

# mHealth based Mental Health Support Counselling Service for COVID-19 Suspect and Positive Patients in Isolation Facilities

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## Abstract

**Introduction:** Psychological issues of COVID-19 suspect and positive patients in isolation and quarantine facilities can be addressed using mHealth.

**Methodology:** mHealth telecounselling framework for COVID-19 inpatients was established using existing manpower and standardised operating procedures. Separate WhatsApp groups were used to obtain contact data of consenting patients, allocate patients to counsellors, and clinical discussion. Telecounselling was documented in real-time in a Google form database and remotely monitored for adherence to the standard of care. Pilot anonymised scale based client satisfaction feedback was obtained from discharged patients using a Google form link shared on WhatsApp.

**Results:** 2918 telecounselling sessions were conducted between 21 March and 25 June 2020 for 643 inpatients (280 COVID-19 positive and 363 COVID suspect but later determined negative; mean age 49.57 years  $\pm$  15.23; male: female = 404: 239).

**Psychological issues included anxiety (43.54%), low mood (9.79%), irritability (9.33%), insomnia (8.39%) boredom (8.24%), frustration (7.46%), fearfulness (3.57%) anger (1.24%) and Delusion of pregnancy in one non-compliant psychotic patient.**

**Interventions provided were supportive psychotherapy (57.69%), psychoeducation (52.72%), counselling regarding testing protocol (41.21%), sleep hygiene (20.06%), relaxation techniques (14.61%), activity scheduling (6.22%). Only 9 (1.39%) patients needed pharmacotherapy.**

**Most respondents expressed satisfaction on pilot anonymised feedback (n = 115: M: F = 73: 42) with 83% recommending the programme for other COVID-19 settings despite concerns for possible lack of privacy and confidentiality (31.1%).**

**Conclusion:** Telemental Health Counselling Programme is a low cost, feasible, culturally acceptable, and sustainable mHealth initiative which can be easily transposed in other COVID-19 settings.

**Key words:** COVID-19, Mental Health, Telemental Health, mHealth.

## Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a new virus against which there is no immunity in the community<sup>1</sup>. Given the speed of international spread aggressive case identification by testing, quarantine, and isolation are essential to contain the pandemic.

COVID-19 suspect or positive status can cause significant psychological distress, exacerbated by stringent isolation and quarantine guidelines, and concerns about having possibly infected family members and friends<sup>2,3</sup>. Lack of awareness about COVID-19, its course and outcome coupled with economic challenges due to lockdown result in uncertainty, confusion, and psychological distress, requiring mental health support.

Psychological impact of quarantine and isolation in the COVID-19 pandemic includes anxiety, symptoms of acute stress, anger, fear, grief, insomnia, low mood, depression, frustration, boredom, and confusion in the acute stage and symptoms suggestive of Post-Traumatic Stress Disorder later<sup>3-5</sup>.

WHO advises providing psychological support and First Aid which helps people affected by sudden disasters, for which they have no coping mechanism in place, to recover psychologically with dignity<sup>6</sup>. Prevention efforts from a psychiatric perspective must include screening for mental health problems, psychoeducation, and psychosocial support for patients in isolation and quarantine facilities<sup>5</sup>.

mHealth initiatives have been advocated extensively to

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reduce treatment gaps and address healthcare inequity<sup>7</sup>. As it is, mental healthcare in India is underserved due to the paucity of psychiatrists, psychologists, and psychiatric social workers<sup>8,9</sup>. At the same time, the risk of acquiring COVID-19 infection to the limited number of counsellors can be mitigated by replacing in-person face-to-face sessions with remote counselling by Telemedicine/ Telepsychiatry approaches.

Dr Ram Manohar Lohia Hospital, New Delhi is a dedicated COVID-19 designated Hospital (CDH) with facilities for screening, testing, isolation, and Corona Intensive Care Units (Corona ICUs). To provide daily mental health support counselling for COVID-19 suspect and positive patients while ensuring the safety of mental health counsellors by preventing avoidable exposure, an innovative strategy of commencing Telemental Health support counselling service was undertaken under the mHealth paradigm.

## Methodology

Telemedicine norms had already been notified by Medical Council of India in March 2020<sup>10</sup>. The telemedicine model was utilised to design a mental health support program for COVID-19 suspect and positive patients.

## Objectives

To provide Tele Mental Health Support Counselling to all Corona suspect or positive patients admitted in various wards of Dr RML Hospital on a daily basis from admission till discharge.

## Deliverables

Low cost, feasible, culturally acceptable, and sustainable Tele Mental Health Support Counselling Programme for all COVID-19 suspect and positive patients using mobile Health (mHealth) paradigm and existing trained manpower who may not be able to physically reach the hospital due to lockdown.

## Establishment of Tele Mental health support counselling framework

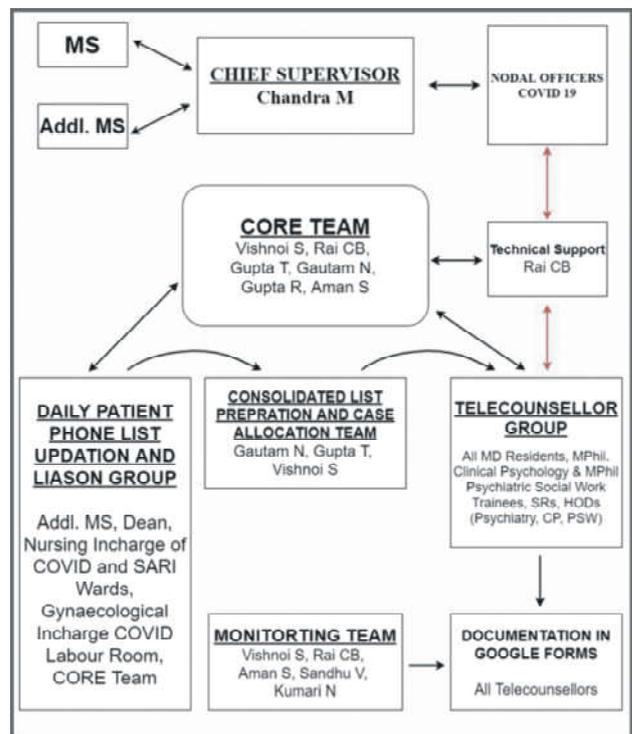
A low cost sustainable tele mental health counselling framework was established in the third week of March 2020 using smartphones and social networking application WhatsApp which was already being used for intradepartmental and interdepartmental academic and administrative communication at our institute. The framework of RMLH Telemental Health Support Counselling Service is given in Fig. 1.

The process of ensuring tele mental health support counselling for all COVID-19 suspect and positive patients

without missing any case required development of a Standardised Operating Framework and Standardised Operating Procedure. A core team was constituted for daily monitoring under the supervision of Chief Supervisor (Chandra). The core team (Vishnoi, Rai, Gautam, Gupta T, Aman, Gupta R) set up three WhatsApp groups.

The first WhatsApp group was a daily telephonic number updation and liaison group comprising of nursing incharges of all COVID-19 positive and suspect wards, Gynaecologist in charge of COVID-19 Labour room (a dedicated facility for delivery of COVID-19 suspect and positive pregnant women), Additional Medical Superintendent and Dean (Fig. 1). A format was made for communicating the mobile phone numbers of all admitted COVID-19 suspect and positive patients and shared with nursing incharges of all the wards.

The nursing staff attending COVID suspect and positive patients in different wards were sensitised regarding the need to share the mobile numbers of patients diligently every morning in addition to their patient care duties. They were also trained to fill and update the required format with details of patients, unique hospital id, mobile numbers, new admission, discharge, transfer or death status on a daily basis and share them on WhatsApp groups for collation on a shared excel sheet by a dedicated team member



**Fig. 1:** mHealth based Mental Health Support Counselling Service framework for COVID 19 suspect and positive patients in isolation facilities.

(Gautam) and allocation of telemental health counsellors for each patient.

A pool of available counsellors was identified which included 12 MD (Psychiatry) residents, 13 MPhil (Clinical psychology) trainees and 9 MPhil (Psychiatric Social Work) trainees under the overall supervision of lead author (Chandra) (Fig. 1). All the counsellors were briefed regarding the nature of telemental health counselling service delivery, anticipated psychological issues and suggested interventions which can be delivered on the phone. These counsellors were included in a second WhatsApp group along with, Heads of Departments of Psychiatry, Clinical Psychology and Psychiatric Social Work, Core Team and Chief Supervisor. The counsellors received preliminary training on translation of clinical skills on to tele-mental health modality.

The third WhatsApp group was used by the core team to collate contact data of consenting patients from all COVID 19 wards and allocate subsets of patients to different telemental health counsellors on a daily basis, internal communication and problem solving.

A Google form database was created (Rai) and filled in real-time by counsellors with remote monitoring by core team subgroup (Vishnoi, Aman, Sandhu, Kumari). The google form contained mandatory fields like name, age, gender, mobile number. The counsellors documented each session as per a defined format including psychosocial concerns elicited and the psychotherapeutic interventions administered. This ensured adherence to standard of care and standardisation of documentation.

The chief supervisor and members of the core team interacted with the two nodal officers, for COVID-19 in the institute on patient-related issues, periodically on virtual platforms. The chief supervisor briefed Additional Medical Superintendent and Medical Superintendent periodically and sought their help in administrative issues, as required.

There was no face-to-face interaction between team members due to COVID-19-related restrictions and lockdown. The programme was managed remotely with regular interaction between team members on virtual platforms.

### **Procedure**

All the patients admitted in Dr RML Hospital with COVID-19 Suspect or Positive status were provided with an option for Tele Mental Health Support Counselling beginning 21 March, 2020. The counselling continued for the duration of stay on a daily basis until the patient was discharged.

All the consenting patients were contacted by designated counsellors on their mobile number. The tele counsellors

assessed the allocated patients telephonically and provided appropriate psychosocial interventions like Supportive Psychotherapy, Sleep Hygiene, Grief Counselling, etc. Any issue that they could not address themselves was posted in a WhatsApp group for first level advice by the core team and second level guidance by Chief Supervisor (Chandra). The status of these cases was updated on WhatsApp till transfer, discharge or death.

Any distress reported by patients was managed as per scientific literature and guidelines issued specifically to tackle the COVID-19 pandemic scenario<sup>11</sup>. If needed, case specific discussion was done with the core team, mentors and supervisor. Formal in-person psychiatric assessment, management and follow-up was done by MD Psychiatry resident under guidance of senior resident (Psychiatry) if required. The list was updated every day with new admissions, discharges/transfers/death by nursing officers of respective wards. All invalid phone numbers of patients were also updated with the help of the nursing staff.

A thematic analysis of data collected in the first month of operations (21 March to 20 April 2020) was conducted. The dominant themes elicited and common interventions provided were incorporated into Version 2 of the google form for better recording of data.

A preliminary assessment of client satisfaction was planned using a 5 item survey called COVID-19 Telecounselling client Satisfaction Scale (COTS) (Appendix) which was derived from TeSS (Telehealth Satisfaction Scale)<sup>12</sup> (after taking due permission from the author) along with open-ended questions on how the counselling help them and any suggestions regarding the provision of Tele Mental Health Support Counselling. The COTS is given in Appendix 1. The discharged patients were shared a link for google form through WhatsApp for providing anonymised feedback. The preliminary results were collated for improving the Telemental health support programme.

Two focused group discussions were held using WhatsApp conference calls after 4 weeks and 7 weeks of the start of the programme on cultural acceptability, feasibility, sustainability of this programme to serve as a model for telemental health support elsewhere in COVID 19 facilities in India and abroad. Anecdotal reports on cultural acceptability were also provided by Nodal Officers of COVID 19, Physicians, Anaesthetists, Nursing officers and hospital administration.

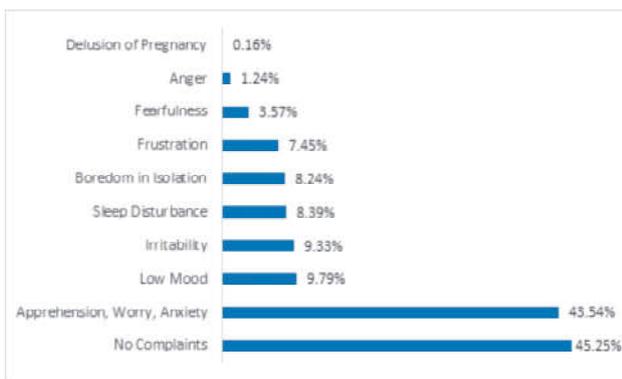
### **Results**

The results of the thematic assessment of dominant psychosocial themes and common interventions for the period 21 March to 25 June, 2020 are as follows.

Of the 877 adult patients admitted in COVID-19 suspect and positive wards, only 658 were in the physical condition to receive tele mental health support services. (Mean age 49.62 ± 15.17 years; Male: Female = 411: 247). 288 patients were COVID-19 positive while 370 patients were COVID-19 suspect but later determined to be COVID negative. 32 patients died during the hospital stay.

2,951 sessions were taken, in which 301 (45.74 %) patients reported no psychosocial concerns spontaneously, 120 (18.23%) patients reported only one psychological issue while 237 (36.01%) patients reported multiple psychological complaints.

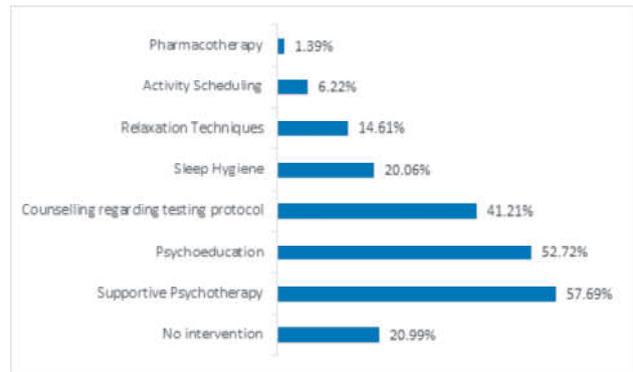
The most common psychological issues were apprehension, worry and anxiety (n = 283; 43.00%), low mood (n = 63; 9.57%), irritability (n = 60; 9.11%) sleep disturbance (n = 56; 8.51%) and boredom in the isolation facility (n = 53; 8.05%), frustration (n = 48; 7.29%), fearfulness (n = 23; 3.49%) and anger issues (n = 9; 1.36%). One patient (< 1%) with pre-existing psychotic illness and not taking any psychotropics currently was found to have Delusion of Pregnancy on Mental Status Examination (Graph 1).



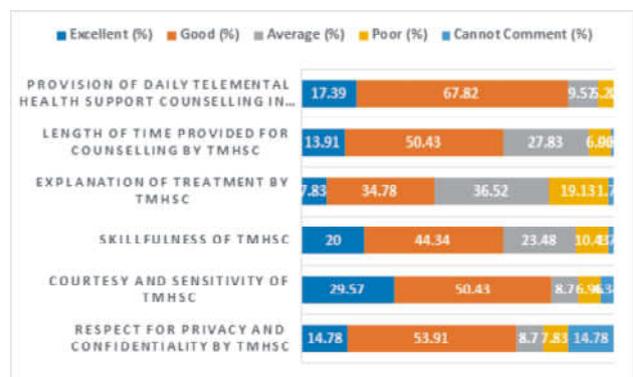
**Graph 1:** Psychological complaints elicited in Telemental Health Counselling.

Only 140 (21.27%) patients did not need any psychological intervention. The most common psychosocial interventions were supportive psychotherapy (n = 374; 56.83%), psychoeducation (n = 348; 52.88%), counselling regarding testing protocol (n = 269; 40.88%), sleep hygiene (n = 130; 19.75%), relaxation techniques to deal with anxiety (n = 95; 14.43%), activity scheduling (n = 40; 6.07%). Only 9 (1.36%) patients needed pharmacotherapy (Graph 2).

The preliminary results of the pilot patient feedback on COTS was encouraging (Table I; Graph 3). Most patients (N = 115; Male: Female = 73:42) were satisfied with the mHealth enabled counselling provided in the domains of the provision of the service, length of time for the sessions, explanation of treatment by counsellors, skillfulness, courtesy and sensitivity of counsellors.



**Graph 2:** Common interventions provided to COVID-19 suspect and positive patients.



**Graph 3:** Patient satisfaction with mHealth based TeleMental Health Support Counselling (in %).

On open-ended question for feedback, most respondents opined Telemental Health support Counselling for COVID-19 suspect and positive patients to be a good initiative. 83% respondents also opined that mHealth based Mental Health Support Counselling should be provided in all COVID-19 Isolation and Quarantine Facilities. However, the respondents expressed concern (31.1%) for possible lack of respect for privacy and confidentiality resulting in a repeat briefing of all counsellors by core team for ethical issues, privacy and confidentiality was conducted.

There were some adverse responses too. One patient wanted on-demand round-the-clock calling facility for being able to call back counsellors whenever he wanted, which was not feasible. As per protocol, any patient wanting additional telemental health support after having received the counselling call, was attended by Psychiatry resident on duty. Another patient also recommended right to refuse counselling and this was already available in the programme. However, no inpatient declined any telemental health support session.

Some patients opined that counsellors should not repeatedly inquire about socio-demographic data as they had access

to Google form records. The patients also wanted counsellors to provide non-mental healthcare information regarding COVID status reports, expected date of discharge which was in the purview of the physician responsible for the patient and not the telemental healthcare counsellor.

Results from two virtual focused group discussions after 4 weeks and 7 weeks of the start of the programme supported cultural acceptability, feasibility, sustainability of this programme to serve as a model for telemental health support elsewhere in COVID-19 facilities in India and abroad. The programme continued without any break with no additional requirements of resources or financial outlay indicating toward the feasibility and sustainability of the programme. Anecdotal reports on cultural acceptability provided by Nodal Officers of COVID-19, Physicians, Anaesthetists, Nursing officers, and hospital administration were also favourable.

## Discussion

The guidelines from MOHFW and WHO and scientific literature emphasises the importance of social distancing and quarantine for suspected cases and isolation for confirmed cases during COVID-19 pandemic which compounds the stress of being COVID-19 suspect or positive patient<sup>13,14</sup>.

Using mHealth based mental health services for counselling inpatients in isolation facilities provides relief and confidence that if needed, mental health support is just a call away<sup>7</sup>. With the use of m Health based service delivery system; a large number of patients can be catered from the place of convenience of telecounsellor remotely. Calling every patient daily helps in tapping their problems at a very early stage and timely intervention.

The development of m Health based Telemental Health Support Counselling programme for COVID-19 suspect and positive patients was made possible by the efforts of all streams of mental health professionals working in the multidisciplinary Centre of Excellence in Mental Health in our institute. This was a low cost programme utilising available manpower and existing resources at no additional cost to the institution.

The Telemental Health Support Service programme was designed to provide counselling to all COVID-19 suspect and positive patients and not just those who showed active psychological symptoms as symptoms are often masked and may not be picked up by non-mental health staff of doctors and nurses who managed COVID-19 facilities and who had no prior psychiatric training.

Clear and real time documentation in google forms allowed seamless takeover of cases by different telemental health counsellors thereby minimising the impact on mental health

care delivery. Further, real time mentoring and discussion on difficult cases enhanced the confidence of the telemental health counsellors and improved mental healthcare delivery.

The option of formal in-person psychiatric consultation and psychotropic treatment by Psychiatry resident under the supervision of senior resident (Psychiatry) allowed for early therapeutic intervention whenever needed. In addition, liaison with Nodal Officers COVID-19 allowed for resolution of related issues of test reports, home isolation of caregivers, etc.

We had constant support from Additional Medical Superintendent to resolve administrative issues and Medical Superintendent to implement the programme confidently. This ensured that the programme became sustainable and sought after even by healthcare staff providing medical and nursing care to COVID-19 suspect and positive patients. A separate telemental health support helpline was launched for the benefit of residents, faculty and nursing staff in early May 2020 followed by a dedicated telemental health support helpline for police personnel as requested by Delhi Police after the preliminary success of this programme.

There were several limitations as well. Lack of co-operation from some nursing staff of one ward resulted in a subsection of COVID-19 patients admitted in that ward not receiving telemental health counselling for more than two weeks. Even in these two weeks, psychiatric support was provided to patients exhibiting psychological distress by Psychiatry residents. Alternative arrangements were done by psychiatry residents to obtain phone number list from this ward by liaison with Doctor in charge of that ward. Finally, the situation was resolved with administrative support from hospital authorities.

The newer COVID-19 facilities like COVID-19 Labour Room for pregnant COVID-19 suspect and positive patients and Obstetrics wards started participating later in the programme.

The patients in ICUs who were ambulatory, communicative, and maintaining oxygen saturation could have been provided Tele mental health counseling but the hospital policy of no mobile phone access in ICUs came as a setback. The Telemental Health Support team was not able to receive the mortality data in real time thus preventing therapeutic engagement for bereaved caregivers.

Another limitation of the model was the sharing of the mobile number of tele-counsellors with the patients and caregivers which can impact their privacy though no untoward incident has been reported in our programme till date. In addition, some patients did not have smart phones and the entire session had to be conducted on audio with no video support to assess for facial expression, general appearance and behaviour.

It is anticipated that there are likely to be psychiatric sequelae of COVID-19 infection in short and long-term. Our telemental health support counselling programme also demonstrated the utility of m Health based mental health services in COVID-19 pandemic and other similar disasters. It would be of interest to find out the utility of providing early psychosocial support through telecounselling in mitigating short- and long-term psychiatric sequelae in the coming months<sup>15,16</sup>.

## Conclusion

COVID-19 pandemic has resulted in a global medical, social, and economic crisis. Suspected COVID-19 infection and admission in isolation wards is a traumatic experience in the context of real risks and amplification by conventional and social media. The need for mental health support is real and apparent along with risk of counsellors contracting COVID-19 infection during in-person sessions. The Telemental Health Support programme addressed both these issues as a low cost, feasible, sustainable, and culturally acceptable solution. This model can be replicated in other COVID-19 facilities with existing mental health resources.

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