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Letter to the Editor

# Service utilization and saved travel cost in telepsychiatry consultation by outpatients at a psychiatric hospital in India during COVID-19 pandemic

*Sir,*

With evolving mental health effects, ongoing COVID-19 pandemics gave us several opportunities to rethink about existing and develop mental health care delivery approaches (Tandon, 2020; Moreno et al., 2020). Though the need was felt decades ago, a surge of its adoption and use has been observed recently only after COVID 19 pandemic sets in (Chen et al., 2020; Bhaskar et al., 2020; O'Brien and Mcnocholas, 2020). Bhaskar and colleagues (2020) have recommended that telemedicine must shift to developing and under-developing countries having vulnerable communities due to COVID 19 pandemic. While telemedicine across several fields of medicine could ensure physical distancing among people thereby reducing risk of transmission, it had already been found having several other advantages like being a cost-effective modality as proven in other disciplines (Bhaskar et al., 2020; Delgoshaei et al., 2017). In a country like India where prevalence of mental disorders is as high as 10.6 weighted percent and its dismal psychiatrist population ratio (<0.5/100,000 population) creating a treatment gap of as high as 83 %, (Gururaj et al., 2016; WHO, 2015), additional mental health care delivery way in addiction to face to face (FTF) consultation is long due. Researchers have recommended telepsychiatry to fill this gap and its adoption into policy making, regulation and practices (Bhaskar et al., 2020; Levin and Chisholm, 2016). Telepsychiatry service started following lockdown in across several hospitals in India. Rapid adoption of telepsychiatry during COVID 19 pandemic gave us the opportunity to examine its several characteristics. We aimed to examine utilization pattern and saved travel cost in telepsychiatry consultation over a six-month period from March 2020 to September 2020.

The study was conducted at a psychiatric hospital in India where telepsychiatry service facility was offered to patients after lockdown in March 2020. Appointments were provided for follow-up consultations of seeking patients who were receiving treatment with the hospital, through designated contact numbers (both landline and mobile) notified through institutional website and leading newspapers. Video consultations were conducted through Zoom software (www.zoom.us). Ethical approval was obtained before collecting data. Case record files of all patients who availed telepsychiatry consultation during specified period were accessed. Sociodemographic information and clinical characteristics were collected and were recorded in a predesigned semi-structured data sheet. Saved travel was calculated. Distance of residence was obtained from case record file and minimum travel cost was obtained using available government regulated fare for that distance. Additionally, saved time was also assessed and recorded. Time saved was calculated adding travel time and an average one hour waiting period at hospital.

A total of 109 patients availed telepsychiatry facility and had 168 telepsychiatry consultations during specified period of six months from April 2020 to September 2020. Table 1 shows their sociodemographic and clinical characteristics. Males (62.4 %) opted for more than females (37.6 %). Highest (>20,000 INR/month) (48.6 %) and lowest (<5000 INR/month) (21.1 %) income groups were two most common income groups among those who availed telepsychiatry consultations. While highest income group might be having better access to technology thereby availing the facility; lowest income group might use the facility to avoid other costs like travel costs and to save time which might affect their daily income and productivity. Additionally, this also indicates wider spread and usage of modern technology (e.g., smartphone, internet etc.) across income groups which facilitated telepsychiatry consultation by them. Out of every 5 patients, four patients lived more than 100kms away from the hospital. This clearly indicates distance as a factor associated with availing telepsychiatry in our study. About one-third of them had comorbid psychiatric diagnosis (32.1 %) while affective psychosis was commonest diagnosis (36.1 %). An average of 16 h of time and INR 400 of travel costs were saved from teleconsultation compared to face-to-face consultation. Number of teleconsultations during lockdown was expectedly positively correlated with travel cost saved ($\rho = 0.47$, $p < 0.01$) and time saved ($\rho = 0.49$, $p < 0.01$).

Our study adds to very sparse literature on utilization pattern of telepsychiatry consultation during COVID-19 pandemic. In addition to utilization pattern, our study also examined saved travel costs in telepsychiatry consultation. Being of retrospective nature, full cost-effectiveness analysis could not be performed. Policy makers and service providers should collaborate to examine its other characteristics including cost-effectiveness with a prospective and randomized study.

## Authors' contribution

SK, NG and AM conceptualized the work. SK and AM collected data. NG, BD and SKM supervised, edited, and reviewed the manuscript. All authors approved the final manuscript.

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## Declaration of Competing Interest

Nil.

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**Table 1**
Demographic and clinical characteristics of patients who availed tele-consultation (N = 109).

| Characteristics | N (%) | Mean (SD)/ $X^2$ | IQR/ df | p |
|---|---|---|---|---|
| Age (years) | | 32.22 (15.52) | 18.50 | |
| Age of onset of illness (years) | | 22.48 (15.22) | 15.00 | |
| Duration of illness (months) | | 125.74 (112.88) | 140.50 | |
| Duration of consultation from this hospital (months) | | 58.16 (75.08) | 57.50 | |
| **Gender** | Male 68(62.40)<br>Female 41(37.60) | 6.68 | 1 | 0.01* |
| **Religion** | Hindu 98(89.90)<br>Muslim 9(8.30)<br>Others 2(1.80) | 157.67 | 2 | <0.001*** |
| **Residence** | Urban 52(47.70)<br>Semi-urban 20 (18.30)<br>Rural 37(33.90) | 14.11 | 2 | 0.001** |
| **Education** | Educated 102 (93.60)<br>Uneducated 7 (6.40) | 82.79 | 1 | <0.001*** |
| **Occupation** | Employed 23 (21.10)<br>Unemployed 39 (35.80)<br>Student 47(43.10) | 8.22 | 2 | 0.01* |
| **Marital status** | Married 44 (40.40)<br>Unmarried/ single 65(59.60) | 4.04 | 1 | 0.04* |
| **Family income (INR)** | <5000 23(21.10)<br>5001−10000 13 (11.90)<br>10001−15000 10 (9.20)<br>15001−20000 10 (9.20)<br>>20,000 53 (48.60) | 61.04 | 4 | <0.001*** |
| **Distance of residence from hospital (Kms)** | <10 3(2.80)<br>11−50 17(15.60)<br>51−100 6(5.50)<br>101−200 29 (26.60)<br>201−400 26 (23.90)<br>>400 28(25.70) | 36.04 | 5 | <0.001*** |
| **History of psychiatric illness** | Yes 17(15.60)<br>No 92(84.40) | 51.06 | 1 | <0.001*** |
| **Family history of psychiatric illness** | Yes 43(39.40)<br>No 66(60.60) | 4.85 | 1 | 0.02 |
| **Premorbid personality** | Well-adjusted 56 (51.40)<br>Non well-adjusted 15(13.80)<br>Not applicable 38 (34.90) | 23.24 | 2 | <0.001*** |
| **Physical comorbidity** | Yes 23(21.10)<br>No 86(78.90) | 36.41 | 1 | <0.001*** |
| **Distribution of psychiatric diagnosis** [a] | Affective psychosis 56 (36.10)<br>Schizophrenia & related psychosis 23(14.80)<br>Substance use disorder 8(5.20)<br>Obsessive compulsive disorder 16 (10.30)<br>Intellectual disability 13 (8.40)<br>Personality disorders 6(3.90)<br>Anxiety disorder 12(7.70)<br>Neurocognitive disorder 4(2.60)<br>Others 17(11.00) | 144.36 | 8 | <0.001*** |
| **Comorbid diagnosis** | Yes 35 (32.1)<br>No 74 (67.9) | 13.95 | 1 | <0.001*** |
| **Type of ongoing pharmacotherapy preceding teleconsultation** | Antipsychotic only 15(13.80)<br>Antidepressant only 10(9.20)<br>Mood stabilizers only 4(3.70)<br>Anxiolytics only 0 (0.00)<br>Stimulants only 0 (0.00)<br>Any combination of above 80 (73.40) | 138.37 | 3 | <0.001*** |
| **Duration of pharmacotherapy** | | 59.75 (74.26) | 55.50 | |
| **Ongoing psychotherapy before lockdown** | Yes 22(20.20)<br>No 87(79.80) | 38.76 | 1 | <0.001*** |
| **Accompanying person during teleconsultation** | Yes 87(79.80)<br>No 22(20.20) | 38.76 | 1 | <0.001*** |
| **Details of accompanying person** | Parent 47(43.10)<br>Daughter/son 10 (9.20)<br>Siblings/brother/ sister 9(8.30)<br>Spouse 16(14.70)<br>Others 5(4.60)<br>None 22(20.20) | 64.67 | 5 | <0.001*** |
| **Previous teleconsultation during lockdown** | Yes 31(28.40)<br>No 78(71.60) | 20.26 | 1 | <0.001*** |
| No. of previous teleconsultation | | 0.54 (1.01) | 1.00 | |
| Minimum time saved (hours) | | 16.33 (20.30) | 15.00 | |
| Minimum travel cost saved (INR) | | 408.77 (357.50) | 336.00 | |

SD- standard deviation, IQR-interquartile range, INR- Indian National Rupees; *<0.05, **<0.01, ***<0.001, [a] total no exceeds 109 as patients had comorbid psychiatric diagnoses.

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