



Review

Tele-psychiatry

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Abstract

Today, the prevalence of psychiatric disorders is rising, and a significant number of individuals with psychiatric disorders either do not have access to treatment or are unable to complete treatment due to lack of adequate follow-up in the long term. Untreated psychiatric disorders create a burden on the individual with the disorder, their families, and society. In addition to the burdens created by psychiatric disorders, there are many other social and organisational obstacles hindering the use of resources and their quality. This is where tele-psychiatry, which refers to the use of electronic communication and information technologies to provide or support remote clinical psychiatric care, comes in. As a tool offering two-way, real-time, interactive and video-based services on the web to provide psychiatric care, tele-psychiatry has the potential to increase access to psychiatric healthcare services, and to improve the quality and availability of care. Increasing the use of tele-psychiatric services, a resource that reflects the advances that have been made in science and technology and applied to the field of healthcare, can provide greater flexibility, allowing healthcare professionals to use their time effectively in administering strong quality care, while, at the same time, offer solutions that address the issue of individuals avoiding the use of psychiatric services due to feeling stigmatized. In the light of these advantages, more studies on increasing the availability of tele-psychiatry services in Turkey should be planned.

Keywords: Tele-health, tele-medicine; tele-nursing; tele-psychiatry.

What is known on this subject?

- Tele-medicine and tele-psychiatry were first developed to increase access to healthcare services for people living in rural or low population areas. However, in many countries, this practice has not been implemented as part of the psychiatric services offered.

What is the contribution of this paper?

- Tele-psychiatry has the potential to increase access to psychiatric healthcare services, and to improve the quality and availability of care in the treatment of various psychiatric disorders. It can also potentially reduce the number of mental illness cases that have been left untreated due to various barriers or have a positive impact on the treatment and course of the disease. With the many advantages it provides, tele-psychiatric services have grown in prevalence.

What is its contribution to the practice?

- The results of this study indicate that more research on tele-psychiatric services should be planned and that the advantages and potential areas of use of these services should be clearly identified. Furthermore, it can be recommended that tele-psychiatric services should be covered by insurance.

In this information age, rapid advances in information and communication technologies have resulted in fundamental changes to people's cultural, social, educational, and healthcare needs. These deep-rooted changes have created a demand whereby people's needs are able to be met in any place or at any time, that is, without any time or place constraints. The fundamental change these needs have produced on human behaviour has had an impact on healthcare, playing a part in the creation of new service areas, such as tele-health and tele-nursing.^[1,2] Tele-health involves both clinical practices, such as protective, supportive, and therapeutic practices, and non-clinical practices, such as training regulations and practice rules, maintenance of patient records, and electronic referral procedures.^[3] Tele-medicine, a sub-branch of tele-health that includes all of these practices, generally refers to the use of technology to assist in medical practice.^[4] According to the World Health Organization, tele-medicine is defined as a

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means of improving the health of individuals and communities, of preventing diseases and accidents, and of providing healthcare services by using remote, valid information communication methods together with continuous training of healthcare staff on the use of information and communication technologies by healthcare professionals.^[5] Tele-medicine was first developed as a technological tool for increasing access to healthcare services for people living in rural and low population areas.^[6,7] Yet, other relevant factors, including the rise in healthcare costs due to increased population, the need to reduce the number of hospital visits by patients, the obtaining of more efficient benefits from specialists, and the detection of more effective treatment methods by collecting long-term statistical information, have contributed to tele-medicine practices becoming more widespread,^[1] as they offer many advantages in these areas. More specifically, in addition to the clear advantage of facilitating access to those who have difficulty accessing healthcare services, tele-health and tele-medicine practices also provide the benefits of facilitating training practices, decreasing the costs of providing medical care, improving efficiency and continuity,^[6,8] increasing the number of patients physicians can reach and diagnose, and facilitating the treatment of patients with limited mobility.^[9] In terms of geriatric patients, tele-medicine practices offer various advantages, including reducing the length and cost of hospital stays, increasing patient satisfaction, and decreasing the burden of care on families.^[7] Moreover, tele-medicine can be used to treat patients at their places of employment to reduce employee absenteeism, an advantage that would greatly benefit employers.^[10] Within the healthcare field itself, tele-health practices offer significant opportunities for nursing, medicine, and other health disciplines.

Tele-Nursing

Tele-nursing is a component of tele-health services that functions to meet the healthcare needs of patients via the use of information, communication, and web-based systems, and it is defined as providing, managing, and coordinating the care and services offered to patients through the use of information and telecommunication technologies. Telecommunication technologies can be integrated into nursing practices, as technology is increasingly being used by a wide range of professionals to provide care and consultation services for patients, as well as distance education or information transfer. Tele-nursing covers an extensive range of nursing care services and mitigates the problems created by distance.^[11]

Although tele-nursing changes the methods used by professional nursing care services, it does not fundamentally change the nature of nursing practices. Nurses who take part in providing tele-nursing services, plan, practice, and evaluate nursing care and continue to follow the routine nursing procedures for the purposes of documentation. They also provide information, guidance, training, and support services within the scope of the educational role of nurses. However, instead of building

therapeutic nurse-patient relationships in person, they build these relationships via phone, computer, internet or other communication technologies.^[12] For example, in tele-nursing, devices placed in the patient's house (thermometers, sphygmomanometer, and stethoscopes etc.) can be connected to transmitters, and nurses can connect to those transmitters and monitor the clinical signs from a distance. Through this method of monitoring, nurses have the opportunity to use their time more effectively. Therefore, tele-health and tele-nursing helps to remove obstacles to the provision of quality healthcare, like geographical location, costs, and time constraints. With this technology, the monitoring of elderly or bed-bound patients can be performed from a distance, allowing patients to stay in their homes, nursing homes, or hospitals. Patient security can be evaluated without the need of the patient sitting in front of a camera or signing on to speak with a nurse.^[13] In addition to this, nurses also have legal and ethical responsibilities, in terms of all the information they acquire and how this relates to securing confidentiality, maintaining relationships and providing professional care.^[12] Moreover, nurses have an important role to play in the tele-health system, where they are tasked with applying critical thinking, producing and transmitting information, and implementing innovations.^[2] Nurses are engaged in the entire nursing process, from collecting data and making assessments to planning for care by conducting interviews on the telephone or with other electronic means of communication. Documentation of patient communications must include a record of the patient's statements and symptoms, care management recommendations, with reference to specific protocols or guidelines, previous interactions with other healthcare providers, if applicable, and the confidentiality measures used to protect clinical data. The patient documents should be recorded as soon as possible.^[14]

Tele-nursing practices can be provided in various settings, including out-patient treatment, call centres, hospital units, the patient's home, emergency rooms, insurance companies, and public health units. To provide safe, efficient, and ethical care in these settings, nurses have various responsibilities, including accessing current information, referring the patient to a relevant expert or consulting with the relevant expert in cases where there is a lack of knowledge or skill, and following ethical codes at every step of the patient care process. When carrying out these responsibilities, some tele-nursing practices require a level of expertise, specialization, and information beyond the level that can be learned from basic nursing training. Therefore, nurses employed in tele-nursing services must have up-to-date, extensive knowledge about their roles. When nurses who are employed in tele-nursing care services are adept in areas such as critical thinking, using evidence-based information and consultancy opportunities, communication, interpersonal relations, and tele-medicine technology, they can provide safe, efficient, and ethical care. Skill and efficiency in tele-nursing can be developed through formal training and/or sufficient guidance. Training programs provide opportunities to review the principles related to com-

munication and interviewing, introducing the technologies used in tele-nursing, and developing and/or increasing the competence of nurses in this field.^[11] In summary, tele-nursing is a growing phenomenon that can be integrated into the service delivery mechanisms of many settings. The curricula developed by nursing educators for basic nursing programs should include subjects related to the development of tele-nursing competencies.^[11]

Tele-Psychiatry

Currently, cases of psychological disorders are gradually increasing. The majority of people with psychiatric disorders either cannot access treatment or are excluded from future treatment courses on account of being unable to access follow up post-treatment due to a fear of stigmatization, a lack of information, or obstacles to socialising, such as social phobia or agoraphobia. Eventually, untreated psychiatric disorders can increase mortality, affect the treatment of other concomitant conditions, or cause a serious burden to individuals, families, and societies. Furthermore, untreated psychiatric disorders can result in immeasurable consumption of financial resources and social problems. On the other hand, since it is accepted that patients with mental disorders should be treated within the framework of the principles of community-based treatment, instead of undergoing hospital-based treatment, it is important, in terms of continuity of treatment, that they receive health care in their own social environment. In the last two decades, efforts have been made to extend the infrastructure of electronic healthcare systems and develop new models in order to improve access to appropriate healthcare services and reduce the social and economic burden of psychiatric diseases. In terms of these electronic healthcare systems, tele-medicine is perhaps the easiest to implement.^[15] The practices related to tele-medicine services within the field of psychiatry are collectively referred to as tele-psychiatry.^[4] In other words, tele-psychiatry is part of a growing trend described as tele-medicine. Tele-psychiatry is defined as the sharing of healthcare information from one place to another via electronic communication methods, where the focus is on psychiatric practices for the improvement of the clinical health of the patient.^[16-18] The concept of tele-psychiatry has been developed secondary to the rise in the use of technology in the provision of healthcare services.^[19] In recent years, the increase in the use of portable computers and the development of reliable communication systems have paved the way for the provision of tele-psychiatry in any place at any time.^[20] Tele-psychiatry includes communication systems connected through video conferencing, landlines and mobile phone lines, computer based internet tools, home based tele-health phones and additional devices.^[21] Moreover, two-way, real-time, interactive, and video-based services on the web are being used for the provision of psychiatric care. Therefore, tele-psychiatry requires strong technological support. Video conferencing has become the most widespread method for the delivery of tele-psychiatry.^[22] To provide or support re-

mote clinical psychiatric care, doctors have access to patients in remote locations with secure video and audio streaming technology through what's called a conference system. When using this system, a psychiatrist or other professional can talk to the patient and physically monitor the patient through a webcam and a video screen equipped with a microphone. Likewise, the patient can see the psychiatrist using an audiovisual device.^[6,16] Thus, tele-psychiatry has the potential to increase access to psychiatric healthcare services, and to improve the quality and availability of care. In particular, mental illnesses left untreated due to fear of stigmatization on the part of the patient or to financial difficulties can potentially reduce or positively affect the treatment and course of the disorders.^[23] Tele-psychiatry is an effective tool for providing quality psychiatric care and services.^[22] As a field, tele-psychiatry can be subdivided according to the service provided. These subdivisions include Home Tele-Psychiatry, Forensic Tele-Psychiatry, Emergency Tele-Psychiatry, and Routine Tele-Psychiatry.^[20]

For Which Disorders Can Tele-Psychiatry Services Be Used?

Tele-psychiatry can be provided to a wide patient population from various cultural backgrounds and can be used in a clinical and academic function. In its clinical function, it can be used for the diagnosis of a patient, management of treatment and care, neurological testing, and provision of psychotherapy. Academic tele-psychiatry can be used for education, training, and research.^[24,25]

According to the results published by a number of controlled studies, online therapies can decrease the severity of the condition of various disorders, including foremost anxiety disorder, as well as sleep disorders, major depression, post-traumatic stress disorder [PTSD], attention deficit hyperactivity disorder [ADHD],^[26] bipolar disorder, panic disorder, bulimia nervosa, social phobia, complicated grief, headaches, and burnout syndrome. Online therapies have been shown to be especially effective in the treatment of PTSD, depression, and ADHD.^[24,25] Moreover, people who have problems undergoing face-to-face treatment due to social phobias and shyness, people with a fear of going out due to agoraphobia, and people who do not for whatever reason agree to face-to-face psychological treatment are able to initiate the psychological support process themselves. In addition to providing greater efficiency for specialists, online therapies also provide opportunities for patients excluded from secondary psychological support due to language barriers in foreign countries and for disabled patients to receive help from a specialist of their choice. According to results reported in one study, although internet-based distance psychological assistance provided in non-conventional settings is not an alternative to face-to-face therapies, it nonetheless has an important role both as an adjunct to face-to-face therapy and as an independent approach in the practice of psychological treatments due to the many advantages of its application.^[27]

Currently, both the number of specialists providing online therapy and the people seeking psychological help via online therapy are gradually increasing. At the present time, due to the positive results of online therapies, as reported by multiple scientific research studies, preconceived thoughts and attitudes of rejection towards this practice have significantly decreased. This practice has not been included as part of the psychiatric services offered in many countries. However, if the reluctance to initiate this practice can be overcome, it could soon be included as part of psychiatric services due to their significant advantages. The fact that international organizations like the American Psychiatry and Psychological associations are putting the issue on their agendas and are carrying out various studies about the practice can be considered as an indicator of increasing acceptance.^[27]

Tele-psychiatry also provides international psychiatric services to patient groups with cultural differences, such as asylum seekers, refugees, and migrants. Transcultural psychiatry requires a high standard of communication between patient and caregiver. Transcultural patients prefer services in their native language via tele-psychiatry, as opposed to care provided with the assistance of a translator.^[22] Therefore, tele-psychiatry practices can be seen as an alternative treatment option in solving the difficulties arising from cultural differences. In addition to these, tele-psychiatric practices provide many other advantages in the provision of healthcare services, including the following.

Advantages of Tele-Psychiatry

- Tele-psychiatry can help patients in need of psychiatric care and can offer cost savings and easier access to better quality care services.^[9]
- Tele-psychiatry increases the patient numbers that physicians can reach and enables diagnosis and facilitates the treatment of patients with limited mobility.^[9]
- It can increase access to effective psychotherapies by patients with psychiatric disorders.^[9]
- Tele-psychiatry practices can mitigate a patient's fear about privacy and stigmatization.^[4]
- It is a useful alternative in settings where face-to-face therapy is not available.^[28]
- Tele-psychiatry helps to make necessary psychiatric care services and treatment more accessible, not only in poor and remote rural areas, but also in urban areas.^[29] At the same time, it provides the opportunity for the psychological development of children and adolescents in different settings, including schools, day care centres, and detention centres.^[30]
- Tele-psychiatry makes the provision of services to patients available across a wide area from a single centre at a lower cost and with a greater use of psychiatric providers, thus creating a cheaper and more attractive option.^[10]
- It improves the quality of life for both psychiatrists and

patients and allows physicians the opportunity to choose where they want to live. It eliminates travel time for the psychiatrists and keeps cost to a minimum,^[8] while at the same time, it enables patients to access psychiatric care without the trouble of delays or compromise to their travels.^[10]

- It creates a new way to ease the workforce problem in the field of psychiatry^[16] and presents a potential solution to the lack of personnel in healthcare services.^[23] In summary, psychiatric care provided via tele-medicine improves the health and welfare of patients, the efficiency of the services provided, and the ability to provide integrated care and to improve the overall mental health of society.^[29]

Disadvantages of Tele-Psychiatry

Although tele-psychiatry has many advantages, it also has some limitations. Existing challenges, such as reimbursement, licensing, privacy, patient safety, and interoperability, as they pertain to providing effective patient care, are examples of these limitations.^[9] Other widespread concerns about tele-psychiatry include stable access to video conferencing and developing necessary security software to protect patient information from being hacked.^[10] Tele-psychiatry in the form of live interactive video conferencing may improve treatment and quality in cases of emergency psychiatric evaluations. The literature on the outcomes of tele-psychiatry services is especially limited.^[31] Tele-psychiatry presents other problems as well, including the lack of direct eye contact and reimbursement issues, the latter of which is one of the potential obstacles to the further expansion of tele-psychiatry services. Other challenges include the lack of guidelines governing the practice of tele-psychiatry, and some practical aspects of privacy and information security. Implementing a protocol based on cryptography technology and/or biometry application would improve the security of patient information.^[22]

Some situations are not appropriate for remote access, such as in cases where the patient has suicidal ideations or intentions, homicidal thoughts or intentions, or violent intentions, to name several.^[4] The limits of tele-medicine is a controversial topic and it is clear that this treatment method is not appropriate for all patients. Further studies are needed to investigate the optimal patient type for the provision of tele-psychiatry.^[18]

Results of International Tele-Psychiatry Practices

The results reported in studies undertaken to evaluate the efficiency of tele-psychiatry services support the use of these types of services. Below are some of these results from the studies:

In a study examining the potential effects of video-conferencing on mental health in the UK, the effectiveness, cost benefits and satisfaction of psychiatric services provided through video conferencing were determined. It was concluded that

video conferencing could improve psychiatric services, especially for patients living far distances from the healthcare facilities.^[18]

In another study investigating tele-psychiatry, it was suggested that tele-psychiatric services could be used in many areas to effectively diagnose and treat various psychiatric disorders, that they have the potential to offer a cost-effective alternative, and that they could increase patients' access to healthcare services and resolve difficulties relating to language and cultural incompatibilities.^[32]

The study by Farrell and McKinnon (2003) highlighted that the use of technology had the potential to improve education, support, and dependency and to reduce the distance between patient and caregiver in rural areas. Moreover, the internet, as an alternative to face-to-face communication, could help overcome obstacles to accessing psychiatric services in rural areas. The study further emphasized that in the case of patients from rural areas who have a fear of stigmatization or other barriers to accessing healthcare, these services could help in the prevention, evaluation, and treatment of serious psychiatric disorders.^[33]

Results of National Tele-Psychiatry Practices

Only a limited number of studies investigating tele-psychiatry services have been conducted at the national level. In examining the studies undertaken in this area, it was observed that it was mainly schizophrenia patients who were followed via telephone calls, and that other tele-psychiatric methods had not been used. Below are some of the results from the studies conducted at the national level:

In the study by Kelleci et al.^[34] (2011) on the views of hospitalized patients in psychiatry clinics on medical treatment and follow-up by telephone, particularly as it regarded medication usage after discharge, it was concluded that patients needed training on the management of their medications and that carrying out this training in hospitals was not expedient, that there was a need for home follow-up and consultations by telephone after discharge, and that the current system was inadequate for meeting this requirement.

In a study conducted with 62 schizophrenia patients and their caregivers in the Kayseri Mental Health Centre, it was determined that tele-psychiatric follow-up via telephone increased the patient's compliance with the treatment, increased social functionality levels, decreased the care burden on the families, reduced emotion and depression levels, and supported the family in providing patient care.^[35]

In a systematic review conducted to evaluate the effectiveness of tele-nursing interventions used in the care of schizophrenia patients, tele-nursing interventions in the form of telephone-based problem-solving intervention extended the amount of time schizophrenia patients spent in the community and reduced the duration of hospitalizations and the number of applications for rehospitalization. At the

same time, it was found that compliance with the psychiatric medical treatment following discharge and social functionality increased, and that the severity of psychiatric symptoms decreased.^[36] In a systematic review investigating the effectiveness of tele-psychiatric interventions on the family members of patients diagnosed with schizophrenia who provide primary care and support, it was determined that, following interventions through video conference and phone calls, depression levels, perception of stress, burden or care, and negative emotional expression levels of the caregivers decreased, and that information about the disorder process and the perception of social support increased. This systematic review suggested that the results of web-based interventions performed via video conference and phone calls were helpful in many ways.^[19] As a result of this positive feedback, it was recommended that nurses use web-based tele-psychiatry services provided via video conference and phone calls for the care of individuals with psychiatric disorders and that further studies be conducted in this area.

Hotlines Providing Psychiatric Services in Turkey

In Turkey, there are a number of hotlines providing services that can be classed under tele-psychiatric services to people who need support and guidance. The services provided by these hotlines are listed below;

- 171 Smoking Cessation Hotline: Calls to the service hotline are received by operators who have training in smoking cessation and provide 24-hour service every day of the week. Moreover, return calls are made at specific times in accordance with the smoking cessation plan to ensure follow-up of the individuals who have decided to call this line and quit smoking.^[37]
- 191 Fight Against Drugs Consultation and Support Hotline: This is a hotline where applicants can receive drug-related assistance that includes the provision of consultation and support services about drugs and relevant information on what departments and consultation services are available in the fight against drugs. 191 can be called from landlines for free and provides services 24 hours a day every day of the week. This hotline has been organized to support and strengthen prevention, treatment and rehabilitation mechanisms.^[38]
- 183 Social Support Hotline This is a hotline that provides information and guidance about services available for women, children, the disabled, the elderly, and relatives of war casualties and war veterans. In addition, callers can report cases of negligence, abuse and violence, or simply call as a precautionary measure to prevent honour killings, and depending on the urgency of the situation, they are immediately referred to the emergency response team officers and/or law enforcement officers within the jurisdiction of the reported event to ensure timely intervention.^[32]

In conclusion, it is quite clear that tele-psychiatry is a practice that has emerged from today's rapidly changing health system and one that benefits both the patient and the clinician. The use of tele-psychiatry will continue to gain momentum in unison with the developments in appropriate technology, the implementation of necessary legal regulations, and the assurances of satisfactory outcomes for patients and third parties.^[20]

In order to reduce the burden created by chronic mental illnesses throughout the world and in Turkey, to improve patient outcomes, to increase the effectiveness of treatment and care practices and to use the increasing health requirements effectively, tele-psychiatry practices should be developed at a national level, and more studies in this field should be conducted. First and foremost, tele-psychiatry services should be offered more widely in areas suffering from a shortage of psychiatric healthcare professionals. It is inevitable that on-site tele-psychiatry practices will be offered in the future. With the insurance payments for tele-psychiatric treatments being provided at the same rate as the payments for face-to-face communication, this developing medical field has the potential for exponential growth. Since the use of technology in healthcare is continuously increasing, it is believed that tele-psychiatric services will be more frequently used in the future.

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