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The Scope of Telepsychiatry on Health Care Services in the United States

Abdulmajeed Alropaish

Itzamna Kukulkan Castaneda Medina

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THE SCOPE OF TELEPSYCHIATRY ON HEALTH CARE SERVICES IN THE UNITED STATES

ABSTRACT

Background and purpose: A fifth of the U.S. population suffers from some mental illness, and their need for attention is increasing, new technologies have permitted telepsychiatry to allow remote attention to this population. This study explores the impact of telepsychiatry on the cost and access of community patients to mental health services.

Methods: A review of the literature in different electronic databases such MEDLINE, PubMed and ScienceDirect was carried out to investigate the scope of telepsychiatry in the community care of patients with mental illness, identifying 479 related articles, of which 35 were included in this study. The search of information was limited to articles and studies written on the English language and published from 2009 to 2020.

Results: Access to telepsychiatry during the last decade has prevailed mainly in rural areas with lack of services and for the care of populations with special needs. It was also found that the use of telepsychiatry is reliability for various psychiatric disorders, allowing its diagnosis, treatment and follow-up. In relation to cost, it was found that it does not increase these and that it can even reduce them in the long term.

Conclusions: The results obtained from this research work can be used to carry out future studies that allow us to continue generating information that supports the advantages and demonstrates the current scope of telepsychiatry and its viability in the future of medical practice.

Key words: Access, community, cost effectiveness, telemental health care and telepsychiatry.

INTRODUCTION

The National Institute of Mental Health reported in 2017 that approximately 50 million adults living in the United States (USA) suffered from mental illness and only half received treatment (NIMH, 2020). According to the search and recruitment firm Merritt Hawkins & Assoc., Psychiatry has been one of the most requested specialties, occupying the second place on 2016, which has revealed a lack of these specialists to serve the population that has required it on various areas of the U.S. (Merritt Hawkins, 2017). The need for access to care and treatment of people on issues related to mental illness increases due to factors such as the crisis in the use of opioids, for which it is estimated that by 2025, the number of existing psychiatrists may only be a third of what will be required (National Council, 2017). In a 2017 report, they have found that mental illness such as Alzheimer's disease among the top 5 leading causes of death in adults and alarming complications of mental illness have occurred as suicide increases, to levels of 14 deaths per 100,000 people died from this consequence (CDC, 2020).

During the last decades, there have been continuous changes in the health care system that have allowed to improving the structure, coverage and financing of the services that have been provided to the population during the attention of their health problems which have been largely thanks to the technological advances that have been incorporated to facilitate the access of users and health service providers such as telemedicine (Shore, 2015).

Telemedicine has been defined as the provision of health services at a distance and through the use of technology (Cohen et. al., 2012). Barnett, Ray, Souza and Mehoratra in 2018, reported that from 2005 to 2017 a number of 217,851 patients made 383,565 telemedicine visits, of which the majority were residents of urban areas and of these 53%, of the visits were in relation to the attention of mental health problems (Barnett, et. al., 2018).

Telepsychiatry has been defined as the process of offering mental health care through electronic communication technologies (Lauckner & Whitten, 2016). Two-thirds of basic health care physicians in the US that they could not offer psychiatric care to the patients and almost 50% of the healthcare facilities located in rural areas have reported shortage in professional psychiatric personnel (Cunningham, 2009; MacDowell, Glasser, Fitts, Nielsen & Hunsaker, 2010). Telepsychiatry has helped in the provision of psychiatric health care services to people who cannot access it and led optimistic health results as shown by its effectiveness in the treatment of various mental conditions, for example, PTSD (post-traumatic stress disorder) (Gros, Yoder, Tuerk, Lozano & Acierno, 2011). Patients who have used telepsychiatry have reported that the service has helped them in terms of cost savings because it reduced traveling and other costs for both parties, that is, the patient and the mental health care physician (Shore, 2013). Telepsychiatry has provided the required mental health care to patients situated in rural regions, homeless and elderly patients, those with mobility issues, and those in prison and the military (Anthony, Mertz & Goss, 2010).

Telepsychiatry has been used to facilitate all the medical procedures, interchange of patient medical history information and interventions with patients who were inaccessible about the cost (Kuo, Ma, Lee & Bourne, 2011). These services has enabled distant health care professionals to recommend medication to patients with difficult and rare cases in the country (Hill, et. al., 2010). Application of technological interventions such as video and voice technology has been used in the implementation of telepsychiatry services to treat patients and has allowed both the patients and mental health care providers to interact through the internet, mobile phones, and teleconferencing (Hubley, Lynch, Schneck, Thomas & Shore, 2016).

The use of telepsychiatry had the potential of achieving both cost-effectiveness and efficiency in the provision of the required services because of the low fixed costs that were obligatory for daily operations. Also, remote monitoring has allowed physicians to follow up with the patients due to the increased easiness of observing (de Almeida, Pinto, Pereira, Pinto & Carvalho, 2010).

Telepsychiatry offered important and effective services that has helped communities in building their ability to provide the required psychiatry services, it has not been limited to the delivery of mental care to underserved areas only but has offered an alternative way of acquiring psychiatric services to families and patients who experienced barriers and constraints to care (Mohr, 2009). The advantages of telepsychiatry have not limited to providing and improving mental health care as it has helped the physicians to expand their services. Furthermore telecommunication devices were used in the provision of medical processes such as diagnosis and mental care of patients in different geographic locations from the medical providers (Deslich, Stec, Tomblin, & Coustasse, 2013).

The purpose of this investigation was to provide insights on telepsychiatry services in the U.S. as reflected in the research and the possible impacts of its application to both the community and the individual patients. The study explored the impact of telepsychiatry services application based on the cost and the access of patients to the services. Also, this study was intended to determine the reliability and satisfaction aspect of telepsychiatry services to all patients.

METHODOLOGY

This literature review was carried out to investigate the scope that telepsychiatry has had in the community care of patients mental health in the United States. The primary hypothesis of this research study was that telepsychiatry helped in providing access to mental health care

attention to the people. The secondary hypothesis was that telepsychiatry led to cost savings by providing mental attention to different groups of people with difficulty in accessing these health services.

Collection of Information

The electronic databases used during the literature research were MEDLINE, PubMed, ScienceDirect, Google and Google Scholar. The search of information was limited to articles and studies written on the English language and published from 2009 to 2020. Articles that did not contain any content related to telepsychiatry were excluded. The different keywords used on the searching were “telepsychiatry” OR “telemental health care” OR “telemedicine” AND “cost savings” OR “cost effectiveness” OR “access” AND “community” OR “patients”. Reputable web pages were used during the research such as: the Centers for Disease Control and Prevention (CDC), the National Council for Behavioral Health (National Council) and the National Institute of Mental Health (NIMH) were also referenced for relevant information.

The search and review identified 479 appropriate references and articles were excluded (N=444) that did not meet the requirements, while included (N=35) that described telepsychiatry, telemedicine or telemental health. Articles from other sources (N=3). This 35 references were subject to full text review, and these 35 citations were included in data abstraction and analysis. Only 10 references were used on the results section. This can be consulted on PRISMA flow (Figure 1).

Analysis of Literature and Information

After a thorough literature review and search, original articles, reviews, and research studies including primary and secondary data were included. The most appropriate studies and

articles were identified, selected, and applied. The analysis of literature and information was informative. The literature search was conducted by A.A., and I.C., and would be validated by A.C., who acted as a second reader and confirmed that the references met the research study inclusion criteria. As part of this research work, a semi-structured interview face to face was designed and approved by the IRB, consisting of ten open questions (appendix 1) related to telepsychiatry and that the secondary investigators would ask the principal investigator or another telepsychiatry expert after signing the corresponding informed consent, with which qualitative data can be obtained, but could not be carried out due to the contingency related to the COVID 19 pandemic.

Conceptual Framework

The concentration for this research study followed the steps of a systematic approach. The conceptual framework of this research explained the use of telepsychiatry by patients in an abundance of studies of heterogeneous quality. The research method, illustrated by Table 1, is an adaption of the framework by Yao, et. al., showing the benefits and barriers to use of telepsychiatry in to the community. The use of this framework was appropriate because it portrayed the importance of telepsychiatry (Yao, et. al., 2010).

RESULTS

Access to telepsychiatry

During the period from 2010 to 2017 in the U.S., telepsychiatry care was provided by approximately twice as many mental health centers, preferably in rural areas or with lacking medical services (Spivak, et. al., 2020). Mahmoud and Vogt in 2019, reported that the implementation of telepsychiatry has been making it possible to overcome some of the barriers that allow effective and economic access in patients with opioid use disorder, so they

recommend that the adoption of this modality should be implemented to improve care of these patients (Mahmoud, and Vogt, 2019). Another group of the population that has been found to have benefited from the use of telepsychiatry has been the population under geriatric care, which was reported as a large group of the population that has been in continuous growth in the development of mental pathologies such as depression, anxiety and neurocognitive impairment, which was why during the literary review carried out we found that the use of telepsychiatry has been shown to be very useful for early diagnosis and the application of cognitive tests in this population (Glover, 2017).

Satisfaction of both the patient and physician using telepsychiatry

Patient and physician satisfaction has been a requirement in using telepsychiatry as it was true based on the emphasis of patient experience about the quality of health care as a vital element of the Triple Aim Framework, through which various healthcare facilities inventions were assessed and measured (Williams, et al., 2014). Some articles and studies showed that child and adult patients stated that they were satisfied with telepsychiatry while one of the studies confirmed that mental health care physicians chose telepsychiatry over cell phone-based session (George, Hamilton & Baker, 2012; Mitchell, MacLaren, Morton & Carachi 2009). Also, other health care providers such as emergency room providers have reported that they were satisfied with telepsychiatry (Saurman, Kirby & Lyle, 2015; Gibson, O'Donnell, Coulson & Kakepetum-Schultz, 2011). Some other physicians reported concerns about the possible antagonistic effects of telepsychiatry certain aspects such as therapy (Sinclair, Holloway, Riley, & Auret, 2013; Ertelt, et al., 2011).

The use of telepsychiatry has been shown to be a tool that could help reduce the dissatisfaction of patients who experience a significant delay in their care due to excessive demand for mental health care in the area where they live or to deficiency of specialists

(Gillis, 2015); On the other hand, it has also permitted cases of exhaustion to decrease among psychiatrists who present long working hours in hospitals or facilities in the absence of other professionals that could provide this care, which has been shown to allow them to offer better services to patients and providers, yielding results of satisfaction comparable to the meetings that were held face to face (Gardner, Plaven, Yellowlees, and Shore, 2020).

Reliability of telepsychiatry

There were highly reliable outcomes when using telepsychiatry in children and adults, then even though diagnostic procedures that were performed through telepsychiatry were reliable when using translators, there were high results associated with telepsychiatry reliability (Yellowlees, et. al., 2013). On studies conducted in children and adolescents, the use of telepsychiatry has demonstrated its reliability when evaluating these patients and their families in conditions such as attention deficit with or without hyperactivity disorder, social anxiety or autism spectrum disorder, as well as during the application of instruments that made it possible to evaluate the diagnosis, evolution and treatment (Doyen, et. al., 2018).

Cost-Effective in telepsychiatry

Various studies evaluated the cost of telepsychiatry based on the physician's viewpoint, medical materials, and compensation (Fortney, Maciejewski, Tripathi, Deen & Pyne, 2011; Butler & Yellowlees, 2012). There has been no universally accepted method for analyzing the cost-effectiveness of telepsychiatry. However, the findings from studies conducted over the years helped in gaining insight into whether the introduction of the telepsychiatry model within healthcare institutions would be a cost-effective approach. The focus of most studies in evaluating the cost-effectiveness of telepsychiatry has been on the direct costs of provider time, technology, reimbursement, and medical supplies. Fortney, et. al., (2011) found that telemedicine-based collaborative care did not increase the overall costs and workload for

mental healthcare providers. The reduced costs could be in terms of the travel time that would have been incurred on the patient's side if they were to travel to the healthcare facility.

Despite its cost-effectiveness, it would be imperative to consider the possible implications it would come with because insurance might not cover the overall costs. Telepsychiatry was associated with more upfront costs, although depending on the population being served, these might be recovered after a specific number of sessions (Math, et. al., 2017).

Would be imperative to note that the cost of telepsychiatry could differ depending on the location, i.e. urban or rural. Various studies evaluated the cost of telepsychiatry based on the physician's viewpoint, medical materials and compensation (Fortney, et. al., 2011; Butler & Yellowlees, 2012). It has been reported that the cost of patient care using telepsychiatry decreased the cost of care by 10% compared to in-person care, and that the higher the volume of care, the greater the savings, as mentioned that the investment made in technology such as computers, tablets and other technologies must be considered in order to provide this service (Behere, Mansharamani, and Kumar, 2017).

DISSCUSION

As deficiency of access to psychiatry services for many people all over the world was a major problem, the research purpose of this paper was too deeply look and examine the widespread of telepsychiatry in tackling the inadequate access, the trends and status, and its success in the treatment of diverse mental diseases in the United States. Little was acknowledged about the scope of telepsychiatry and its impact on health care services and long-term success (Lauckner & Whitten, 2016). Telepsychiatry services were assessed and measured based on the Triple Aim Framework that addressed the satisfaction of both patients and physicians, the quality of mental health care provided, and the effective cost. Over 98,000 patients have been registered on telepsychiatry health care services in just four years leading to clinical success

and increased use of these services (Godleski, Darkins & Peters, 2012). There has been a clear need for telepsychiatry services in contexts such as child psychiatry and students so that they could also be provided with quality mental health care (Detweiler, et, al., 2011). Patients who used these telepsychiatry services were diagnosed, evaluated, treated, and educated about their condition. With the stable network of phone services in the US, this way of treatment conveyed high chances of providing and improving mental health care services (de Almeida, Pinto, Pereira, Pinto & Carvalho, 2010).

Summary results

Results from the research specified that telepsychiatry programs mostly targeted the vulnerable populations, that is, often the elderly and children, since most of them relied on funds or somebody, either their family members. All these individuals from the populations needed to be satisfied by the services delivered, and this could only be achieved if high-quality services were offered, whereby quality health care was an essential component in the Triple Aim Framework. From various studies and articles, most of them were satisfied with telepsychiatry programs (Williams, LaRocca, Chang, Trinh, Fava, Kvedar & Yeung, 2014; George, Hamilton & Baker, 2012). The same applies to mental health care providers (physicians). Also, accessibility and reliability were common aspects to be considered concerning telepsychiatry; that is, the outcomes allied were positive and highly reliable (Yellowlees, Odor, Iosif, Parish, Nafiz, Patrice & Hilty 2013). Lastly, the results indicated that telepsychiatry was cost-effective according to the perceptions of physicians, individuals with mental problems who have accessed its services, reimbursement, and medicinal resources (Butler & Yellowlees, 2012).

Limitations

Although the study was completed successfully, there were some limitations. First of all, the keywords used might not have been comprehensive enough to entail all uses and advantages of telepsychiatry. However, since the search and review involved 479 citations that were identified, most of them were screened then excluded. For the research to be completed, the reference materials had to include and describe the experiences and outcomes of telepsychiatry programs. Most databases were not scholarly; therefore, they could not be used even though they have the correct information. Besides, the publications to be used were to be within the last 10 years, and this limits the general scope of the conclusions depicted.

Practical implications

Thus, generally, the research reveals that telepsychiatry programs are more effective in increasing access to psychiatry (addressing limited access issue) and lead to optimal clinical outcomes.

Conclusion

The results obtained from this research work can be used to carry out future studies that allow us to continue generating information that supports the advantages and demonstrates the current scope of telepsychiatry and its viability in the future of medical practice.

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Ten questions:

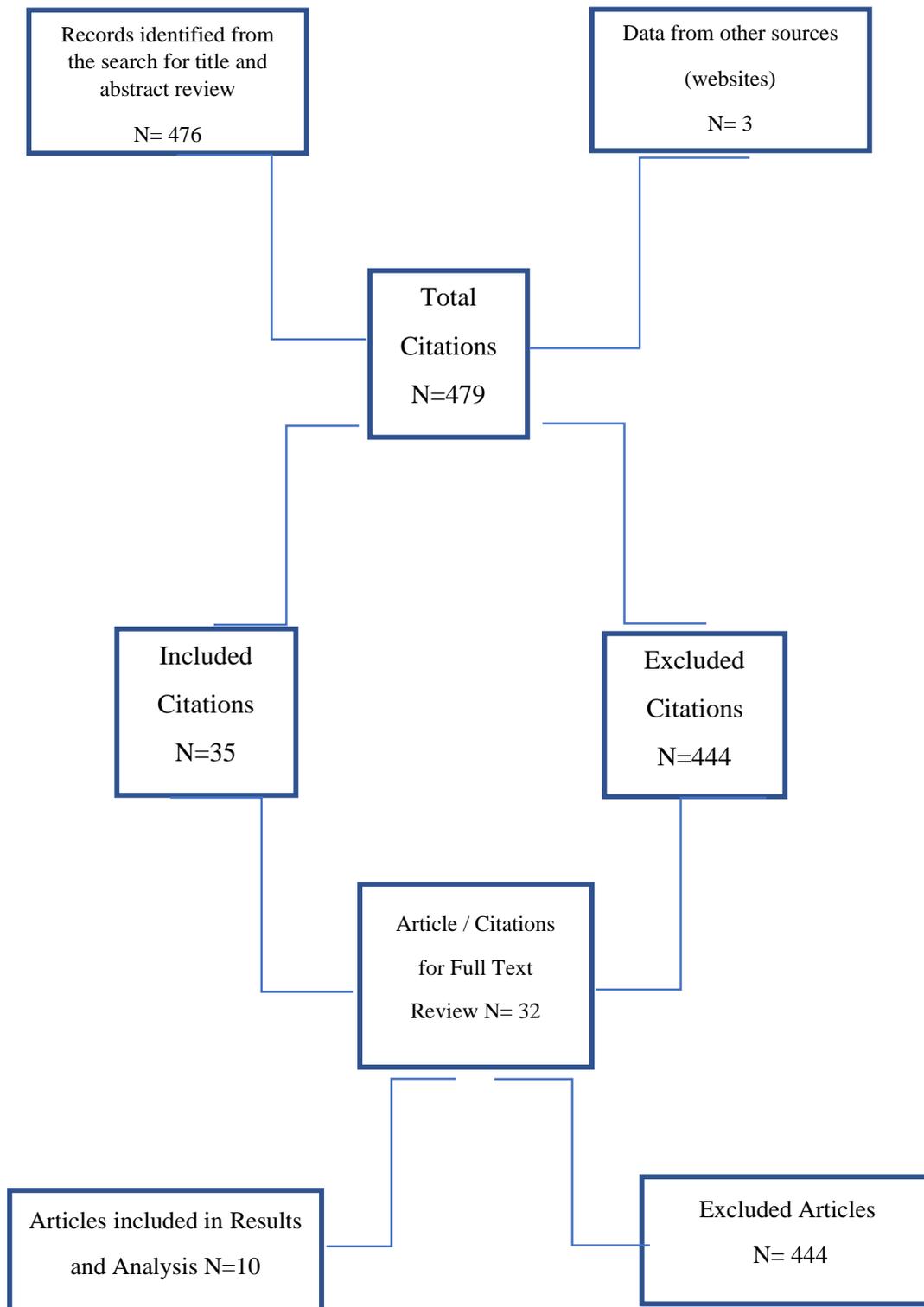
1. Why do you think telepsychiatry is a useful for the health system?
2. What are the most effective technological tools in the implementation of telepsychiatry? Why?
3. Is the government or the user paying for the telepsychiatry service? Why? Why not?
4. How useful is telepsychiatry for other areas of health? Why?
5. What population of society benefits from the use of telepsychiatry in the United States? Why?
6. Has it been possible to demonstrate the decrease in costs through the use of telepsychiatry? Why? Why not?
7. What are the main obstacles that exist in the development of telepsychiatry? Why?

8. When is it decided that a patient should be evaluated personally and not by telepsychiatry? Why?
9. Is there any difficulty for users to receive their pharmacological treatment through the issuance of medical prescriptions through telepsychiatry? Why?
10. What are the future challenges for the development of telepsychiatry? Why?

Figure 1. Conceptual research framework. Source: (Yao et al., 2010)



Figure 1.



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