

Telehealth and Mental Health: an approximation of telemedicine experiences in the field of Mental Health

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Date of Receipt: January, 16, 2020 | Approval date: March, 9, 2020

Abstract

Introduction: *Mental illnesses are increasingly considered a global priority in terms of health but also a priority for global development, currently mental, neurological and substance use disorders represent a great burden of disease and disability, still existing a wide gap between the capacity of health systems and the resources available. On the other hand the development of information and communication technologies, constitute an opportunity for the management of medical care processes and the administration and care of patients . In this context, PAHO explicitly aims to contribute to the sustainable development of health systems seeking to improve access to health services and their quality, through the use of information and communications technologies (ICT), training in digital literacy, access to information based on scientific evidence and continuing education, including telehealth and telemedicine in this plan, such as health services, especially where distance is a barrier to receiving health care. This article aims to conduct a bibliographic review of telemedicine experiences in the field of mental health and a search and compilation of scientific material related to telemedicine and mental health. **Method:** A review of selected bibliographic material was carried out through the search on digital platforms such as Medline, Lilacs and SciELO and other official platforms, from which the articles of relevance for the review were selected. Within the search criteria, articles in Spanish and english were selected. The search terms were: telemedicine, telepsychiatry, telepsychology, mental health, occupational therapy, social work, nursing. **Keywords:** Telemedicine; Telepsychiatry; Telepsychology; Mental Health.*

Resumen

Telesalud y salud mental: una aproximación de las experiencias de telemedicina en el campo de la salud mental.

Introducción: *Las enfermedades mentales se consideran cada vez más una prioridad mundial en materia de salud pero también una prioridad para el desarrollo mundial, en la actualidad los trastornos mentales, neurológicos y por consumo de sustancias representan una gran carga de enfermedad y discapacidad, existiendo aún una amplia brecha entre la capacidad de los sistemas de salud y los recursos disponibles. Por otro lado el desarrollo de las tecnologías de información y comunicación, se constituyen en una oportunidad para la gestión de procesos de atención médica y la administración y atención a los pacientes. En este contexto a OPS explicita como propósito contribuir al desarrollo sostenible de los sistemas de salud buscando mejorar el acceso a los servicios de salud y su calidad, mediante el uso de las tecnologías de la información y de las comunicaciones (TIC), la formación en alfabetización digital, el acceso a información basada en pruebas científicas y la formación continua, incluyendo en este plan a la telesalud y la telemedicina, como las prestaciones de servicios de salud especialmente donde la distancia es una barrera para recibir atención de salud. Este artículo tiene como objetivo realizar una revisión bibliográfica sobre las experiencias de telemedicina en el campo de la salud mental y una búsqueda y recopilación de material científico relacionado con la telemedicina y la salud mental. **Método:** Se realizó una revisión no sistemática de material bibliográfico seleccionado a través de la búsqueda en plataformas digitales como Medline, Lilacs y SciELO y otras plataformas oficiales, de los cuales se seleccionaron los artículos de relevancia para la revisión. Dentro de los criterios de búsqueda se seleccionaron artículos en idioma español y en inglés. Los términos de búsqueda fueron: Telemedicina, telepsiquiatría, telepsicología, telesalud mental, terapia ocupacional, trabajo social, enfermería. **Palabras-clave:** Telemedicina; Telepsiquiatría; Telepsicología; Salud Mental.*

Telessaúde e saúde mental: uma abordagem às experiências de telemedicina no campo da saúde mental.

Introdução: : As doenças mentais são cada vez mais consideradas uma prioridade global em termos de saúde, mas também uma prioridade para o desenvolvimento global. Atualmente os transtornos mentais, neurológicos e de uso de substâncias representam uma grande carga de doenças e incapacidades, ainda existentes uma grande lacuna entre a capacidade dos sistemas de saúde e os recursos disponíveis, por outro lado, o desenvolvimento de tecnologias da informação e comunicação, constitui uma oportunidade para o gerenciamento de processos de assistência médica e a administração e atendimento de pacientes. Nesse contexto, a OPAS visa explicitamente contribuir para o desenvolvimento sustentável dos sistemas de saúde, buscando melhorar o acesso aos serviços de saúde e sua qualidade, por meio do uso de tecnologias da informação e comunicação (TIC), treinamento em alfabetização digital acessa a informações com base em evidências científicas e educação continuada, incluindo telessaúde e telemedicina neste plano, como serviços de saúde, especialmente onde a distância é uma barreira para receber assistência médica. Este artigo tem como objetivo realizar uma revisão bibliográfica das experiências de telemedicina no campo da saúde mental e uma pesquisa e compilação de material científico relacionado à telemedicina e saúde mental. **Método:** Foi realizada uma revisão não sistemática do material bibliográfico selecionado, por meio de busca em plataformas digitais como Medline, Lilacs e SciELO e outras plataformas oficiais, das quais foram selecionados os artigos relevantes para a revisão. Dentro dos critérios de busca, foram selecionados artigos em espanhol e inglês. Os termos de pesquisa foram: Telemedicina, TelesiQUIATRIA, Telespsicologia, Saúde Mental, Terapia Ocupacional, Serviço Social, Enfermagem.

Palavras-chave: Telemedicina; TelesiQUIATRIA; Telespsicologia; Saúde Mental.

INTRODUCTION

Mental illness is increasingly seen as a global health priority, but also as a priority for global development, which is why it has been included in the Sustainable Development goals and as one of the components that must be integrated into universal health coverage¹.

In this sense we cannot fail to mention that the WHO, associating the general definition of health, defines mental health as “a state of well-being in which the individual is aware of his own capacities, can face the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his community”². However, the view from different scientific disciplines fosters a deep discussion of what is understood today by mental health³ and in this line the field of mental health could be conceived as a much more comprehensive field, than the isolated field of psychology or the field of psychiatry, for example. Despite their increasing visibility, mental illnesses still present certain vicissitudes, such as structural stigmatization, outdated practices and frameworks, and organizational fragmentation, which affect the ability to adequately assess, prioritize, and invest in mental illnesses¹.

At present, mental, neurological and substance use disorders represent a great burden of illness and disability, although there is still a wide gap between the capacity of the health systems and the available resources, the magnitude of these problems should not be overlooked, considering that approximately 1 out of 10 people suffers some mental health disorder in contrast to the fact that only 1% of health personnel worldwide provide mental health care services⁴.

Strategies for addressing mental health issues have several backgrounds: In the 1990s, the Regional Initiative for the Restructuring of Psychiatric Care was launched at the Conference in Caracas, Venezuela; subsequently, in 1997 and 2001, the Directing Council of PAHO issued resolutions urging Member States to include mental health among their

priorities: Finally, in 2008, the Health Agenda for the Americas 2008-2017 was approved, defining areas of action in which mental health is explicitly and implicitly included, and on another front, in October 2008, the WHO presented the Program of Action to Close the Mental Health Gaps: Improvement and Expansion of Mental, Neurological and Substance Abuse Disorder (mhGAP) Care, offering a set of strategies and activities to expand and improve care for people with mental, neurological and substance abuse disorders⁵. In turn, the World Health Organization (WHO) has several strategic objectives, one of which is the “promotion of the use of information and communication technologies to improve health services and systems,” also understanding eHealth as the use of information and communication technologies applied to health⁶.

It is in this context that we can approach one of the initial definitions of telemedicine as “the practice of medical care with the help of interactive communications of sound, images and data; this includes the provision of medical care, consultation, diagnosis and treatment, as well as the teaching and transfer of medical data”⁷.

In short, the advancement and development of information and communication technologies constitute an opportunity and in the field of health, their applications include in their spectrum the connection between professionals in virtual networks, the management of medical care processes and the administration and care of patients⁸.

Such is the relevance that in the framework of the “Strategy and Plan of Action on eHealth (2012-2017)” PAHO explicitly aims to: contribute to the sustainable development of health systems seeking to improve access to and quality of health services, through the use of information and communication technologies (ICT), digital literacy training, access to information based on scientific evidence and continuous training, for progress towards more informed societies equitable, competitive and democratic. Including in this plan telehealth and telemedicine, such as the provision of

health services using information and communication technologies, especially where distance is a barrier to receiving health care⁹.

In the particular case of Argentina, in the field of mental health with the enactment of the National Mental Health Law (LSM)¹⁰, in 2010, the processes of bringing the country's regulations into line with international standards for the protection of health and human rights were deepened, where care should preferably be provided outside the hospital setting and within the framework of an interdisciplinary and intersectoral approach, based on the principles of primary health care, with the strengthening, restitution or promotion of social ties as the horizon of professional practices.

Already in 2018, within the framework of the National Digital Health Strategy, the National Telehealth Plan was created, whose purpose is to develop a national and federal telehealth policy, with the aim of moving towards universal health coverage, through the use of information and communication technologies, under standards of interoperability, security and privacy of information, which promote safe and quality practices centered on the person. The objective of its implementation is to promote that patients and professionals have access to consultations, education, resources and remote care from their community, overcoming geographical barriers and problems derived from the unequal distribution of health resources¹¹.

It is in this sense that carrying out a bibliographic review of approaches related to mental health in the framework of telehealth is especially important for the planning, implementation and evaluation of these strategies. The objective of this article is to conduct a literature review of telemedicine experiences in the field of mental health.

METHOD

We conducted a non-systematic review of selected bibliographic material by searching digital platforms such as Medline, Lilacs and SciELO and other official platforms, from which articles of relevance to the review were selected searching the terms of telemedicine, telepsychiatry, telepsychology, mental telehealth, occupational therapy, social work, nursing. The information were sorted and classified according to aspects related to telemedicine in the field of mental health.

RESULTS

Mental telehealth: from traditional disciplines to potential fields of action

Authors such as Garay Fernandez mention that technologies applied to mental health care are on the way to improving it, in this context the author takes up terms such

as Telepsychiatry, which is defined as the use of information technologies and electronic communication, to provide or support clinical care in psychiatry at a distance¹².

For authors such as Lodoña et al, telepsychiatry focuses on the development of systems that allow an adequate relationship between the mental health professional and the patient for the provision of services in various clinical situations, which could be grouped in the following situations: Evaluation and confirmation of diagnoses, Development of clinical care plans, psychiatric therapy, medication monitoring and review, treatment follow-up and review, physiological evaluation and therapy, Physiological and neurophysiological testing, Forensic evaluation, Psychiatric emergencies, Case study review and supervision by care teams, Individual, couples, family and group therapy, Psychiatric education and Pharmacological education¹³.

However, psychiatry is not the only profession with concerns in the field of mental health, in this line, psychology has also been able to incursion into the use of technologies for the execution of their professional activities and the provision of services to the population.

Some authors define telepsychology as all activity in the field of distance psychology, relying on technology from the different aspects of prevention, promotion and education, in turn these authors understand teletherapy as a part of the telepsychology used by health psychologists and clinicians, which consists of carrying out a distance treatment with a virtual contact that replaces physical contact, there are some studies that evaluate its effectiveness¹⁴⁻¹⁵.

Likewise, the nursing profession plays a fundamental role in health teams, however, material regarding tele-nursing experiences is scarcer. In revisions such as those of Alcázar et al, within the framework of approaching patients with chronic diseases, virtual support, telephone monitoring and electronic devices are identified as the main characteristics of tele-nursing¹⁶⁻¹⁷.

On the one hand, telepsychiatry could be useful in primary care, as support to the general practitioner in the care and understanding of the patient's illness, through the support of specialists¹², while other authors point out that within the fields of application defined for telepsychiatry are adult, pediatric, geriatric and tele-education¹³.

With respect to telepsychology, studies such as that presented by Marchand et al¹⁵ provide evidence by analyzing the effectiveness of Cognitive Behavioral Therapy (CBT) after six months of treatment in people with Post-Traumatic Stress Disorder (PTSD), comparing face-to-face therapy with videoconferencing, finding that the two treatments had equivalent levels of symptom reduction, thus concluding that CBT for PTSD through videoconferencing appears to be a viable alternative when adequate face-to-face treatments are less available¹⁵.

The different existing mental disorders often require dif-

ferent approaches, in this sense authors such as Castro and Cols synthesize the different experiences of the use of ICTs in the different diagnoses, including depression, anxiety disorders, post-traumatic stress, eating disorders, substance use, schizophrenia and others, the most frequent methods being the use of videoconferences and telephone follow-ups, however a coincident factor in most of the studies is the need for greater evidence and validity in the studies¹⁸.

Some authors define it as a service model provided by means of interactive telecommunications technologies that help to provide assessment services, preventive services, diagnostic services and therapeutic services, in addition to implementing assistive technologies and adaptation techniques¹⁹. Although this study does not refer specifically to the field of Mental Health, it does address the role of occupational therapy, a discipline that today plays an essential role in the treatment of people with mental disorders, so occupational therapists can use telerehabilitation as a mechanism to provide a service, overcoming the difficulty that distance can represent, but also to perform interventions with alternative methods such as virtual reality or telemonitoring²⁰.

In our review we did not find any articles related to the interventions or experiences of social work in mental health from telemedicine, in view of this we could consider this fact as an opportunity for possible interventions of this profession, if we consider mental health as part of the integral health of people, we must also consider aspects related to their living conditions, In this sense, Garcés Trullende states that Social Work in mental health is going to depend on what we are capable of undertaking to adapt to the new times, on the adaptation of professional roles to the new needs of mental health users²¹.

Although the amount of experience in telepsychology and telepsychiatry may yield some degree of evidence, Mental telehealth may provide a broader view, in this sense it is possible to agree that mental telehealth is a promising approach to increasing access to care²².

Experiences such as those presented by Brazil show an expanded view that goes beyond the individual intervention of the psychiatrist with the patient. The first experiment in Mental telehealth in Brazil took place in 2007 with a pilot project for a videoconference in São Lourenço do Sul between a public mental health center for chronic mental disorders, the Center for Psychosocial Care (CAPS) and outpatient units with the participation of psychiatrists, general practitioners, patients and family members²³.

Some advantages and facilitators

From a more specific approach, different experiences and scientific productions detail the possible advantages of mental telehealth.

Telepsychiatry has academic and therapeutic advantages, academic experiences such as clinical supervisions, trauma interconsultations for teams in remote places, patient and family education, and physician education are highlighted, but also the resolution of decision-making through communication between physicians in isolated regions can avoid unnecessary transfers of patients thus decreasing the costs that can occur in psychiatric care¹². There is no doubt that this type of innovation can represent different benefits and advantages.

On the other hand, there are studies with more specific populations that compare certain variables depending on remote care versus face-to-face care, such as those conducted by Ruskin et al. in which they conclude that remote treatment of depression by telepsychiatry and face-to-face treatment of depression have comparable results and equivalent levels of patient adherence, patient satisfaction and cost of medical care²⁴.

Some authors summarize the benefits of telepsychiatry in four aspects: The increase in access to psychiatric services in rural areas; the better use and availability of the experience of specialists in different fields; the evidence in works that demonstrate the equivalence in costs and effectiveness of telepsychiatry, compared to face-to-face consultation; and finally the possibility of a greater approach to the young population¹².

From a more regulatory approach, the regulatory frameworks and the incorporation of professional organizations in the implementation of these practices are favorable factors for the implementation of telemedicine, in this line it is worth noting that the Canadian Psychology Association published in 2011 and 2013 a standardized model of practice in telepsychology, with the intention of dispelling doubts about legal issues, ethics, telecommunications technology and lawsuits in various fields¹⁴. It should be noted that most of the research on the efficacy of telepsychology comes from a particular focus on cognitive behavioral therapy¹⁴. In 2016, the American Psychiatric Association published a document which helps professionals to assess the suitability of the use of certain electronic applications by means of certain criteria organized in a hierarchical manner²⁵. Even more so in the South American region, in Argentina the Ministry of Health approves through resolution 189/18, the National Digital Health Strategy 2018-2024, which has among its objectives the implementation of telehealth networks that allow remote patient care and second opinion consultations, improving accessibility, avoiding unnecessary transfers and compensating for regional differences in specialties and resources²⁶ and also in 2019 approves the national plan for telehealth¹¹.

From a more global approach, if we understand telemedicine as a technological innovation in health, we can rescue that some studies analyze technological innovations in a macro manner, one of these studies concludes that for the

results (products and services) of an innovation to contribute to the solution of a problem of social exclusion requires the long-term systemic interaction of actors with diverse characteristics and objectives, synthesizing the interaction between four vertices: the Government, the productive sector, the knowledge-producing sector and the demand sector (composed of users and beneficiaries of innovations)²⁷.

Barriers and difficulties to consider

Although there are studies related to the evaluation of telepsychiatry services compared to face-to-face care, the evidence continues to be insufficient and with methodological limitations¹².

In a study conducted in the United States, which analyzed the rates of adoption of mental telehealth in different Mental Health facilities, they obtained results that suggest that the legal/regulatory burden and lower information technology capacity of the facilities may discourage the adoption of mental telehealth²².

Another barrier is identified in the description of certain resistances to the implementation of this type of technologies, based on the idea of a loss of construction in the doctor-patient relationship, elaborated in the work of the doctor and the patient himself¹².

Likewise, the main concerns of professional psychologists when carrying out their therapeutic work using teletherapy refer to clinical aspects (therapeutic alliance, deficient collection of non-verbal information in the interaction, confidentiality and effectiveness of therapy), legal and technical¹⁴.

It should be noted that the absence of regulations can constitute a barrier. In one of the articles reviewed, it can be evidenced that the authors identify that the absence of specific rules and regulations in charge of the Brazilian Board of Medicine for the practice of doctors in Mental Telehealth limits the activities to certain practices, while in contrast. The body called Federal Board of Psychology, is less restrictive, as it allows for personnel selection activities, application tests and supervision of psychologists in training, in addition to the fact that psychologists must have a certification from the regional board and follow the technical standards for telehealth activities with video medical consultations and inspections, second opinion consultations and education²³.

Likewise, other authors in an experience of telemedicine in Mexico argue that the lack of understanding of the process of inclusive innovation by public policy makers, as well as its social scope, hinders the creation of adequate instruments to encourage innovation²⁷.

Ethical aspects in the field of telehealth

In the field of telemedicine it is essential to consider the ethical aspects, in this sense of the bibliographic review carried out some of the aspects to be considered.

The management of data and information, including text, audio and video, has increased concern regarding the control of the use and disclosure of patients' personal information¹².

Most market applications do not have a clear data use policy. Many store and market personal data with third parties outside the medical field, with what this may mean at other levels²⁵.

However, in this area, it should also be taken into account that there may be some situations that lead to a breach of confidentiality in the approach of a patient with mental disorders, such as the need to hospitalize a patient who was interviewed and who presents some type of risk¹².

On the other hand, these settings, compared to traditional face-to-face health care, involve a wider range of third parties, actors such as telecommunications service providers and possibly their commercial affiliates, as well as health care personnel will be present at one or both ends of the interaction²⁸.

There are methods aimed at increasing the security of electronically transmitted information, such as data encryption, authorization of procedures, auditing and monitoring of programs, and so-called firewalls. The implementation of systems to protect patient information improves the quality and reliability of health information¹².

Another issue to consider is the need to rearrange the responsibilities and competencies that can be generated in the different actors, since the burden of responsibility, which in the present care is located in the professional involved, in the field of telemedicine may fall on users or family members in situations of vulnerability²⁵.

Finally, it must be borne in mind that telemedicine is not an adequate model of care for all medical conditions because it is not the preferred approach when technology does not allow physicians to meet established clinical standards, and when options for a patient are to receive less than ideal care through telemedicine or not to receive care, telemedicine services may be appropriate, even though some of those involved may prefer that care be provided in person²⁸.

The use of ICTs to provide mental health care to populations is widespread and feasible to implement in geographically remote locations that do not have access to specialized mental health care and as part of complex interventions that integrate several components¹⁸. Among other possibilities, telehealth could increase access to mental health services in rural areas, but it would also improve the capacity of rural mental health service providers, as mentioned in some studies²⁹⁻³⁰.

DISCUSSION AND CONCLUSION

Currently the magnitude of the burden represented by mental and neurological disorders and substance use (estimated by WHO at 14% of the global burden of disease.

Three-quarters of this burden comes from low- and middle-income countries), in contrast with the State's efforts to deepen the health system's care processes in line with international standards in this area and to expand mental health care coverage.

Considering that one of the priority strategies of telehealth is to become a tool for the reduction of inequities in access to health through promoting access to consultations, education, resources and remote care by patients and professionals from their communities, overcoming geographical barriers and problems arising from the unequal distribution of health resources, this article has proposed to review experiences and literature related to its application in the field of mental health, in order to strengthen its implementation.

In the bibliographic review, it has been found that the most frequent conceptualizations and experiences are those implemented by the disciplines of psychiatry and psychology, being scarce the references of nursing, occupational therapy and null those of social work. In this sense, there are no references of mental telehealth, while there are experiences of integral approaches by the interdisciplinary team in mental health.

Both telepsychiatry and telepsychology publications share the purpose of using information and communication technologies, in order to be able to carry out diagnoses, treatments, professional training and even psychosocial follow-ups at a distance. In relation to clinical effectiveness, there are still very few studies carried out.

All the literature reviewed agrees that most of the benefits of telehealth are focused on reducing inequality in access to and quality of specialists, numbers of referrals, as well as increasing the opportunity for updating and training of health team professionals. In relation to the barriers and difficulties, they are centered in the technological field, locating as the main barrier the lack of technological infrastructure and in the human factor, generically defined as "resistance to change"³¹ that in this particular field translates into concerns for the "professional-patient relationship" and skills for the use of technology.

The ethical aspects appear in the revised literature mainly related to data protection, privacy and confidentiality through different programs and tools, framed in the regulatory aspects linked to the responsibility of these data.

Experience in many countries reveals the challenges and efforts that must be made during the implementation and development of telehealth projects, where health teams resist the adoption of models of care based on e-health, or have not been trained in the use of ICT tools to use telehealth effectively, which added to the barriers of infrastructure and lack of public policies on the subject become an obstacle to its effective implementation.

In the particular case of Argentina and the field of mental health, the Ministry of Health and Social Development,

through its competent areas, has been generating in recent years the guiding policies so that some of these challenges can be faced. Now it is up to the mental health effectors to work within their organizations to sensitize interdisciplinary teams and add them to the professional work from the E-health approach.

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Indication of responsibility: every author participated in the same way

Financing: Without funding funds

Conflict of interest: The author declares that he has no conflict of interest in the content of this work.