



Use of Technology to Facilitate Performance of Activities of Daily Living in Persons Availing Psychiatric Rehabilitation Services During Covid-19 Pandemic

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Abstract The global health crisis caused by the coronavirus pandemic (COVID-19) has brought about previously unimaginable changes to all of health care, including the field of psychiatric rehabilitation. During the pandemic, many issues pertaining to the people with SMI (Severe Mental Illness) was addressed, however, we have not found any studies exploring the impact of pandemic on Activities of daily living.

Here we discuss two case reports to furnish the first-hand experience on how online sessions have helped patients to improve their Instrumental Activities of Daily Living (IADL), a component of Activities of Daily Living (ADL).

Though the pandemic had an impact on IADL initially in both the patients, with technology facilitated psychiatric rehabilitation both patients improved in areas of managing household chores, cooking, concentration and memory as reported by their caregivers. Family involvement in care and bonding also increased.

Online sessions facilitated persons with mental illness to engage in daily activities, created an interest in them to attend the sessions and to translate them in real-time world and increased the involvement of caregivers in training them.

Keywords Activities of Daily Living · Persons availing psychiatric rehabilitation services · Pandemic · Severe mental illness

Introduction

A newly emerged zoonotic viral infection known as the novel coronavirus disease (COVID-19) has been affecting people, globally in the form of a pandemic. The global impact of COVID-19 has been profound, and the public health threat due to this is the most serious seen since the 1918 H1N1 influenza pandemic. [6]

The COVID-19 pandemic has led to mental health concerns; one of the high risk and possibly neglected groups include individuals under-going mental health rehabilitation, the impact on whom can be significant as compared to the rest of the population [1].

Mental health rehabilitation helps a person deal with their social skills deficits through social skills training and encouraging social interactions and reducing social distances. The social distancing, home quarantine, and closing down of day-care facilities are

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likely to have a negative impact on their clinical outcome [2].

Having to stay at home will not only slow down the progress in social skills development but also reduce their self-reliance and self-confidence and affect their vocational potentials [2].

The Psychiatric Rehabilitation Services (PRS) at National Institute of Mental Health and Neuro Sciences (NIMHANS) with different sections, caters to the rehabilitation needs of day-boarders and in-patients. Patients are trained in different sections based on their interest such as training in candle making, printing, weaving, tailoring, computer, green skills Instrumental Activities of Daily Living (IADL) section facilitates activities like cooking, washing vessels, laundry, money management, medication management, communication and transportation. ROSes Café, a part of the IADL section is unique as it is run by PwMI with family caregivers and healthy snacks and beverages are prepared by them [3]. These sections train to prepare marketable products to earn an independent living. They are engaged productively in these sections and are involved in making products for sales and are monetarily incentivized on a monthly basis. [9]. When the lockdown was declared in March 2020, the Psychiatric Rehabilitation Services at NIMHANS was also suspended as it was considered as non-emergency. After the closure of PRS, for a few months patients were confined to their houses, with disruption in their daily routines. With commencement of online services, patients at PRS also were engaged virtually.

Though it was a challenge for psychiatric rehabilitation service users, practitioners, researchers and participants, the pandemic has given an opportunity to be creative and innovative during this period of uncertainty [8]

As the healthcare system transitioned to virtual platforms during the pandemic, healthcare providers need to help their patients embrace and get used to telehealth or mobile health technology. Maintaining regular contact with patients with severe mental illness (SMI) was vital in providing a sense of social connection as well as preventing symptom relapse and possible hospitalization [4]

Psychiatric Rehabilitation Services (PRS), NIMHANS also took to the virtual platform amidst apprehensions on the outcome; nonetheless, online consultations, training sessions for patients was

initiated with a team effort. Initially we were not sure, how familiar our patients were with digital technology, how many of them were able to operate smart phones and how many of them had access to internet connections. A retrospective view of the utilization of technology during this pandemic, to provide uninterrupted services to our patients availing rehabilitation services is reflected in the case studies discussed below.

Case Report # 1

A 27-year-old single female, educated in a special school, unemployed, hailing from middle socio-economic family, from urban Bangalore with a diagnosis of mild Intellectual Developmental Disability (IQ 52; assessed in 2018) was attending the PRS from 2019. She had a history of epilepsy from the age of 6 months and had myopia. She lived with her parents and her mother, a homemaker, was the primary caregiver.

In 2019, she was brought by her parents for behavioural disturbances (verbal aggression, temper tantrum). She was started on medications. She was attending PRS for activity scheduling and vocational rehabilitation. She used to attend the domestic skills and green skills section. She was attending these sections to strengthen her skills in doing household activities, to improve her attention, concentration and communication skills. Her mother reported that she was slow in her activities and needed repeated instructions to complete a chore like cutting vegetables, making warm water and cooking rice.

Case Report #2

A 31-year-old—single male educated upto Bachelor of Computer Application, hailing from upper middle socio-economic status with 13 years of illness, with a diagnoses of schizophrenia was attending PRS since 2015 for rehabilitation and vocational counselling. Based on social skills assessment proforma, developed at PRS, NIMHANS, the caregiver's wanted him to volunteer to do household jobs and learn communication skills.

He was living with his parents in urban Bangalore, father having retired and mother a homemaker. When he was referred to PRS, he was able to manage his

basic activities of daily living (personal hygiene, grooming, feeding, toileting and mobility). However, his instrumental activities of daily living skills (cooking, shopping, money management, transportation and housekeeping) were poor and limited. He was not able to do bank transactions and unable to shop for personal things.

Audio verbal consent was obtained from the caregiver and all ethical guidelines as prescribed in the Helsinki Declaration, 2013 were adhered.

Both of these cases were among the patients who attended the online sessions regularly. A brief note of the interventions is presented below.

Online ADL Interventions

A recent report estimated that India has more than 504 million active internet users above the age of 5 years. Internet penetration is around 40%, with rural sector growth outpacing the urban sector. Users accessed the internet mostly on mobile devices (99%); nearly 70% of users accessed the internet daily [5].

Interventions delivered through online communities could leverage mutual support among peers, and help promote treatment engagement, reach a wider population including individuals who may be reluctant to seek formal services. There may be opportunities to deliver flexible interventions that allow personalisation by catering to the different needs and preferences of members of the online community [7].

Mode of Delivery

Videos on Activities of daily living were prepared and shared through Google Meet platform on computer. Live demonstrations were also done concurrently.

Frequency and Duration of Sessions

Initially one session a week was conducted. Each session lasted for 45- 60 min. As the patients and family caregivers became more familiar, the sessions were held daily for an hour. The sessions were attended by 6–8 patients at a time.

Proceeding of Session

The sessions began with a review of the previous topic and interaction among the clients. This was followed by the video or live demonstration.

The sessions ended with evaluation questions and encouraging the participants to post photos and videos of return demonstration in the WhatsApp group, created exclusively for this purpose. The WhatsApp group was created with an intention to give the feedback on the sessions; however, after the participants started posting videos of re-demonstrations, it became a platform for appreciation, re-inforcement and clarification as well. Patients and caregivers became comfortable with each other clarifying doubts in this group. In fact some of the family caregivers took on the role of Mental Health Professionals by guiding and motivating other patients in the group.

During the initial sessions, eight caregivers attended the sessions along with the patients as they were curious to know how the sessions were conducted. Subsequently, only three patients required assistance throughout the session. Seven of them needed assistance in the initial stages for logging.

Content of Session

The sessions included hand washing, cooking: demonstrating simple recipes like preparation of tea, coffee, simple vegetable sandwich, *upma*, lime juice and banana milk shake, safety measures in kitchen, washing and cutting vegetables, segregation of coriander and mint leaves, washing vessels, and shopping skills.

Feedback of Sessions

Patients and caregivers were highly appreciative of the sessions. One of the caregivers reported that her patient who was waking up late, was now waking up early and eagerly looking forward to attending the session. Another reported that after the session, the patient became interested in helping her with the household chores. One of the caregivers also mentioned that her patient could eat her breakfast comfortably and get ready for the session, unlike pre-pandemic time when she had to rush with her breakfast to travel and reach the PRS on time. One of

Table 1 Comparison of cases in different areas of ADL

Areas	Case #1	Case #2
ADL before pandemic	Was coming to PRS. Attending IADL section and green skills section Used to help with few household chores like chopping vegetables and sometimes sweeping and mopping.	Was coming to PRS Was not very keen on doing household chores. Sometimes he used to segregate leaves
ADL during pandemic	Lethargic Not very active Waking up late Not engaged in activities	Few household chores like sometimes watering the plants, segregating leaves Waking up late No schedule Watching television and playing on mobile
Changes after online sessions and Areas of improvement	Active Wakes up early and gets ready Has a schedule Shows keen interest in the online sessions Cooks with supervision Washes spoons and glasses Able to fix the jar of a mixer Takes initiative to do what is taught in online sessions Recalls the ingredients of a recipe	Wakes up early Interested Has a schedule Has developed interest in cooking Makes a snack independently Able to recall the ingredients Self motivated
Motivational factors	Peer appreciation in the WhatsApp group Instructions from the instructor Family support Re-inforcement Able to attend classes from comfort of home	Can attend from home Family support by encouraging and buying things. Instructions from instructor Peer appreciation in the WhatsApp group
Challenges	Network issues Vision problem	Network issues

the patients said the sessions were simple and easily understandable.

The patients were very happy initially when they could see each other and the staff of PRS when they logged in. The comparison of cases in different areas of ADL is given in Table 1.

Discussion

The cases discussed above were patients availing services at Psychiatric Rehabilitation Services, NIMHANS. Individuals on the road to recovery need to be supported with online meetings, tele therapy, phone and video consultation to assure them that they are not alone during the pandemic. Tele-mental health

services can ensure continuity of care and can address the rehabilitation gap due to the pandemic crisis.

In the fight against COVID-19 pandemic, it was important to address mental health challenges and develop strategies and interventions to ensure continued quality care. Amir (2020) emphasized that it is imperative to develop home-based rehabilitation strategies such as telepsychiatry to continue therapy for them. Telecommunication and internet-based communication services aid supervision of home-based rehabilitation especially when daycare and other services are closed or unavailable [5]

In the pandemic era there are limited activities that persons with or without mental health problems can engage in at home [2]. The same has been reflected in the cases discussed above where caregivers found it

difficult to engage the patients at home during the pandemic.

The routine of activities of daily living established through the rehabilitation methods that were disrupted due to the pandemic, may take a long time to be restored. The additional, unexpected burden on family caregivers would increase their caregiver stress and affect care giving [10]. In contrast, the cases discussed above revealed that online interventions were able to facilitate IADL in patients. Caregivers expressed some relief in caregiving. This mode of teaching also increased caregiver involvement in the training sessions.

Naslund et al., [7] reported that people with serious mental illness benefit from interacting with peers online. This helps form greater social connectedness, feelings of group belonging and cope with day-to-day challenges of living with a mental illness by sharing personal stories and strategies of handling problems. This provides a means of social re-inforcement and broadens the scope of communication especially in patients who have poor social skills.. Interventions could be adaptive, by integrating feedback from peers within the network and making improvements to intervention design and delivery in real time. However, online platform has its own challenges, privacy is the major concern.

Similar experiences are reflected in the cases discussed above where peer support was one of the motivating factors.

A few challenges faced during online sessions included the following: In the initial stages there were network issues at ROSes Cafe and arrangements were made for LAN connection for uninterrupted network.

Some patients had network issues and were unable to consistently attend sessions. The sessions were repeated after a week for them.

Some patients had only one device at home for multiple users, hence, they could attend only when it was feasible.

Initially some family members and patients needed guidance and repeated instructions to use the Google Meet platform. The instructor was not tech savvy but learnt very quickly to teach through online platform.

This study shows that online interventions are feasible; however, the limitation is that the study did not use any scale based assessments for pre and post intervention.

Conclusion

In this pandemic era, with social distancing, use of technology provides a novel opportunity for rehabilitating persons with mental illness as well. In both cases discussed, the online session has facilitated in IADL functioning and keeping them engaged. It has also given an opportunity to the caregivers to be involved in the training. Future studies may determine the effectiveness of online interventions to address the gap. Reviews note that tele-mental health is cost-effective, especially with a larger volume of patients, in isolated communities or those with limited professional resources; can involve non-professional providers to play effective roles in therapy. Telerehabilitation also has its challenges. People may lack access to smart devices or computers, especially if multiple users use the same device, or may have difficulty using devices and software effectively.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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