Schulte, P.F., Taylor, D., Verdoux, H., Wheeler, A., Freudenreich, O., 2020. Consensus statement on the use of clozapine during the COVID-19 pandemic. *JPN* 45, 222–223. <https://doi.org/10.1503/jpn.200061>.
- Telemedicine Practice Guidelines, 2020. *Telemedicine Practice Guidelines* [WWW Document]. URL <https://www.mohfw.gov.in/pdf/Telemedicine.pdf> (Accessed 28 July 2020).