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Benefits and Constraints of Telepsychiatry Utilization in the United States

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ABSTRACT

This article describes the benefits and constraints of utilizing telemedicine primarily focusing on the field of psychiatry in the United States with the current system of healthcare. The utilization of telemedicine in the field of psychiatry is believed to provide better access, quality and care to the patients who necessitate psychiatric care in their overall medical care. Telemedicine has been a successfully integrated program into psychiatric facilities reaching rural, prisons or city facilities based on that it has increased the volume of patients in which physicians can reach out to and diagnose, as well as treat patients with limitations in his or her mobility.

Keywords: Telepsychiatry, Telemedicine, cost, savings inmates, mobility

INTRODUCTION

Telemedicine has been defined as the intervention of telecommunication device diagnosis and the overall care of patients that are separated by a distance. This enables practitioners from far away to recommend treatment of difficult or rare cases all over the country (Managed Care Glossary, 2010). Telemedicine uses technological devices that include but are not limited to voice, video, robotic, and remote access technology to diagnose and treat individuals over a given area (Chang, Mayo & Omery, 2001).

Patients who use these medical services can receive an evaluation, diagnosis, treatment, consultation, and education about their condition (Smith, Benskin, Armsfield, Stillman & Caffery, 2000). In recent years, there has been an ever-growing trend of patients that would benefit from at-home medical services. These beneficiaries of care commonly suffer from asthma, cardiac conditions, diabetes and/or psychological disorders (Chang, et. al, 2001). With a high prevalence of landline phone service as well as cellular based phones in use in the United States, this form of treatment in psychology has a great use in telemedicine (Smith, et. al, 2000).

Telemedicine first originated in the field of psychiatry and has been greatly utilized for years. Due to the structured nature and limited access to patients regularly, the fields of radiology and pathology are considered mature as this follows along with their discipline in medicine. In these fields, researchers have shown further positive advancements in quality and structure (Nesbitt, Hilty, Kvenneth & Siefkin, 2000).

Telemedicine focusing on psychiatric care holds a great importance in healthcare as it has given an increased number of patients access to care (Watcher, 2002). A patient's location is particularly important as this depicts the amount of access to this type of medical care. Individuals who reside in rural areas of the country are now being offered this specialty care while being more cost effective than the typical in-clinic care (Shore & Manson, 2005). Access to psychiatric care is not always limited to geographic area alone. School systems have begun to use counseling services for school-aged children while they are on their school's campus. It has been estimated that around 15% of school-aged children suffer from some kind of mental illness that would benefit from psychiatric services and employing this genre of care in this particular manner has proved to be cost efficient as the school system pays for psychiatric care on an as-needed basis (Myers, Valentine & Melzer, 2007).

Since telemedicine uses a video-conferencing system, patients have the ability to receive similar consultations and prescriptions as their in-person counterparts (Myers, et. al, 2007). In order for patients to be written prescriptions, they must be consulted by a providing psychiatrist. Services that utilize telemedicine-based

systems allow easier application of psychiatric services (Young & Ireson, 2003). Using telemedicine in the field of psychiatry has the potential to be both cost and structurally efficient due to the diminished requirement of fixed cost necessary for everyday operation. Remote monitoring of patients allowed practitioners to check-in with their patients more often due to the increased ease of observation (American Telemedicine Association, 2011).

One major issue that arises with the implementation of telepsychiatry is the start-up cost of establishing clinics that have up-to-date electronics (Ghodse, 2004). These clinics must have the capabilities of interoperability between the practitioners systems and the patients. A common solution to this problem is to use an intermediary between the systems that converts the necessary signals so that transmission can occur (Shore, et. al, 2005). Additionally, copious amounts of regulations currently exist both federally and at the state level that create barriers for the transmission of medically related material across phone or internet air waves (Watcher, 2002).

This article describes the benefits and constraints of utilizing telemedicine primarily focusing on the field of psychiatry in the United States (U.S.) with the current system of healthcare. The utilization of telemedicine in the field of psychiatry is believed to provide better access, quality and care to the patients who necessitate psychiatric care in their overall medical care.

The purpose of this research was to analyze the quality of care with the utilization of telemedicine in psychiatric care as well as its potential cost-saving benefits to both the payers and patients in healthcare.

METHODOLOGY

A literature review was performed by utilizing compiled findings published within the past 10 years. Twenty five (25) scholarly sources were used due to the relevancy to the integration and use of telepsychiatry in the United States. It covered both benefits and constrains of telepsychiatry. When completing the online search, the following phrases were used and combined to narrow the search criteria: Telemedicine, OR Telemedicine "AND" psychiatry, OR psychology, OR psychiatric. The articles that were chosen were peer-reviewed journal articles or peer-reviewed magazine selections. All of the relevant research that was used came from the electronic database Ebscohost, PubMed and Google Scholar.

This literature review based examination of the usage of telemedical intervention in psychiatric care aimed to be systematic in nature. Articles were reviewed and determined to have inclusion criteria if the material gave a fair and just determination on the topic of telemedicine with a particular focus on psychiatric care. Many articles were eliminated from the search regarding specific medical intervention techniques pertaining to telemedicine intervention in psychiatry article analysis. Also, articles that were not written in English were subject to elimination. While attempting to stay current in research, all articles that were older than 12 years were immediately eliminated from the search. All literature research was conducted by BS and validated by AC.

RESULTS

In this form of telemedicine, many antagonists have objected to this non-traditional medical care. Fundamentalists believe that medical care cannot be adequately given unless the patient receives an exam in person (Wootton, 2001). To counteract this belief, studies have been initiated where telemedicine is used. These studies have examined the percentage of time when a physician has given the correct diagnosis vs. when the doctor has not. In one study that examined psychiatric care for rural individuals, it was found that only one to two percent of the patients received a wrong diagnosis when telemedicine was used (Singh, Arya & Peters, 2007). In most cases, psychiatrists believe that diagnosing a subject in person is necessary for a successful diagnosis. The reason for that is due to the fact that during a test-trial, patients were re-tested for diagnostic validity while meeting with them in person, and it was proven that only around 67% of patients received a proper diagnosis (Salander & Henricksson, 2005).

The study was conducted with early and crude technology by today's standards because of a lack of an internet connection and proper interactive equipment (Saldanha, Chaundhry, Pawer & Sivastav, 2007). In 2007, Singh, et. al, established a strict methodology using current patient accessible hardware and software to evaluate where telepsychiatry stands in terms of diagnosable validity. The researchers found that 83% patients who were diagnosed via the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) through the use of telepsychiatry were correctly diagnosed. This study was beneficial in showing that the validity of diagnosis in

telepsychiatry due to the advances of telecommunication devices. The researchers expected that further advancements in technology would only increase the validity of non-contact diagnosis in psychiatric care (Singh, et. al, 2007).

Minimum technological requirements must be met in order to be able to receive adequate care. This field of medicine makes it necessary for patients and psychiatrist to have more direct interaction with one another due to the evaluation methods that are used by psychiatrist in today's medical field. To support live-feeds in video and sound must be completed via internet based cameras, microphones and strong broadband connections by both parties involved (Wootton, 2001). Additionally, the patient needs a connection at the physician's desired rate so that they can view the picture in a non-interrupted manner. Telemedicine in psychiatric care allowed patients to keep their feeling of independence and autonomy by performing at-home medical services (Pandian, 2007).

Patients who have a high satisfaction rate in their medical treatment were more apt to stick to their prescribed medical treatments (Rubin & Peyrot, 2001). In 1996, clinicians at The University of Kentucky conducted a study with 43 adolescents and their families for psychiatric evaluation in rural areas within the state. These patients were previously evaluated and were deemed to require psychiatric care. Of those patients who were evaluated, it was found that 98% of respondents acknowledged that the utilization of telemedicine based services for their psychiatric care were equally if not more beneficial than the classic consultation method (Akechi, 2001).

Patients who use Telemedicine services benefit from the increased level of access of services that they can receive. In rural areas, telepsychiatry can increase the level of quality care in their facilities since the advent of videoconferencing (Rubin, et. al, 2001). Since the 1990's, the cost of the necessary technology has decreased to a level where most patients can afford to have the equipment at home. In rural healthcare settings, access to proper specialist care can be very rare. With this rarity, an increase in the overall cost of the services performed by the specialist escalates (Akechi, 2001). Services rendered in this manner have dropped the overall cost of care by 10% per patient in addition to increasing their access to this specialized care (O'Reilly, et. al, 2007).

Specialized services in psychiatric care, such as biofeedback have been growing in popularity as a treatment for various psychological problems. Biofeedback allows individuals to learn how to change physiological activities in order to recover their health and performance (Association for Applied Psychophysiology and Biofeedback, 2008). Practitioners who use this medical equipment have attempted to teach the patients through the analysis of their own body processes to overcome psychological and/or physiological body processes. The typical required equipment includes and ElectroMyoGraphy (EMG), ElectroEncephaloGram (EEG), Skin Conductance Level (SCL) and a Heart Rate Variability monitor (HRV), (Kall, 2011). Individuals who benefit from this type of medical treatment include depression, anxiety, obsessive-compulsive disorder or stress generally benefit greatly from this type of therapy (Association for Applied Psychophysiology and Biofeedback, 2008). Once a patient has learned to control the previously irrepressible, involuntary or habitually controlled behaviors then they can use this form of treatment to control their diseases. Consistent treatments may be required for some patients to overcome their problems (Kall, 2011). Since there is a large cost to purchase the required machinery, specialized clinics have been established to act as rural health clinics where patients can go to receive help without being forced to purchase the equipment themselves (Kall, 2001). In 2001, it was estimated that this equipment would cost around $20,000 to $100,000 with trained personnel utilizing the more expensive equipment but it saved an estimated 10%-12% of the overall cost to payers (Folen, James, Earles & Andrasik, 2001).

Ethical standards for the use of telepsychiatry services need to be adhered to protect not only the patient but the provider as well (Lee, 2010). This modality would not be an appropriate measure due to safety concerns and the fear of self-harm. For instance, if a patient requires immediate care due to a potential suicide risk where instantaneous care is required to stop a patient's harmful actions, medical care may not be able to reach them in time to cease the act (Lee, 2010). For cases where immediate action is a must, the exact location must be known so that emergency officials may assist the individual. One way to obtain this is by running the Internet Protocol (IP) number through a specialized application that searches and locates an individual. However, this has proved to be increasingly difficult for individuals who are using mobile 3G/4G connections as this cellular based service is difficult to trace (Folen, et. al, 2001).

Negative Aspects of Utilization

Patients who have received this form of therapy from their practitioners also run the risk of misunderstanding the instructions given by a practitioner. During regular consultations, practitioners and patients encountered a great deal of non-verbal communication between one another (Lee, 2010). Some of this communication is lost with this form of therapy potentially hindering the experience that a patient receives from his or her practitioner. Even though most people who use this type of medical intervention will be using teleconferencing with video and audio support, cameras and microphones are not always an equivalent substitute (Haberworth, Parr, Bradley, Morgan-Fleming & Gee, 2008).

With the increased levels of interconnectivity between people, specialists should fear the possibility of patients gaining access to their personal information. This information can include cellular phone number(s), home addresses, children's information, or other personal information that could be deemed as intrusive if known by a patient (Rainie, 2009). Practitioners must be aware of any personal information that has been published on the Internet by either themselves or by someone else. Providers must follow the ethical guidelines set by the American Medical Association (AMA) on what type of information is allowed to be published as well as the relationships that can form between client and practitioner on social networking sites for example (Haberworth et. al., 2008). This information could be damaging to the practitioner and or patient and compromise not only the trust between them, but the professionalism as well. Additionally, patients who feel as though their practitioner has "failed" them in their required medical services may retaliate against the provider directly with the newly gained knowledge (Rainie, 2009).

Telepsychiatry in Prisons

The prison system is the ideal setting for telemedicine for many reasons. Although there is a major cost involved in establishing a telemedicine system in any setting, in prison, the benefits can be seen immediately. Since the prison is either run by the federal or state government and has its own budget, the prison itself can contract the telemedicine provider (Magaletta, Fagan & Peyrot, 2000).The initial savings to the prison can include the decrease in transportation costs from moving the inmate to the healthcare facility. Another plus to adding telemedicine is the increase in provider security. Not having to physically treat an inmate ensures that there is no physical danger to the physician and this also decreases the risk to the prison security and thereby the patient themselves. By not having to transport an inmate to an exterior healthcare facility, the prison would see immediate savings in transport costs as well as man hour cost by not having to send guards with the patient. Traditionally, physicians have also been reluctant to allow inmates to be treated at their private facilities. By adding telemedicine services, this is no longer an issue. A provider can feel free to treat a patient without the worry of their security or the security of their facility and their other patients. Nationally, psychiatric care is the most utilized health service through telemedicine services in prisons (Magaletta, Fagan & Peyrot, 2000).

Confidentiality in this mode of healthcare can be one of the most important concerns that both practitioners and patients have to cope with. The utilization of the telemedicine methods for patients runs the risk of leaving a "digital paper trail" behind allowing unwanted people from viewing this personal information (Wasler, McLain & Kellar, 2009). Additionally, practitioners may record the therapy session unknowingly to the patient, which has the potential to be accessed at a later date without the knowledge of the patient (Chaimberlin, 2010). Other breaches in confidentiality include poor security of transcribed medical information, improperly storing video or voice of the session, spyware or malware on the practitioners or patients' computer, and hackers who break into the systems (Chaimberlin, 2010).

DISCUSSION

The integration of telemedicine in psychiatric care in the United States has had a beneficial impact on patient care in multiple ways. Its implementation helped to counter the prejudice against medical diagnosis in any way but in person, i.e. a patient had to be physically present with a physician for treatment. The utilization of video and sound through computers via broadband has altered the way psychiatric patients interact with their physicians. Those people that did not believe physicians could, or should, diagnose psychiatric patients without seeing him or her face-to-face hindered many patients from ever being treated. Those individuals that could not go to a treatment center based on their lack of mobility, funds or both, were not being looked after by physicians, and therefore

suffered through their illness. Since telemedicine was utilized in psychiatric hospitals, the success rate has shown personnel in the medical field that it can be a dependent system in which to diagnosis patients that cannot get to the proper physician or facility.

The most important aspect of telemedicine have been how those patients who were unable to be treated are now given a sense of freedom, confidence and understanding in their psychiatric illness(s). When patients are satisfied with their level of care, they are more apt to follow treatment procedure and thus, get better, or at the very least acquire good care. Also, because technology has become a more affordable commodity in society today vs. even a decade ago, the majority of patients are able to connect to his or her physician by using their own equipment at home.

Telemedicine has not only affected patients, but psychiatric facilities as well. Rural psychiatric care centers used to limit themselves on their ability to interact with larger, often times more sufficient facilities due to the fact that they were isolated. However, telemedicine has opened up an easier transport service of interaction between physicians in various facilities because now they can use video or messaging to swap information. The initial cost of the equipment used can be high- up to 100,000- but since the cost over time saves personnel by as much as 12%, telemedicine has become a useful tool and practice (Mair, Haycox & Williams, 2000).

The detail in which is being implemented currently has been a great help to psychiatric patients as well. Attaining the ability to show patients how to perform techniques of care like activities in which to overcome psychological issues has greatly reduced the stress, anxiety, depression, and other unnaturally prolonged behaviors in patients (Nelson, Barnard & Cain, 2003). Patients who are suffering at home also obtain care that, although may raise ethical flags, allows medical personnel to retrieve them if he or she is rendered immobile. Even through emergencies like suicidal threats, medical personnel can locate the patient by using the Internet Protocol number (Folen, et. al, 2001).

Whether the ethnical battle will be resolved or not, the realization is that telemedicine saves lives, especially in regard to psychiatric patients who often times need to connect with a physician face-to-face.

CONCLUSION

Telemedicine has been a successfully integrated program into psychiatric facilities at levels whether that is rural or city based on the fact that it increases the volume of patients in which physicians can reach out to and diagnose as well as help those who are inept in his or her mobility. Although, initially costly, the overall benefits that are associated with telemedicine is worth the funding for all psychiatric facilities across the country.

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