Telemedicine in Geriatric Psychiatry: Relevance in India

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ABSTRACT

Telemedicine has evolved as a novel tool in delivering health care in the modern world. With the advancement in video conferencing technology at an affordable price and innovative digital medical instruments, it has grown from guiding paramedics in managing patients to aiding physicians in providing direct consultation. Delivering care for older adults has always been challenging due to comorbidities that may warrant a multidisciplinary approach leading to frequent visits across specialties. As per the preliminary reports of the Longitudinal Aging Study in India, 55% of this population suffers from any chronic illness, of which 40% have some form of disability and 20% deal with mental health issues. Over the years, telepsychiatry care for older adults has received increasing acceptability. Videoconferencing with improved connectivity and transmission rates has aided in evaluating, assessing, and providing mental health interventions at ease. The recent regulation of telemedicine practice in the country by rolling out the *Telemedicine Practice Guidelines 2020* and *Telepsychiatry Operational Guidelines 2020* has fast-tracked its utility during the COVID-19 pandemic. Concerns of physical examination, psychological satisfaction of consulting physician in person, confidentiality, and security of information shared are points that need better addressing in the future. However, Telemedicine is recommended to be used judiciously, taking the risk and benefit of older adults on a case basis as it can significantly bring down the financial and emotional burden.

Keywords: Telemedicine, older adults health care, geriatric telepsychiatry

Telemedicine translates as "healing from a distance." It has influenced the modern practice of medicine by serving as a crucial platform to deliver health care. Telemedicine has aided in cost-effectively overcoming economic and social barriers reducing the burden of travel and waiting time to consult physicians. This has proven to be pivotal in catering for older adults as they are vulnerable populations with multiple comorbidities.[1] They encounter more mental and physical disabilities and hence face major challenges in accessing healthcare facilities at the right time. Over the past decade, multiple observations on delivering and addressing mental health needs on tele-based consultation platforms for this group have shown promising results. This includes medical care and psychosocial interventions, thereby aiding in carrying out a multidisciplinary approach for management virtually as well. This article aims to review how telemedicine has emerged to be a vital tool in providing psychiatric care to the geriatric population in all possible means. It also discusses the opportunity and challenges of providing geriatric telepsychiatry care in India.

Rise of Telemedicine

Telemedicine is the delivery and facilitation of health and health-related services using digital communication technology, where distance is a critical factor demanding remote medical practice. It includes exchanging valid information on diagnosis, treatment, prevention of diseases and injuries, health information, patient education, research, and training.[2] Telemedicine has been in practice for more than two decades with synonymous terms as e-health, telehealth, telecare, etc. The earlier services were predominantly limited to consultation liaisons. Usually, a primary health-care provider connects to a specialist at a distant place for specialty

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consultation or advice.[3] Later, Electronic Health Records in 2013 added robustness to telehealth services. The recent *Telemedicine Practice Guidelines 2020* define the use of images, documents, text messages, audio, and/or video calls as approved methods in delivering care through telemedicine.[4,5] The luxury of having such a facility was not possible in the past, but reducing the cost on the Internet and video call apps is affordable to almost all health-care sectors.[5] As innovations develop in health care with advanced treatment, the expense on health care is on the rise. Most of these recent treatment options come with minimal side effects, lesser monitoring, and few review visits. But these newer interventions are almost and always available at higher tertiary care centers, which makes it difficult for many to benefit from.[3,5] Though Telemedicine may not be feasible for all such novel treatment protocols; it can surely prove to be a convenient tool for aftercare purposes, cutting down on follow-up visits altogether.[6,7] It also facilitates health education and training health-care providers at their workplace, reducing their travel and boarding expenses.[8,9] One such example is training of primary care doctors in their live, real-time general consultation by a specialist (e.g., psychiatrist); this is called "on-consultation training."[10] With the advent of the Electronic Health Record system, telemedicine also has provision to store medical records securely for easy access to the patient and the care provider.[3] With the need for travel and waiting period to seek medical care been taken out of the equation, telemedicine ensures timely access to appropriate care with minimal cost.

Health Care for the Older Adults

The universal trend of reduced fertility and increased life expectancy has led to an increase in the older adult population, and India is not an exception. It has been projected that the older adult population would reach 340 million by 2050.[11] Care for the aged has always been challenging due to multiple and chronic coexisting conditions. They need multidisciplinary care at all times, which warrants visiting different specialty clinics over days either within or across hospitals/institutes.[3] With the need for frequent evaluation and monitoring, repeated visits may be warranted, but not all yield drastic changes in management except for a minimal change in drug dosing, ordering, and reviewing investigations.[12,13] Many older adults are frail, and a significant proportion of them may live only with their spouses. With children staying away from their aged parents, making arrangements for health-care visits could be mentally taxing and distressing for the whole family[3]. Due to such factors, older adults visit emergency care more often than in routine outpatient departments (OPD).[14] Thus, home-based care was always a convenient and popular approach to cater to this group. Self-monitoring at home is now possible by using equipment such as digital blood pressure monitors, glucometers, basic pulse oximeters, and weighing machines. Thus, combining home-based self-monitoring with telemedicine support medical consultations can be optimised[15]—this aids in preventing emergency visits and optimizing OPD visits.

Geriatric Psychiatry

The prevalence of mental health issues is high in older adults. The Longitudinal Aging Study in India report finds 20% of this population to have mental health problems,[11] and only less than one-third of this affected group receives treatment. The most common reasons for this treatment gap are low awareness, stigma, financial constraints, low priority of health-care needs of elderly in the family, difficulty in transportation, and scarcity of resources, especially in rural areas.[16,17] Mental health issues significantly impact the quality of life and are also associated with high morbidity and contribute to increased mortality. As in any case, the lack of specialists and trained personnel in geriatric mental health poses significant challenges in delivering quality care. Even with the wide implementation of the District Mental Health Program and other community programs held by non-profit organizations, the demand is huge, thereby contributing to challenges in closing down the treatment gap further.[18] Thus, embracing the innovations in technology via telemedicine would fast-track the process of meeting the current and future needs.

Factors that Influence the Utility of e-Health

The COVID-19 pandemic has effected the rapid uptake of telemedicine even though it has existed for several decades in the country. The perception of patients and doctors in using telemedicine as a health-care delivery system is paramount. With the pandemic bringing the whole world to a standstill, patients had to find alternate routes to reach their doctors for continued care. This could be even more challenging for the elderly for reasons discussed earlier. The factors (as described below) are considered to be vital for both the prescribing doctors' and the receiving patients' decision in utilizing telemedicine as an effective tool.[19]

1. The extent of benefit/perceived usefulness: It implies the degree to which the services translate from a conventional in-person consultation to tele-based consultation meeting/fulfilling the targeted needs.
2. Ease of use: It depends on the difficulty level in navigating through the software/application and utilizing the services effectively with minimal technical hiccups.
3. The cost incurred: Though currently there are more than a few apps available free of cost with affordable data charges, this factor could be pivotal in influencing the popularity of its use in the future. In addition, the time and energy in planning for visits and the cost of travelling are also less consuming.
4. Societal perception: Societal perception influences one's attitude in accepting and trying out naive platforms. While doctors' decisions could be influenced by their colleagues and seniors, patients would consider taking opinions from their fellow patients, family, and friends.
5. Security of data and privacy: Fear of confidentiality breach via cyber fraud is the primal concern regarding health-related information for either parties, which can lead to legal conflicts.
6. Capability/understanding of use: The ability to exploit and readiness to use technology would determine the utility of telemedicine to its fullest extent.
7. Doctors' recommendation: Lastly, the discretion of use is solely on the

prescribing doctor regarding indication and need on clinical, social, and geographical grounds.

8. Convenience in seeking help/easier access: The extent of easiness in accessing health care at any distance is made possible at a click of a smartphone with online registrations leaving aside the need for paperwork at the hospital desk.

Teleconsultations in Geriatric Psychiatry

The acceptability, effectiveness, feasibility, and comparability with in-person consultation have been observed across various studies and found positive results with high satisfaction levels for both practitioners and patients.[20,21] In India, the *Telemedicine Practice Guidelines 2020* by the Government of India and the *Telepsychiatry Operational Guidelines 2020* by NIMHANS, Bengaluru, Telemedicine Society of India, and Indian Psychiatric Society have instilled robustness in streamlining telemedicine practice in the country.[4,22] In India, telepsychiatry services are provided to the patients, caregivers, inmates of destitute homes, and prisons. There are few scientific observations already which has paved the way for discussions.[23,24] This has aided clinicians in this field to optimally practice harnessing technology and thereby bring up scientific data referring to these documents.

Acceptability in Utilizing Telepsychiatry

A follow-up study on the elderly with neurocognitive and psychiatric disorders found that patients opted for teleconsultations for reasons like financial constraints, lack of social support, mobility problems, and severity of symptoms. Almost every patient (either hailing from rural or urban residence) accepted that teleconsultation is convenient as there is easy access to technology, convenience in consultation including review with the same doctor, affordability of free mobile apps, and data charges.[1,23] In addition, studies have demonstrated greater expediency[23,25] and positive perceptions among the practitioners and the patients regarding telemedicine services, especially in geriatric psychiatry.[26–28] Many have recommended models for implementing digital geriatric mental health services in long-term facilities and via remote old age memory clinics.[12,29,30] Older adults often face difficulty in mobility due to physical impairment/disability, leading to challenges in access to health care. With the advent of such models of technology-based geriatric care, apprehension on the availability of ramps, dedicated queue for registration, and waiting time shall be completely avoided. Moreover, the hassle of bringing them to the hospital, whether in rural areas where access to specialty care is challenging or urban areas where patients have difficulty reaching hospitals amid congested traffic, is completely ruled out.[31]

Service-User Satisfaction

Different modes, including audio/audio/video conferencing, found that virtual consultation space via audio/video format enhanced their experience during an in-person visit than audio-only format, resulting in improved satisfaction in virtual consultation experience.[15,32] A qualitative study observed that geriatric patients wanted to use teleconsultation without reducing the existing frequency of in-person visits. Moreover, they are contented that they are given enough consultation time to be attended over this platform.[27] Patients who were clinically stable with milder forms of illnesses, lesser cognitive impairment, and higher socioeconomic status seem more comfortable with teleconsultations.[27] In addition, Telemedicine is increasingly accepted by people from different cultural backgrounds.[31]

The Capability of Technology Use in Older Adults

Due to the COVID-19 pandemic, telepsychiatry consultations have increased tremendously, especially for nursing homes and remote areas. Studies conducted on the elderly regarding their ability and competency of using technology have shown interesting observations.[13,15,33,34] A majority of the older individuals received support from the staff in nursing homes and family members for using the gadgets. In contrast, a minority of them were able to use smartphones themselves with little help.[27] Thus, the feasibility of use on these grounds hasn't hindered the process of online consultation. In circumstances where more assistance is needed to handle technical aspects, physicians seem to use a more practical approach such as a hybrid model, wherein telepsychiatry consultation with a health-care worker/family member visiting the older adults would prove beneficial.[15]

Role in Evaluation and Diagnosis

Studies in the west have compared in-person assessments with telephone or video-based consultation of older adult patients. Assessments included neurocognitive tests, especially on memory and diagnostic tests for depression, dementia, etc.[12] Studies that have compared audio only and audio/video based assessments have found that both are as effective as in-person evaluation.[35–39] One of the studies conducted with 120 older adults has shown that modified telephonic interview of cognitive status (TICS-m) takes less time than mini-mental status examination (MMSE) and is appropriate for testing the cognitive status of older adults.[35] Limitations in conducting a complete physical examination are addressed by performing a partial physical examination based on inspection; a model called ViPE, that is, inspection-based virtual physical examination.[40] Along with diagnosis and assessments, interventions like group therapy, occupational therapy, cognitive-behavioral, and other therapies have also been proven effective over this platform. It can be used for family meetings where family members stay away from the patients, meetings that need multidisciplinary physicians across specialties, or within mental health teams.[9] Thus, overall, the reliability of psychiatric assessments through video-based telepsychiatry has proven to be good almost to replace in-person visits in most instances.[31]

Capacity Assessment

One of the most important legal components in practicing geriatric psychiatry is capacity to take consent from patients. Psychiatrists also often face case scenarios where older adults are brought

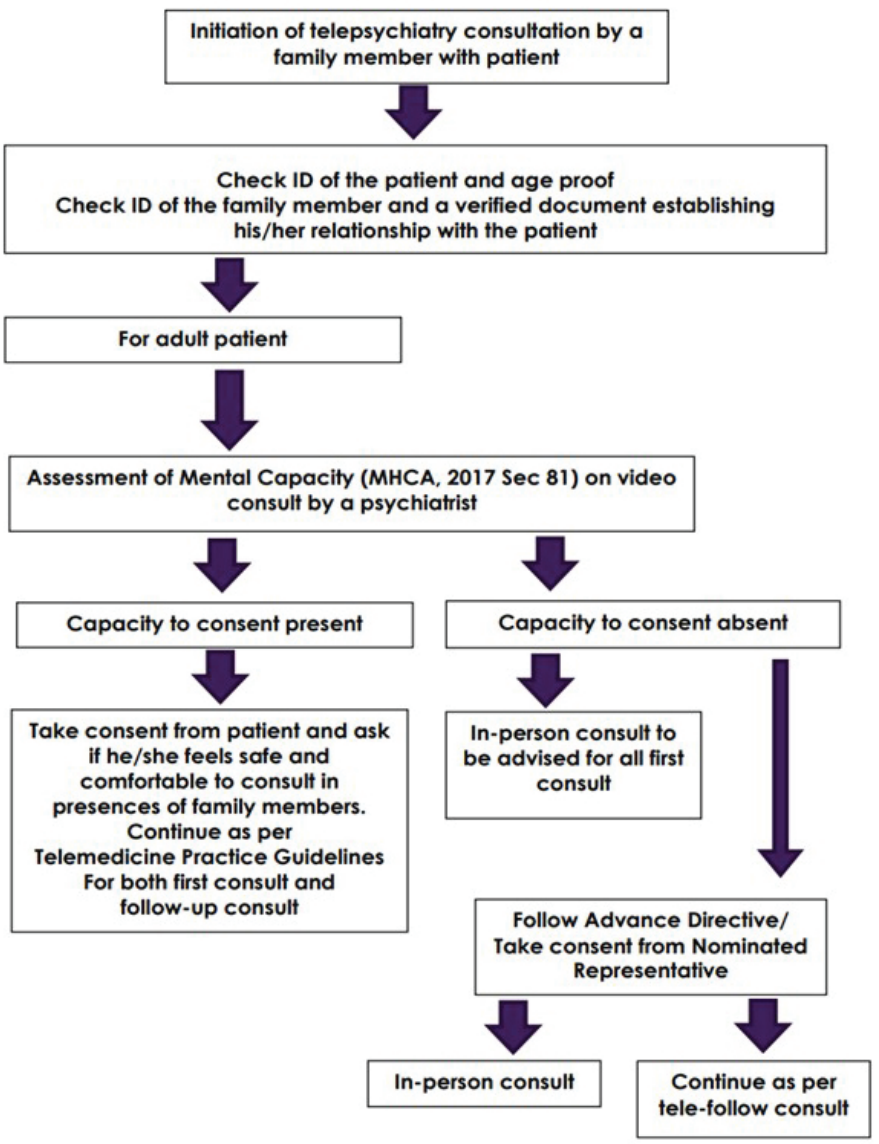
for assessing testamentary capacity to make a legally valid will or testament.[41] The concept of "capacity to consent" is considered dynamic and it is time and task-specific.[41] Every person is deemed to have the capacity in decision-making, including persons with mental illness, unless there is a valid reason to doubt this assumption.[42] Assessing capacity during online consultations while consulting older adults brings in three major scenarios:

1. While consulting alone with the capacity to consent: In this scenario, teleconsultation shall happen with an implied consent of the older adult.
2. While consulting with a family member/caregiver (see **Figure 1**): The older adult's capacity assessment for attaining consent must be done. If the capacity to consent and willingness for consultation are present, teleconsultation can proceed. Advice for in-person consultation if the capacity to consent is absent during all first consultations. If the capacity to consent is absent during online follow-up, check for advance directive availability (AD). If AD is not available, consent should be taken from the family member/nominated representative via video consultation and documented. However, if there is suspected coercion from family, advice for in-person consultation anytime.[22] **Figure 1** summarizes the steps via a flowchart.
3. In case of a health-care worker consulting the psychiatrist along with the older adult (see **Figure 2**): In this case, the requesting health-care worker shall check for patient identity proof and attempt for assessing capacity to consent. If capacity and consent for consulting a psychiatrist online is present, then the health-care worker can initiate contact. If capacity is absent, then the health-care worker shall check for advance directive and follow accordingly. In case of AD not available, the consent can be taken from the nominated representative. The consulting psychiatrist shall then verify these prerequisites again during the teleconsultation.[22] **Figure 2** summarizes the steps via a flowchart.

In case of a Registered Medical Practitioner (RMP) seeking advice from psychiatrist over teleconsultation, (according to the *Telemedicine Practice Guidelines 2020*) the RMP shall be responsible for treatment and other recommendations given to the patient.[4]

FIGURE 1.

Consulting Elderly with Family Member/Patient via Telemedicine (Adopted from Telepsychiatry Practice Guidelines 2020)

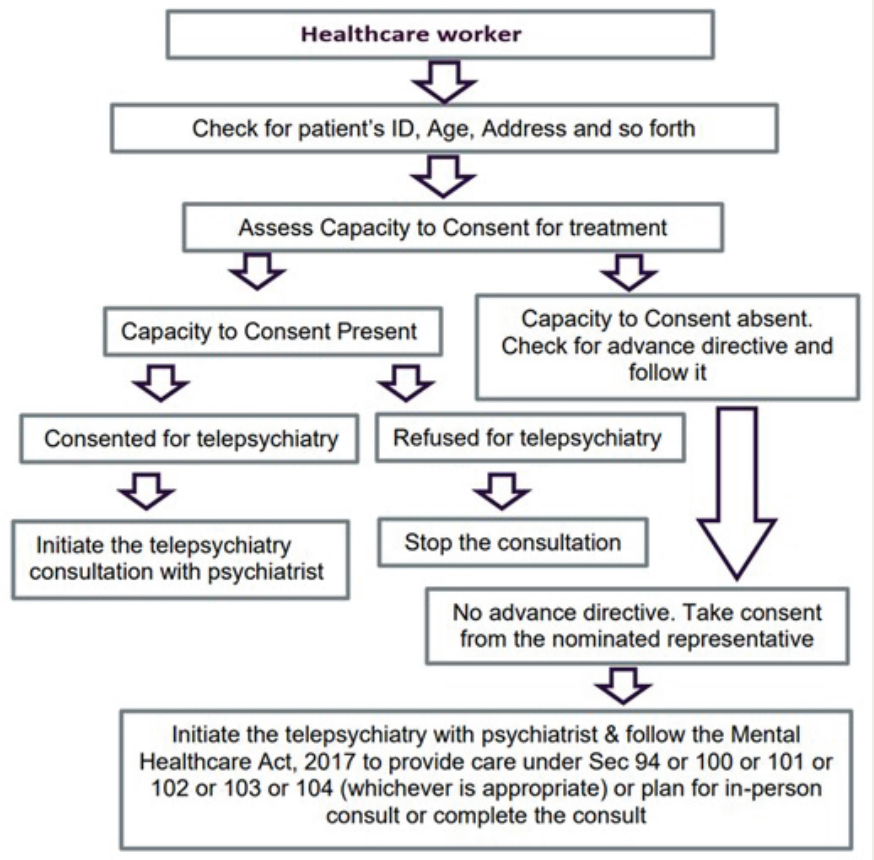


Prescribing Treatment and Comprehensive Management

In few countries, studies have found that the availability of a local physician at the patients' site with experts over teleconsultation platform eases the implementation of a management plan termed a "collaborative care model."[25] A teletraining program for primary care doctors has found at least a 10% increase in psychotropic prescription over one year, demonstrating an effective early detection and treatment of psychiatric disorders at primary care, including older adults.[43,44] Even nonpharmacological interventions are promising via tele-based platforms for older adults. The possibility of online schema-based therapy for dementia patients and caregivers demonstrates the benefit of nonpharmacological interventions via this mode.[20,21,45] Similarly, a randomized controlled trial for tele-based psychotherapy showed that older adults with depression showed significant improvement in their depressive symptoms.[46,47]

FIGURE 2.

Consulting Elderly via Telemedicine along with Healthcare Worker or Physician (Adopted from the Telepsychiatry Operational Guidelines 2020)



A qualitative study with caregivers of persons with dementia reported that video and telephonic-based consultations are extremely helpful for caregivers in understanding and playing an active role in managing behavioral problems of their affected older adults. [48] Another study with 433 older adults with symptoms of anxiety and depression has shown that internet-based cognitive behavioral therapy effectively reduced the symptoms when delivered in either clinician-guided or self-guided format.[49] In developing countries, efforts are being undertaken to develop an online video-based group therapy module for caregivers for dementia to understand and manage behavioral and psychological symptoms.[13] Thus, Telemedicine has made it possible to provide comprehensive care with a multidisciplinary approach virtually by overcoming the physical and social barriers.

Cost-Effectiveness and Rural Practice

Around 70% of the older adult population in India is living in rural areas. The prevalence of mental health issues is likely to be higher in older adults with socioeconomic challenges.[11] There is a low literacy rate and lesser access to digital technology in rural areas compared to their urban counterparts due to the limited availability of specialists warranting patients to commute from far-off distances to seek adequate care.[11] On the other hand, the latter has better resources in bridging the needs of the former without the need for investing in setting up camp visits and balancing the unevenly distributed specialists across geographical differences.[50,51] Several initiatives to promote telemedicine in rural areas of India have also been undertaken. Telemedicine mobile clinics using satellite links provided by the Indian Space Research Organisation and Digital Nerve Centre initiative by the Tata Community Services are some examples.[52] In a systematic review on the cost-effectiveness of telepsychiatry services, it was observed that in 60% of the reports, the service was economical.[53] Another study report telepsychiatry to be cost-effective in chronic conditions needing rehabilitation in older adults.[53–55] A cost-effectiveness study reports that telepsychiatry practice was 50 times more economical than visiting a distant tertiary care center and four times more economical than a community outreach service.[54] Improving network connectivity and digital access to the health and wellness centers in rural areas under the Ayushman Bharat initiative and enabling the availability of additional human resources to support the telemedicine facility in rural areas will promote equitable access.

Limitations in Geriatric Telepsychiatry

In general, the utility of telemedicine can be hindered due to technical issues like quality of internet connection, inefficiency in installing, navigating, and troubleshooting-related applications/software.[31,56] Negative attitude and hesitancy in implementing online consultations are also observed among physicians. This could be due to poor understanding of recent regulations and lack of first-hand experience in practicing telepsychiatry. Investments in developing, maintaining, and upgrading infrastructure and technical support could be detrimental for low resource and standalone practitioners.[31,57] The other shortcoming is restriction of prescribing antidementia medications during the first teleconsultation as per the *Telepsychiatry Operational Guidelines 2020*.[22] This can be tackled with initial consultation being a collaborative video consultation with an RMP onsite and then switching to direct teleconsultation with the patient during follow-ups.[15] However, with most cases needing regular monitoring of vital parameters and nursing care, even reviewing a severely physically ill person with or without sensory and or cognitive impairment via teleconsultation shall prove effective.[13,31] Having said that, managing substance abuse

could be challenging as older adults have been found to misuse benzodiazepines and opiate analgesics, which are used as replacement and substituting agents for management.[58] In addition, lacunae in performing a detailed physical examination, especially in this group, which are vulnerable to physical complications, will remain debatable. The attitude and satisfaction of older adults towards telepsychiatry in comparison with in-person consultation could be challenging to replace.[27] Such challenges in the Indian context require further studies to add evidence to existing data and develop feasible alternative solutions to demonstrate the maximum utility of the tool in low-resource settings.

Summary

Telemedicine is a tool to deliver medical health care for those where distance and travel area concern. Older adults have a separate queue in hospitals for registration and prior appointments, which indicates that they are provided with special facilities by society.[28] The country does not have enough specialists to address the comprehensive medical and psychological needs of the elderly.[13] The fragile older adults need treatment and care at their doorsteps, and primary health care is the nearest stop. With not many specialists expected to cater at this level, strengthening and equipping the primary health-care providers is the key, with trained geriatric mental health workers and specialists handholding them.[13] Strengthening means a "stepped care model" where primary care physicians can bridge the geriatric mental health-care provider and the patient. The community nurse or any other fieldworker shall aid in-home visits and facilitate telepsychiatry services wherever necessary.[15] These models in telepsychiatry should prove vital in improving and maintaining the quality of life of older adults at their homes.

Whether digital stethoscopes and other such instruments would address the issue of physical examination effectively in the future should be worth a wait. Telepsychiatry is not discounting any in-person consultation but rather an additive tool in replacing at least an extra visit by better penetration in health-care delivery that would reduce their financial and emotional burden.[9] Bringing them to a nearby effective geriatric health-care system could prove to be far off, eventually leading them to travel a considerable distance utilizing various transport modes. Hence, telepsychiatry should be recommended judiciously by the treating doctor wherever appropriate and its termination should not be delayed when need are not being met. Recommendations have been made about incorporating digital technology for conducting research in geriatric psychiatry, improving the feasibility and acceptability in general and especially in remote long-stay homes.[59,60] Though the pandemic has opened up opportunities to exploit telemedicine highly, it would be wiser to pile up on the lessons learned during this time. With the Government of India regulating its use officially, telemedicine can serve as a vital tool in reaching the unreached, time and again.

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