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TELEPSYCHIATRY VS IN-PERSON CONSULTATION DURING COVID-19 PANDEMIC: A COMPARISON ACROSS DIAGNOSIS

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Summary

Background: *Since the onset of COVID-19 pandemic, telepsychiatry is being used at a massive scale, but without assessing its edge over traditional in-person consultation. The aim of this study was to compare the sociodemographic and clinical profile of cases seeking online consultations with those seeking in-person consultations when the second wave of COVID-19 pandemic hit India.*

Subjects and Methods: *In this record based cross-sectional study, we compared age, gender and clinical profile 6048 patients seeking in-person consultation with 2446 patients seeking teleconsultation.*

Results: *Patients with severe mental disorders and substance use disorders were more in the in- person group while those with common mental disorders (Depression, anxiety, and sexual disorders) were more in the telepsychiatry group. However, these differences were statistically non-significant. A non-significant but slightly lesser average age was noted in the telepsychiatry group across both male (p=0.44) and female gender (p=0.32). No significant difference was noted across both genders between both groups.*

Conclusion: *This suggests that teleservices could serve as an alternative and innovative approach to bridge the treatment gap in psychiatry. This study draws attention to the need of expanding and strengthening telepsychiatry further, even after the pandemic that can impart convenient, affordable, and accessible mental health services.*

Keywords: *Telehealth, Telepsychiatry, Psychiatric disorders, Online consultation, Mental health*

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INTRODUCTION

Since the beginning of COVID-19 pandemic and nationwide lockdown, concerns have been raised regarding its associated adverse mental health consequences. The global estimates suggest an addition of 53 million cases of major depressive disorder and 76 million cases of anxiety disorders to the pre-pandemic baseline figures (Santomauro et al. 2021). Sudden surge of suicide rates was witnessed across various Indian states during different phases of the pandemic (Cullen et al. 2020). Pre-existing psychiatric or substance use disorders were found in 30% of COVID-19 related suicides in India (Rajkumar 2020). To add on, access to mental healthcare became a challenge due to nationwide lockdown and re-channelisation of infrastructure to contain COVID-19 related illness. In a country like India, where seeking mental health treatment itself is a challenge, due to lack of perceived need, stigma and poor infrastructure, the pandemic added on to these already existing structural barriers (Andrade et al. 2014). Thus, the pandemic created a greater urgency for governments and policy makers to strengthen their mental health systems, with the added priority of integrating a mental health response within their COVID-19 recovery plan.

In a significant move, the Ministry of Health and Family Welfare, India on March 25, 2020, issued the Telepsychiatry Practice Guidelines for enabling doctors to provide continued healthcare during the pandemic. A rapid spurt of 302 percent in teleconsultation was witnessed amid the pandemic, with 33% of the overall queries coming from women. Not only the youth, but the elderly was also seen to be adopting technology, showing a 502 percent rise in online consultations from people above the age of 50, contributing to almost 12 percent of overall consultations, as opposed to 5 percent in 2019 (Singh 2021). Owing to the varying degree of usage of telepsychiatry across different sections of population, more robust and long-term data was needed to properly identify the needy for better service delivery. With the primary aim of comparing diagnostic profile of patients seeking psychiatric consultations across in-person and teleservices, a record based cross- sectional study was conducted. The secondary aim of our study was to note age and gender differences across both the groups, if any.

SUBJECTS AND METHODS

As the state was hit by COVID 19 pandemic, the Institute and Department of Psychiatry started teleconsultation facility during July 2020 keeping in line with the Telepsychiatry Operational Guidelines 2020. A mobile app called Swasthya App was developed for appointments and follow ups. Any person seeking first/new consultation, was consulted via videoconferencing while follow-up consultations, any mode (audio/text/video) was permitted.

Research design and participants

We conducted a cross-sectional study using health records of all such patients seeking psychiatric help. A 6-month time period was chosen during the second wave of pandemic, from January 2021 to June 2021, during which, routine OPD (Outpatient Department) services were gradually curtailed and closed. The data was collected from the health records regarding age, sex, and psychiatric diagnoses. For comparison, we chose a 6-month period, when OPD services were relatively full-fledged, i.e., from October 2020 to March 2021. For description in this study, we have included psychosis and bipolar disorder under severe mental disorder (SMD) and illness such as depression, anxiety, substance use disorder (SUD) and sexual disorder under common mental disorders (CMD). The diagnostic criteria used to diagnose the psychiatric disorder in the institute were as per the ICD-10 guideline. On an average, around 12000 patients are seen annually in the department of psychiatry, AIIMS Bhubaneswar.

Patients needs to register at the out-patient ticket counter which costs Rupees 10. Amount can be paid either cash or through the online mode. Both in-patients and out-patients facilities are available in the institute. The team for the management of patients includes designated MD psychiatrist (Senior Resident), senior consultants, postgraduate trainees, clinical psychologists and various nursing staffs. The first contact of patient is made with the Senior Resident who screen the patients and if requires then allot the cases to postgraduate trainees for detailed evaluation. Detailed evaluation includes the detailed workup with diagnostic clarification and plan of management. The case is then discussed with allotted consultants and the final diagnosis and plan of management is made. Diagnosis is made as per the ICD-10 guideline. Management includes investigations, referrals and both pharmacological and non-pharmacological treatment. Somatic treatment in form of Electroconvulsive therapy (ECT) is done both for inpatients and outpatients. Patients who require admission is admitted according to the Mental Health Act-2017 guideline. All the data of registered patients are sent to the Institute authority on monthly basis. Any difference in age and gender across both the groups was noted across all diagnoses.

Statistical Analysis

Ethical clearance from the Institute Ethics Committee was taken. The collected data were evaluated in SPSS 20.0 program. Descriptive statistics (mean, SD, frequency distribution) were computed for variables. A χ^2 test and Mann Whitney U test was employed to assess if there was a significant association between categorical and continuous variables respectively. A p value $< .05$ was considered statistically significant. Comorbidity was not considered during the evaluations as the study was focused on the comparison of Psychiatric disorders

RESULTS

Being a record-based study, there was no formal sample size calculation. A total of 6048 patients were included in the in-person group and 2446 patients in the Telepsychiatry group. The most common diagnosis in both the groups was psychosis, followed by depression and anxiety disorders. The average age of patients in the telepsychiatry group was 34.23±12.41 years among males and 32.49±15.33 years among females. The in-person group had older patients, the average age being 37.10±17.57 years among males and 37.06±11.21 years among females. (Table 1)

Table 1: Characteristics of Study patients

Number		**In-person**	**Telepsychiatry**	
		6048	**2446**	
Gender	Male	4824 (69.8%)	1995 (81.5%)	$X^2 = 3.56$
	Female	1224 (20.2%)	451 (18.5%)	P = 0.06
Mean age (in years)	Male	37.10±17.57	34.23±12.41	U=0.77, p=0.44
	Female	37.06±11.21	32.49±15.33	U=0.96, p=0.32

Table 2: Type of patients across groups

Diagnosis	In-person n (%)	Tele-psychiatry n (%)
Sexual disorder	43 (0.7)	37 (1.5)
Substance use disorders	375 (6.2)	61 (2.5)
Manic episode/Bipolar affective disorder	738 (12.2)	252 (10.3)
Depressive disorder	804 (13.3)	428 (17.5)
Anxiety disorder	810 (13.4)	389 (15.9)
Psychotic disorder	1566 (25.9)	499 (20.4)
Childhood disorders	598 (9.8)	261 (10.6)
Personality traits/disorder	221 (3.6)	95 (3.8)
Dementia	57 (0.9)	22 (0.8)
Delirium	33 (0.5)	13 (0.5)
Other neurotic disorders	803 (13.2)	389 (15.9)
Total *(N)*	6048	2446

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	843.053[a]	15	.000
Likelihood Ratio	1065.159	15	.000
Linear-by-Linear Association	743.759	1	.000
N of Valid Cases	6046		

a. 4 cells (16.7%) have expected count less than 5. The minimum expected count is 1.50.

Patients with SMD were more in the in-person group (38.1%) than the telepsychiatry group (30.7%). Substance users were also more in the in-person group (6.2%) as compared to telepsychiatry (2.5%) group. In contrast, patients with CMD were more in the telepsychiatry group. A total of 13.3% and 13.4% of patients of major depressive disorder and anxiety disorder respectively sought in-person consultation as compared to 17.5% and 15.9% of those who sought telepsychiatry consultation. Majority of patients with sexual disorders sought teleconsultations (1.5%) rather than face-to-face consultations (0.7%). (Table 2)

DISCUSSION

Despite the odds, we received a good response from the public with 2446 telepsychiatry consultations in six-months period. There have been a handful of reports on profile of patients seeking teleconsultations during pandemic across different Indian states. However, to our best of knowledge this is the first study in the country comparing the patient profile with that of in-person consultations. In this study, we compared the two modes of consultation in a 6 months' time frame in terms of age, gender, and clinical diagnosis. There was no significant difference across genders in seeking treatment. The patients in telepsychiatry group were slightly younger than the in-person group probably owing to better access and knowledge regarding technology, but the difference was not statistically significant. Most common diagnosis was psychotic disorders in both the groups. There was no significant difference across various psychiatric diagnoses in both the modes of consultation revealing that telepsychiatry can improve the horizons for mental healthcare in low resource settings.

In India where prevalence of mental disorders is as high as 10.6 weighted percent with psychiatrist population ratio of <0.5/100,000 population creating a treatment gap of as high as 83 % (Gautham et al. 2020), additional mental health care delivery way is long due. Owing to these barriers, telepsychiatry appears to be a ray of light.

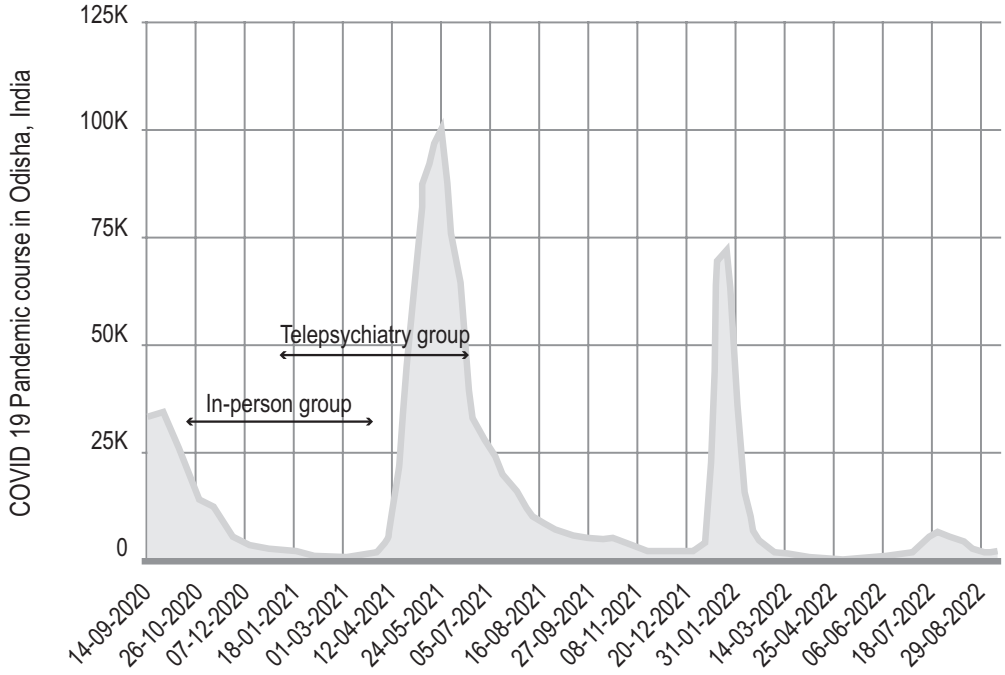

Fig 1: Course of COVID 19 Pandemic in Odisha, India and study period. (Image source: COVID 19: Odisha State Dashboard

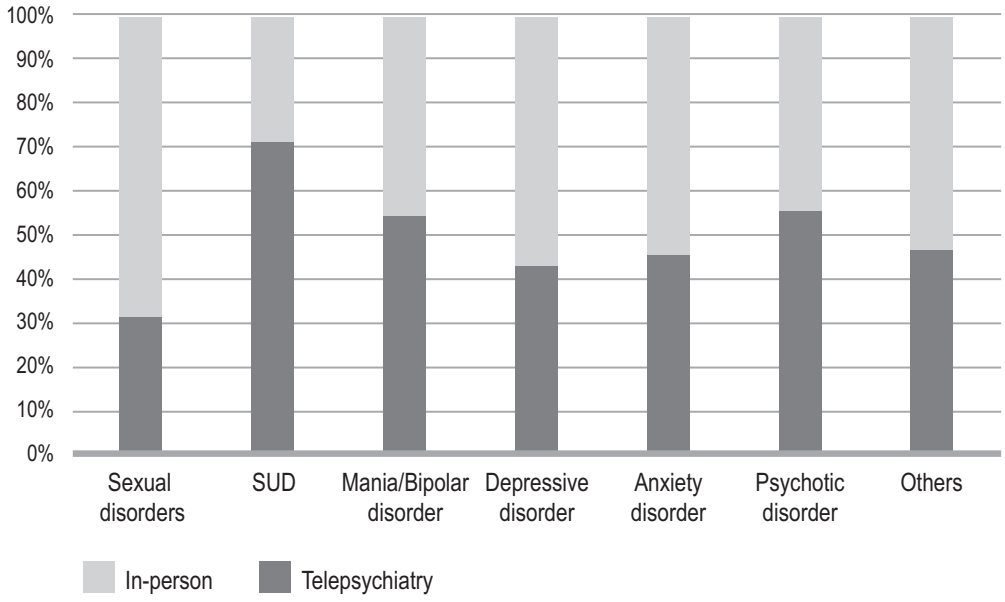

Fig 2: Comparison of Psychiatric diagnosis in telepsychiatry vs in-person consultation

However, the most obvious concern about switching from in-person to teleconsultation is the digital divide. According to the Economic Survey, 2018-19 report, only 80% villages in the state of Odisha have mobile phone connectivity. The State has just 28.22 internet subscribers for a population of 100, compared to the national average of 38.02 (Lahangir 2022).

In the pre-pandemic era, the highest proportion of telepsychiatry consultations was that of psychotic disorders in India (Balasinorwala et al. 2014, Thara et al. 2008). However, during the pandemic, the most common psychiatric diagnoses for consultations were depressive disorder (41.1%) followed by bipolar affective disorder (10.0%), adjustment disorder (9.4%), and schizophrenia (7.2%) (Uvais 2021). Affective psychosis was commonest diagnosis reported in a similar study conducted in a tertiary care institute (Khanra et al. 2021). Apart from the differences in sample size and methodological heterogeneity, these differences in findings can be attributed to the fact that, being a tertiary care institute located in the state capital, we tend to receive more severe cases, usually referred from the remote primary health centers.

Earlier studies have highlighted the safety and effectiveness of video-conferencing in reaching out to

psychotic patients, especially those in rural and challenging settings (Sharp et al. 2011). Mobile health applications have shown promise for symptom tracking, relapse prevention, illness self-management, social skills training and enhancement of work performance (Lawes-Wickwar et al. 2018). Patients with SMD sought in-person consultation more as compared to telepsychiatry mode in our study. This might be because of the nature of illness and required interventions. People with untreated SMD often remain symptomatic, leading to disability and dysfunction, warranting the need for treatment by family members unlike CMD in which spontaneous remissions are possible (Şeyma S & Behice HA 2022).

Patients having SUD were more in the in-person group, possibly because of their preference, withdrawals, complications, and other medical comorbidities. In a study conducted in India among health care providers, more than 60% reported overall high satisfaction with e-consult for SUD management during pandemic. An e-consult is an asynchronous consultative communication between health care providers (usually primary care providers) with a specialist over a web-based platform to obtain rapid input which often prevents the need for a face-to-face patient visit (Vimalananda et al., 2019). Although the health care practitioners in India did not find e-consult a satisfactory substitute for regular 'face to face' consultation but considered it as an useful addition to their regular practice during pandemic (Sahu et al. 2020).

The National Mental Health Survey of India showed that the treatment gap for common mental disorders (85%) were higher than severe mental disorders (73.6%) (Gautham et al. 2020). The gap is as high as 85.2% and 84.0% for major depressive disorders and anxiety disorders respectively (Gautham et al. 2020). As expected, we observed that, patients having depressive disorders and anxiety disorders were more in the telepsychiatry group as compared to in-person consultation group. The reasons for this could be less stigma, fear of contracting the infection and possibility of non-pharmacological management options online (Gautham et al. 2020). Consultations for sexual disorders were more in the telepsychiatry group as compared to in-person group. In a study conducted among LGBT (Lesbian Gay Bisexual Transgender) individuals, it was observed that telepsychiatry services allowed them to communicate with more ease compared with in-person services (Whaibeh et al. 2020). Issues of stigma, embarrassment and confidentiality associated with sexual dysfunctions can be dealt with teleconsultations making patients comfortable and more communicable.

Thus, Telepsychiatry, so far, has proven to be an effective modality not only in reaching the unreached but also to cater the needs of a vast majority of population in need of psychiatric attention and care. Telepsychiatry can become a means to improve access as well as to maintain continuity of mental healthcare while addressing issues of stigma, confidentiality, and costs simultaneously (Rehman et al. 2020). This study draws attention to the need of expanding and strengthening telepsychiatry services further that might help meet patients' needs for convenient, affordable readily accessible mental health services. The ABDM (Ayushman Bharat Digital Mission) launched in September 2022 by Government of India to accelerate the digitalization of healthcare has been a welcoming step. ABDM is a digital platform where patients can reach doctors easily and share their electronic health records as well, through which doctors can also impart better care, reducing the overall cost of treatment (En 2022).

Certain limitations apply to this study such as relatively shorter duration of study period. We could not get patient's and care giver's individual reasons for opting each mode of consultation because of the retrospective nature of study design. We do not have data regarding follow up care and treatment adherence. The study was conducted in an academic Institute in Eastern India. Results may not apply to other settings.

CONCLUSIONS

Telepsychiatry services has potential to cater to the mental health needs of vast majority of people across sex, gender, and variety of psychiatric diagnoses at par with the in-person consultations. While lack of human resources is one of the biggest reasons for the wide treatment gap in mental health; telepsychiatry consultations could be an alternative and innovative approach to bridge this gap, especially in low-resource settings like India.

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Ethical Considerations: Does this study include human subjects? YES

Authors confirmed the compliance with all relevant ethical regulations.

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