

Telemedicine in psychiatric care in the community and its satisfaction by outpatients during the COVID-19 outbreak in St. Petersburg, Russia

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The process of reorganizing psychiatric day clinics to telecommunication services during the COVID-19 pandemic in St. Petersburg, Russia, is described in this article. This study aims to provide a brief assessment of outpatient psychiatric care in the community users feedback about the technical availability and satisfaction of new telemedicine services provided. 151 patients with mental disorders filled out a short structured questionnaire. All the patients surveyed received outpatient psychiatric treatment at day centers in the first two weeks of May 2020. This study demonstrated a high degree of satisfaction in telemedicine services among users of psychiatric care. It was found that majority of patients were technically ready to switch to telepsychiatry care, and had a positive feedback about the use of the service. Based on the authors of the article experience, telepsychiatry proved to be the accessible mean of providing outpatient psychiatric care during the current COVID-19 pandemic.

Keywords: community psychiatric care, mental health, service users, day clinic, telepsychiatry.

Introduction

The COVID-19 pandemic is undoubtedly a challenge for the health systems of all countries and affects not only inpatient care, but also outpatient care. It is widely known that natural disasters and epidemics can have a direct impact on the mental health. The COVID-19 crisis has challenged the mental health care systems [1], and they have rapidly changed during the pandemic [2]. A study in Russia reported that outpatients with mental disorders experienced an increase in stress and anxiety during the COVID-19 pandemic [3]. The reported increase in need for treatment in patients with mental disorders in countries that were the first to experience the effects of COVID-19 restrictions should be taken into account in the planning and implementation of all emergency measures [4–6]. In this context, minimizing the predicted adverse effects of COVID-19 on the mental health and well-being of patients with mental disorders is a priority.

It is clear that psychiatric care for patients during the COVID-19 pandemic should not be interrupted despite restrictions on movement [7], as loss of access to psychiatric care will increase the need for care [6] and will have invaluable long-term negative consequences for service users and the entire health system. Continuity of care has become one of the key issues in mental-health care provision [8]. The Italian experience has shown that the closure of day-care facilities and restriction of home visits to patients during the COVID-19 pandemic have produced significant stresses on people with disabling mental illness [9].

Psychiatrists have an urgent task to determine the best way to provide psychiatric care to vulnerable groups of people during the COVID-19 pandemic to prevent mass hospital admissions due to routing mismanagement. Online clinics and treatment in the community can respond to this request [10]. The use of teleservices in psychiatry to deal with the negative effects of the pandemic at both the personal and social levels has been proposed [11]. In order to minimize patients' personal contact with physicians and to prevent mental disorders during forced self-isolation, the use of video consultations via smartphones, tablets, or computers particularly helpful [12; 13].

After the transition to deinstitutionalization in most countries, priority in psychiatric care is given to community treatment, with hospitals generally reserved for acute and crisis episodes [14]. Russia has a long history of providing psychiatric care in the community [15]. The current extensive network of outpatient psychiatric centers in Russia (including home-based outpatient departments, dispensaries, outpatient departments of psychiatric hospitals, day care centers, psychiatric and psychotherapeutic offices in general hospitals and polyclinics) may have an invaluable impact on reducing the negative consequences of the COVID-19 outbreak on the well-being of the population and patients with mental disorders.

The authors of this article are practicing psychiatrists, employees of one of the largest psychiatric hospitals in St. Petersburg, which combines all modern types of psychiatric care (both inpatient and outpatient). The specific feature of providing psychiatric care in day care centers in Russia is that, with the exception of rare cases, a patient has to visit the center every day to communicate with a psychiatrist, to conduct examinations and for rehabilitation. A special point of state psychiatric care in the community in St. Petersburg, Russia, is the provision of free medication to patients [16], that is why during the COVID-19 outbreak such care could not be stopped, but the order of its provision was significantly reorganized.

This article presents a summary of the reorganization process of outpatient mental health care services in the Psychiatric Hospital No. 1 named after P.P.Kashchenko during the COVID-19 outbreak, as well as the results of a study aimed at a brief assessment of outpatient psychiatric care in the community users feedback about the technical availability and satisfaction of new telemedicine services provided to them.

Methods

Procedure

The study was conducted in the first 2 weeks of May 2020 in St. Petersburg, Russia, in day care centers providing outpatient psychiatric care in the community. A short questionnaire was developed, which patients were asked to fill out when interacting with their treatment physicians. The study was confidential, which suggested that although

questionnaires were forwarded to patients by their treatment physicians, further data processing was conducted by researchers not involved in the treatment of specific patients. Patients could not be identified on the basis of the questionnaire data. For the online questionnaire, the *questionpro.com* platform was used. All the patients included in the survey received voluntary outpatient psychiatric care in the community and their mental condition met the criteria for referral to a day care center. The questionnaire included a section with structured questions about patients' technical availability to use telemedicine services, the experience and satisfaction of telemedicine use during current treatment in outpatient day care services, as well as questions about the sex, age and diagnosis of the mental disorder. Participation in the study required completing an informed consent. The study was approved by an ethics committee of the St. Petersburg State University.

Statistical analysis

The results were statistically processed using standard methods of parametric and non-parametric statistics. The critical level of significance was taken as $p=0.05$. To describe categorical variables absolute values and percentages were used — n (%). Variables having continuous nature of distribution were described by mean and standard deviation ($M \pm \sigma$). Pearson's Chi Square (χ^2) criterion was used for comparing qualitative data. The material was statistically processed on a PC using the standard package of applied statistical analysis software — SPSS v 15.0 and MS Excel 2016.

Results

The process of community outpatient psychiatric care reorganization during the COVID-19 outbreak in St. Petersburg, Russia

In the work with outpatients with mental disorders in the community in Psychiatric Hospital No. 1 named after P. P. Kashchenko during the COVID-19 outbreak the emphasis was placed on the continuation of outpatient treatment with rapid transition to telecommunication services. Our centers are staffed by a team of young professionals actively using all modern means of communication, and for many years electronic document management has been used, so it was not difficult for our employees to switch to the new mode of work. Although there was no structured assessment of employee satisfaction with the innovations, during this period all of them expressed their willingness to use remote methods in their work with patients. The visits required to obtain medication were made as infrequent as possible, and consultations were switched to online when possible.

The application of telemedicine technologies in Russia is regulated by the Federal Law, adopted in 2017. According to this law, consultations with the use of telemedical technologies by the treatment physician can be carried out after an in-person appointment (examination, consultation). Therefore, we could not fully switch to online consultation, and in the case of initial requests for assistance the first consultation was held offline in the clinic using all means to prevent a new coronavirus infection. Later, when it was possible and the patient agreed, a transfer to online consultation was made. To ensure technical feasibility, the hospital purchased special equipment (video cameras, microphones and headphones) and installed special software.

The issues of selecting an online platform through which remote care was provided were decided individually with patient involvement. Consideration was given to the patient's technical equipment (a personal computer, tablet or only a smartphone), software already available to the patient and free access to the Internet for the patient. The priority in choosing an online platform was to protect the privacy of the conversation with a doctor or psychologist, to protect the patient's personal data, as well as the availability of the technology for the patient. In this regard, all available video communication channels (Skype, Zoom, Google Meet, Facetime) as well as the most common messengers providing encryption (video calls on WhatsApp, calls using Telegram) were used. If the specialist knew the patient well and could identify them by voice, it was possible to use a telephone conversation to solve simple urgent questions. When choosing an application, patients often focused on software already installed on their phones (e.g., Facetime, video calls using WhatsApp), but also easily agreed to install other software (such as Skype, Zoom, Google Meet). An argument for installing new software on the patient's personal computer (laptop, tablet) was, among other things, that it allowed for a more secure connection during a conversation with a doctor, who in this case was connected from the office computer in the department. However, some patients still preferred to use video communication through their existing messengers, the most popular in this case being video calls through WhatsApp, because this application was installed almost by all patients. During the video conferences, psychiatrists, psychotherapists and psychologists provided consultations, and, if necessary, correction of treatment was made. Prescription of a new drug could not be carried out online, because the new drug could be handed out only in the clinic. New patients could not be diagnosed online, as it is prohibited by federal legislation in Russia. The number and frequency of online consultations was determined for each patient individually based on their condition (from daily to weekly). If the patient's condition allowed holding consultations less than once a week, it was an indication for transfer regarding further treatment to a psychoneurological dispensary, where outpatient care continued. Messengers and phone calls were used to communicate with patients; for example, to remind them of the time of the online meeting when necessary, and when patients gave their consent. All medical records in our centers continued to be maintained in accordance with the Russian Federation legislation.

If it was required to intensify treatment, patients with deteriorating mental conditions were transferred to home treatment with doctors and medical staff regularly performing check-ups and providing the necessary medication. Since there was no complete quarantine in St. Petersburg, people under 65 were allowed to leave the house in case of emergency. In exceptional cases, if a patient has refused to use telepsychiatry services, patient's visits were carried out in person. If it was necessary to have a face-to-face examination by a doctor in order to perform routine injections of long-lasting antipsychotics, such a visit was carried out either by means of a home visit by a medical team, or in specially equipped rooms fully accessible for sanitary measures, which were carried out immediately after each use of such rooms. All formal recommendations aimed at preventing new coronavirus infections by patients and staff were promptly implemented.

Experts in ergotherapy recorded a series of video lectures and lessons on a specially designed YouTube channel, so that patients could follow the lessons at home with the equipment available to them. The Psychotherapeutic and Psychological Departments of the Hospital have started to provide free anonymous remote consultations to the city's

population in order to prevent the development of common mental disorders (hotlines, online consultation, etc.). Free video-lectures were also specially recorded on social networks for the public with basic information and recommendations to combat various types of stress during the self-isolation period. Special emphasis was placed on enabling the staff of the Hospital to receive free counselling from psychotherapists and psychologists for stress reduction.

The reorganization of our day care centers was launched at the end of March 2020, immediately after the introduction of self-isolation recommendations for the population in Russia. By mid-April 2020, the new system of outpatient psychiatric care in the community was already in active use. We needed to determine patient satisfaction with the changes introduced in the organization of outpatient community services to form a further development plan for our service during the ongoing COVID-19 pandemic.

Descriptive characteristics

204 patients who sought help during the study period were offered to participate in the study. 151 people (60.9% women) aged 18 to 70 years (mean age 34.4 ± 12.9) agreed to participate in the study. The distribution of diagnoses of the surveyed patients under the ICD-10 rubrics is presented in Table 1. Almost half of the surveyed patients had a diagnosis of schizophrenia spectrum disorders. Statistics on specific nosological diagnoses are not presented due to high heterogeneity of differences. Demographic characteristics of the surveyed patients are presented in Table 2.

Table 1. Frequency of ICD-10 diagnoses among service users (n=151)

ICD-10 diagnostic rubrics	<i>n</i>	%
Other mental disorders due to brain damage and dysfunction and to physical disease (F06)	27	17.9
Schizophrenia, schizotypal and delusional disorders (F20-F29)	75	49.7
Mood [affective] disorders (F30-F39)	14	9.3
Neurotic, stress-related and somatoform disorders (F40-F48)	25	16.5
Disorders of adult personality and behaviour (F60-F61)	10	6.6

Experience of telemedicine use

All patients had the experience of working remotely with specialists providing outpatient psychiatric care in the community (by telephone, videocall, etc.), but some patients abandoned the remote form of care in favour of face-to-face meetings only (Table 2). Patients cited lack of technical equipment, fear that the conversation with the psychiatrist may be heard by outsiders (e.g., neighbors or relatives), fear of using modern means of video communication (and concern that after such work, patients may be followed through the device used by the patient) among the reasons for refusing remote form of interaction with specialists. In general, the vast majority of patients surveyed rated their experience with remote forms of care as positive. Only five patients from the entire sample

Table 2. Demographic characteristics and experience of telemedicine use of examined patients

Items	Other mental disorders due to brain damage and dysfunction and to physical disease (F06) (n = 27)	Schizophrenia, schizotypal and delusional disorders (F20-F29) (n = 75)	Mood [affective] disorders (F30-F39) (n = 14)	Neurotic, stress-related and somatoform disorders (F40-F48) (n = 25)	Disorders of adult personality and behaviour (F60-F61) (n = 10)	χ^2 (df), p
	n (%)	n (%)	n (%)	n (%)	n (%)	
Sex						$\chi^2(4) = 10.47, p = 0.033$
Male	11 (40.7)	36 (48)	3 (21.4)	4 (16)	5 (50)	
Female	16 (59.3)	39 (52)	11 (78.6)	21 (84)	5 (50)	
Age						$\chi^2(12) = 20.97, p = 0.051$
18-25	8 (29.6)	22 (29.3)	4 (28.6)	14 (56)	8 (80)	
26-40	6 (22.2)	29 (38.7)	6 (42.8)	7 (28)	1 (10)	
41-55	9 (33.3)	19 (25.3)	2 (14.3)	3 (12)	1 (10)	
>55	4 (14.8)	5 (6.7)	2 (14.3)	1 (4)	0	
Experience of telemedicine use						$\chi^2(4) = 1.48, p = 0.83$
Agreed to use telemedicine in treatment	21 (77.8)	55 (73.3)	12 (85.7)	20 (80)	7 (70)	
Refused to continue the remote form of interaction with specialists	6 (22.2)	20 (26.7)	2 (14.3)	5 (20)	3 (30)	
Patient's feedback on experience with remote forms of care						$\chi^2(8) = 9.91, p = 0.271$
Positive experience	17 (63)	41 (54.7)	8 (57.1)	18 (72)	5 (50)	
Neutral experience	5 (29.4)	18 (24)	5 (35.7)	3 (12)	3 (30)	
Negative experience	1 (3.7)	4 (5.3)	0	0	2 (20)	
Technical readiness to use remote forms of care						$\chi^2(8) = 5.98, p = 0.649$
Were technically ready	17 (63)	46 (61.3)	9 (64.3)	18 (72)	4 (40)	
Had devices, but did not have software	3 (11.1)	11 (14.7)	3 (21.4)	3 (12)	3 (30)	
Did not have remote operation devices	3 (11.1)	6 (8)	1 (7.1)	0	1 (10)	

gave an extremely negative assessment of this experience (all of them refused to use the remote form of interaction with specialists). It is important to note that only 7.3% of the total number of patients surveyed were not technically ready to switch to remote forms of psychiatric care. Most patients, on the other hand, had both the technical means and the software or could easily install it. There were no statistically significant differences between frequency of use, satisfaction indicators and technical readiness to use telemedicine technologies in patients with different diagnoses.

Discussion

This article describes the experience of outpatient psychiatric services in the community in St. Petersburg, Russia, during the COVID-19 pandemic. We chose the strategy of continuation of our services with rapid reorganization of psychiatric care with active use of telemedicine. This study demonstrated a high degree of satisfaction among users of psychiatric care with the changes made.

The objectives of our study did not include recording the number of online sessions with patients. However, taking into account the rules of receiving treatment in day care centers in St. Petersburg, we can state that all patients who agreed to continue treatment in a remote mode, had at least several consultations with psychiatrists, psychotherapists or psychologists every week during the quarantine period, starting from April 2020 until the end of the study (i.e. from two to six weeks of treatment in a day care center using remote methods).

In our study, we did not specify patient feedback on specific applications for online video communications due to the large variety of applications used and the relatively small sample. However, taking into account the specifics of psychiatric care during this period, we further clarify that online consultation during the study period was considered to be a consultation with the patient through online video communication with the individual choice of application, based on the technical capabilities of the patient. And the use of telephone and encrypted messengers was an additional opportunity to get information about the patient when they were not online at the planned time, or when it was necessary to discuss with the patient organizational issues of the treatment.

Although at the time of our decision to switch to telemedicine, we did not yet know enough about the experience of other countries, recent publications show general ideas to switch outpatient psychiatric care online on different continents. For example, in anticipation of the surge of COVID-19 cases in Northern California, USA, UC Davis Health's outpatient psychiatric clinic was transformed into a 100% telepsychiatric clinic [17]. According to the clinic's specialists, patient satisfaction with the reform was high, which confirms our results. Continued work with outpatients in Italy during the COVID-19 pandemic, using even the simplest means of telecommunication (e.g. telephone), showed a significant positive effect on the therapeutic process, and with the use of simple means of video communication available to everyone, the treatment effect was even better [18]. Nepal's experience shows that when there is no internet, telephone conversations or even short message service can be a direct and affordable way to provide medical assistance remotely [19]. Our experience shows that telephone conversations can be used mainly with familiar patients and have limitations in case the patient does not know the specialist personally due to possible difficulties in identifying the patient and the risk of breach of medical

confidentiality. Outpatient psychiatrists who used telemedicine during the COVID-19 outbreak were also largely positive about the transition to remote forms of care, although many still preferred face-to-face treatment and planned to return to face-to-face meetings after the pandemic [20].

Despite the growing popularity of social networks among all age groups, there has been little research on the use of social media for crisis intervention. According to colleagues in China, the WeChat social media platform, despite many challenges, was an effective way to support mental health in Wuhan, China, during the COVID-19 outbreak [21]. In Indonesia, therapists, psychologists, and counselors also used online services (WhatsApp, Google Meet, Zoom cloud meetings, and other platforms) to help people with psychological distress during the COVID-19 outbreak [22]. Our experience has also shown that social networks and messengers can be used to work with patients in special circumstances. However, this situation has demonstrated the urgent need to introduce technologies officially authorized for use in outpatient psychiatric centers for telemedicine, as well as to simplify the legal regulation of such services due to the high social demand for them.

Although there were initially concerns that patients with serious mental illness would be worse able to adapt to the transition to remote psychiatric care, since telehealth for treatment of serious mental illness has been used primarily for occasional individual sessions with known patient [1], our experience has not confirmed these concerns. Patients with schizophrenia spectrum disorders in our study had the same technical equipment, the same low rejection rate and the same satisfaction with telepsychiatry as patients with other mental disorders. This data indicates that remote technologies for psychiatric care can be further implemented in the community for patients not only with common mental disorders, but also with psychotic disorders during supportive treatment. This year's research has shown that smartphones can be an effective way to introduce telepsychiatry services in people with serious mental illness [23]. A few months after the active use of telemedicine, it can be concluded that it is the convenience and accessibility of the Internet and smartphones that allowed psychiatrists and mental health centers to provide online mental health services during the COVID-19 outbreak [24], and to reduce patients' cross-infection in hospitals through online consultations [25].

Limitations

Findings from this study should be interpreted in light of its limitations. The study sample was limited and no significant differences were found between patients with different diagnosis regards to the study endpoints: refusal to continue remote care, patient feedback, and technical readiness. It is therefore difficult to draw a meaningful conclusion from this study with recommendations for action for patients with specific nosology, including the choice of telecommunications method (program, app). Comparatively short term experience of using remote technologies was also taken into account by us as a limitation for drawing long term conclusions. The specifics of the organization of psychiatric and addiction care in Russia involve providing assistance to patients with dementia and actual chemical addictions in separate institutions, so we have no experience in using telepsychiatry with these groups of patients. No patients with intellectual disability were referred to our centers during the period of the study, so we have no experience of working remotely with these patients.

Conclusions

This challenging time gives us a chance to quickly “shake up” approaches to psychiatric care in the community. Based on international and our experience, telepsychiatry has proved to be the accessible mean of providing outpatient psychiatric care during the COVID-19 pandemic and has also made it possible not to stop the care. However, there is an urgent need for up-to-date remote evidence-based interventions training. While the potential and capabilities of telepsychiatry have become evident in recent months, the implementation of modern technologies in psychiatric practice cannot remain without ethical reflection. The assessment of possible consequences on the patients’ lives privacy and the protection of their personal information when using telepsychiatry is more important than ever. Long-term patients’ data security requirements should be developed when using telepsychiatric services. Of course, it is too early to measure the results of any decision to reorganize outpatient psychiatric care during the current crisis, but the lessons learned around the world must be critically evaluated. Strategies and response plans should be developed for possible recurrences of crises of this extent.

Ethics approval. Approval was obtained from the ethics committee of St. Petersburg State University. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

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