

THE USE OF TELEMEDICINE IN INDONESIA: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

This article reviews evidence-based studies on the effectiveness of telemedicine in Tele-mental Health (TMH) or telepsychology across various community groups. The review, sourced from Google Scholar using keywords such as coparenting determinant, telemedicine, mental health, consultation, digitalization, and clinical psychologist, aims to provide a scientific basis for integrating mental health services with technology. Telemedicine, which involves long-distance communication through telephones and video conferencing, offers an alternative to reach wider communities and bridge gaps in service accessibility. The implementation of telepsychology in Indonesia considers factors such as professionalism, infrastructure, multiculturalism, and the competence of psychologists. Findings indicate that telepsychology is as effective as face-to-face therapy in terms of treatment outcomes, but it is more cost-effective and accessible, particularly in remote areas. Further research is needed to assess the effectiveness of TMH in Indonesia, especially for severe mental health disorders.

Keywords: telemedicine, mental health, consultation, digitalization, clinical psychology

INTRODUCTION

Indonesia still faces the problem of disparity in health services, where the distribution of health workers, especially doctors and professional medical personnel, is still uneven throughout Indonesia. Especially regarding mental health services in Indonesia, it faces major challenges. Under normal conditions, this country has an archipelagic geographical structure and a spread out population, and the presence of medical personnel who play a role in mental health is still very small compared to the total population of Indonesia. The Ministry of Health noted that currently there are 45 mental hospitals in Indonesia spread across 34 provinces, with the number of psychologists and psychiatrists serving the Indonesian people of 262 million still limited. The number of available medical personnel is below the World Health Organization (WHO) standard which sets the ratio of the number of psychologists and psychiatrists to the total population at 1:30 thousand or 0.03 per 100 thousand people. The difference in the number of mental health professionals and the need for community services

is not something that only occurs in Indonesia, which is classified as a low- and middle-income country (LMIC) (Sari et al., 2020). Therefore, Indonesia must continue to improve the quality of existing medical services. In this case, the Indonesian government must be able to create innovations to create good health services in order to overcome problems in the field of services, especially mental health, and provide optimal and integrated services throughout Indonesia. This innovation can be achieved by utilizing technology in the health sector, especially by developing telemedicine-based health services.

Telemedicine is the practice of providing virtual medical services remotely using communication technology to connect patients with medical providers. The World Health Organization (WHO) has stated that telemedicine is a health service that prioritizes distance and is carried out by health professionals using information and communication technology to exchange valid information for the diagnosis, treatment, prevention of disease and injury, research, evaluation and education, sustainability for health service

providers to improve public health (Chairani, 2023). Mental Health Services (SEJIWA) is a remote service initiated and launched by the Presidential Staff Office on April 29, 2020. This program can provide services to 1,366 clients within one month of its launch and is supported by 472 counselors, psychologists and psychologists under the coordination of the Indonesian Psychological Association (HIMPSI) (Sari et al., 2020). For patients who want to maintain anonymity during consultations with medical staff, telemedicine is the best choice to use. Telemedicine can provide an alternative for patients with mental health problems to be able to consult with medical personnel more easily and comfortably.

Telemedicine has the same functions and advantages as when patients come to consult directly with the medical team of a health facility (Atsani & Anjari, 2023; Greenwood et al., 2022). This telemedicine technology can be an alternative for people who are hesitant to go and consult a hospital regarding the mental health problems they face.

In its development, health services are not limited to physical health alone, but can also include mental health services that involve diagnosis, treatment, and psychological support for individuals who experience mental disorders or mental health problems. This includes counseling, therapy, and other psychological interventions. The gap in access to technology is also a challenge that needs to be overcome so that all levels of society can feel the benefits of digital technology in public health services (Nugroho et al., 2023).

Based on this description, the researcher wants to conduct a literature review. This literature review aims to learn more about the effectiveness of telemedicine in mental health services in Indonesia. This article will discuss the level of effectiveness of telemedicine and the factors that influence its success.

METHOD

Literature search was performed using the PRISMA method. The literature search was

conducted from 10 to 17 November 2023 through Google Scholar database. The search is performed using the keyword coparenting determinant, telemedicine, mental health, consultation, digitalization, and clinical psychologist. Inclusion criteria include 1) articles about the use of telemedicine in mental health services, 2) include research articles, review articles, and qualitative studies, 3) a span of the last 10 years. The search process begins by reviewing the titles and abstracts of the entire search results and comparing them with established criteria. The final analysis resulted in 14 articles. Researchers used 3 international articles and 11 national articles. Table-1 shows summary of studies that have been selected for review

RESULTS

Use of Telemedicine as a Mental Health Consultation Platform

The use of digital technology in health services has a significant impact on increasing the accessibility, efficiency, and accuracy of health services (Nugroho et al., 2023). Increased accessibility makes it easier for individuals who need mental health assistance without being constrained by geographical distance or mobility limitations and helps expand the reach of mental health services. Increased efficiency is characterized by increased capabilities for remote consultation services with professional medical personnel, reduced waiting times, accelerated consultation processes, cost savings, improved service quality, and the use of innovative technology. Increased accuracy refers to efforts to improve the accuracy of diagnosis, treatment, and monitoring of mental health conditions through telemedicine platforms, which include the use of advanced technologies such as data analysis, artificial intelligence, and algorithms to ensure that mental health services provided through telemedicine provide accurate and effective results for patients.

Table 1. Summary of collected articles

Authors	Title	Result	N
Ramadhany Nugroho et al., 2023	Pemanfaatan Teknologi Digital dalam Pelayanan Kesehatan Publik: Sebuah Tinjauan Analisis Kebijakan	Through telemedicine, health monitoring using wearable devices, and electronic health information systems, the accessibility and efficiency of health services have been significantly improved.	-
Osi Kusuma Sari et al., 2020	Kesehatan Mental di Era Digital: Peluang Pengembangan Layanan Profesional Psikolog	TMH through telepsychology services is an effective alternative for mental health consultation services.	-
Cintya Ananda Putri et al., 2021	Sikap dan Niat Perilaku Generasi Milenial dalam Adopsi Platform Telemedicine untuk Layanan Konsultasi Kesehatan Mental	Consumers' propensity to adopt telemedicine platforms for mental health consultations in the future is quite high.	322
Agus Riyanto., 2021	Faktor-Faktor yang Mempengaruhi Pelaksanaan Telemedicine (Systematic Review)	It was concluded that the factors influencing telemedicine were organizational rules and regulations, financial factors, technological infrastructure, and the existence of the Covid-19 pandemic.	-
Milza Syafira Chairani., 2023	Telemedicine sebagai Bentuk Digitalisasi Pelayanan Kesehatan di Indonesia: Tinjauan Literatur	The use of telemedicine has positive impacts, such as increasing the effectiveness and efficiency of health services, overcoming geographical limitations, and reducing the number of unnecessary referrals.	-
M. Rifqi Atsani & Galih Tyas Anjari., 2023	Telemedicine Sebagai Platform Konsultasi Kesehatan Mental di Era Industri 4.0	Psychotherapy using telemedicine has been successfully carried out with the same results as face-to-face therapy.	-
Erika Arianti & Rita Destiwati., 2022	Komunikasi Interpersonal Melalui Tele-Psychological First Aid Oleh Psikolog Pada Layanan Sejiwa	Open communication between psychologists and clients in Sejiwa services can support effective communication in obtaining the best solutions for changing the client's behavior and emotions.	-
Hannah Greenwood et al., 2022	Telehealth Versus Psikoterapi Tatap Muka untuk Kondisi Kesehatan Mental yang Kurang Umum: Tinjauan Sistematis dan Meta-analisis Uji Coba Terkontrol Secara Acak	The implementation of telehealth and face-to-face therapy after treatment results are relatively the same. Both in terms of overall improvement, function, client satisfaction, and costs between the two types of therapy.	931
Naurah Lisnarini et al., 2023	Keunggulan dan Hambatan Komunikasi dalam Layanan Kesehatan Mental pada Aplikasi Telemedicine Halodoc	Through appropriate communication models and ongoing adaptation, telemedicine can continue to revolutionize mental health care, increasing accessibility, and empowering individuals and families to actively engage in their mental well-being.	5
Tiara Diah Sosialita., 2022	Efektivitas Konseling Online pada Kesehatan Mental Remaja	Online counseling is effective in improving mental health among adolescents.	200

Muhlizardy et al., 2023	Analisis Kepuasan Penggunaan Layanan Telemedicine	The relationship between service quality and satisfaction in the use of telemedicine services shows a significant and positive relationship.	96
Iva Satya Ratnasari et al., 2022	Penerapan Penggunaan Telehealth terhadap Kepuasan Ibu Hamil pada Masa Pandemi Covid-19 : A Systematic Review	The use of telehealth resulted in high satisfaction for pregnant women to carry out pregnancy care during the COVID-19 pandemic.	-
Laura Orsolini et al., 2021	A Systematic Review on TeleMental Health in Youth Mental Health: Focus on Anxiety, Depression and Obsessive-Compulsive Disorder	VC-based or audio call-based TMH interventions are feasible, preferable, and easy to implement for adolescent mental health in the treatment and monitoring of adolescent depression, anxiety, and OCD.	56
Valeria Tullio et al., 2020	Psychological support and psychotherapy via digital devices in Covid-19 emergency time: Some critical issues	Digitalization can provide access to psychological support and psychotherapy to people who need it and is therefore welcomed with enthusiasm.	-

Along with the increasingly rapid development of the era and the shift of the social world to the digital world and social media, it has changed the pattern of interaction in society, which previously had to be done face-to-face, can now be done remotely. The increase in symptoms such as stress, anxiety, and restlessness in the community is an indication of the need for fast and easily accessible psychological treatment. Telemedicine services can be done online which can be accessed via telephone, smartphone, computer or with an application created by a hospital or private institution. In situations where local hospitals cannot meet the needs and referrals are needed to hospitals with appropriate health personnel and facilities, online consultations are a very useful solution. This is very important because there are still few hospitals with specialist psychologists, such as those skilled in child development screening. (Lisnarini et al., 2023). Telemental health services are carried out via telephone or video conference. The provision follows procedures similar to traditional or face-to-face psychiatric care. Psychotherapy carried out using telemedicine and face-to-face, the results showed that there was no significant difference after therapy between therapy using telemedicine and face-to-face. The effectiveness of mental health therapy using telemedicine for mild and moderate health disorders has the same effective results as face-to-face therapy. Meanwhile, for serious

mental health disorders, further research is needed (Greenwood et al., 2022) (Atsani & Anjari, 2023).

Effectiveness of telemedicine mental health (TMH)

Telemedicine is an alternative reference chosen by the community. This online consultation service platform allows individuals to get counseling services without having to come directly to a health service center face to face with a psychologist. This service can save time, is efficient, feasible, and can be accessed at any time (Putri et al., 2021). In addition to improving the quality of public health, this technology offers many benefits to users.

The virtual consultation process is very helpful for patients who live far from health facilities. Especially for treating mild mental health disorders such as anxiety disorders, depression, and other disorders, this telemedicine facility is very effective (Chairani, 2023). In fact, many people are afraid and embarrassed to go directly to the hospital to be examined for mental disorders, because they are afraid of what people around them will think. Unlike telemedicine, their identity is protected and the consultation time is more flexible. Psychotherapy provided via telehealth can be an alternative to face-to-face psychotherapy for the treatment of less common mental health conditions

and physical conditions that require psychological care (Greenwood et al., 2022).

The implementation of TMH has been implemented in several countries and can be applied to various age groups ranging from children to the elderly using several methods, including initial psychological consultation, initial examination (screening), integrated examination, disease management, emergency response and collaborative care for psychoeducation in social groups and communities (Sari et al., 2020).

Research on mental health services in the form of online counseling on adolescent mental health has been tested in Indonesia using a quasi-experimental design with a pretest-posttest control group design, becoming a youth-friendly mental health service media with its advantages in features that are not obtained by clients in face-to-face counseling. Online counseling offers easy access, flexibility, security, and comfort for users who fall into the adolescent category, where research shows that providing online counseling based on brief cognitive behavioral therapy has proven to be very effective in helping adolescents deal with mental health problems and social adjustment problems in their daily lives (Sosialita, 2022). The use of telecommunications and information technology to provide access to mental health assessment, diagnosis, intervention, consultation, remote supervision) is an effective and efficacious tool to overcome many of the barriers faced in providing adolescent mental health care (Orsolini et al., 2021). The use of telehealth also resulted in high satisfaction for pregnant women to undergo pregnancy care during the COVID-19 pandemic because telehealth services make it easier to see a doctor or specialist, save time for travel, and convenience of access to health care providers (Ratnasari et al., 2022). Similar methods have also been shown to help clients overcome social anxiety and reduce symptoms of depression. These studies provide insight into the great opportunity for implementing TMH in Indonesia. The majority of respondents regarding the quality of service are good and satisfied with telemedicine services. The relationship between service quality and satisfaction shows a significant relationship where

good quality telemedicine services can increase customer satisfaction compared to poor quality services (Muhlizardy et al., 2023). Some examples of popular mental health telemedicine applications in Indonesia include Halodoc, Good Doctor, and ALODOKTER. These applications offer online consultations with psychologists or psychiatrists as well as information related to mental health.

Factors that contribute to the success of telemedicine

Professionalism and ethics in service

The application of TMH by psychologists as professionals in providing these services has a professional ethical basis based on skills acquired during education, training, field experience in the form of professional practice and research. As in clinical services in general, when providing interventions, the protection of providers and users is always considered. Consultations are carried out virtually and medical personnel will keep the patient's identity confidential because it is stated in the oath of office they take (Atsani & Anjari, 2023). When someone reveals themselves to us, it means that the person trusts and believes in us. This can be done by being responsible for the confidentiality of information and maintaining that trust (Arianti & Destiwati, 2022).

Supporting infrastructure and technology

Infrastructure and technology factors are needed in telemedicine to support the smooth implementation of telemedicine and can support the satisfaction of telemedicine users (Riyanto, 2021). Ease of access to networks and information allows direct and real-time services that are generally provided by psychiatrists, clinical psychologists, clinical social workers, and psychiatric nurse practitioners. Aspects of supporting facilities and devices are vital to get attention, maintain network stability, so as not to interfere with the consultation process where there will be repeated disconnected emotions throughout the consultation and several things that need to be anticipated (Sari et al., 2020). The implementation of digital technology requires

adequate infrastructure and stable internet access (Nugroho et al., 2023).

Patient multiculturalism

Differences and variations in culture between patients and service providers are important considerations in providing mental health services. Culture can be expressed in a number of ways such as language, customs and habits in the social environment, and attitudes or perceptions of a person or society about a disease and its treatment (Sari et al., 2020). The presence of new technology and its proper application can effectively overcome cultural differences in interventions. An approach to understanding the patient's culture and community is needed to be able to overcome geographical distances and set standards to ensure the quality of TMH services.

Helper Competency

Helper competency determine whether a particular telecommunications technology is suitable for clients/patients, although the various studies above have provided empirical evidence regarding the effectiveness of its use. The use of TMH services uses many different methods and applications in several cases in Indonesia. In the SEJIWA Service, several specific conditions were found where callers found it difficult to convey and tell their complaints and personal problems due to their unstable mental and emotional conditions, therefore volunteer psychologists must apply their interpersonal communication skills in the form of certain approaches and methods to help callers to always be open in telling their feelings and conditions to psychologists so that the recovery process can run effectively (Arianti & Destiwati, 2022). Online communication via telemedicine poses various challenges for psychologists in building effective therapeutic relationships with clients. The absence of nonverbal cues makes it difficult to interpret emotions, and relying on verbal communication alone can limit understanding of the client's problems as a whole (Lisnarini et al., 2023). Likewise, with cultural and regional characteristics. Psychologists are required to try to understand the culture, language,

socioeconomic, and other individual characteristics (e.g., health status, mental stability, physical/cognitive disabilities, personal preferences) and organizational culture that may impact effective use in the provision of TMH services. Professional psychologists must have proficient competence in operating TMH service support applications and programs, such as the process of managing them, including how to store information and data and maintain patient security and privacy. Additional relevant educational training, with related training programs, seminars and workshops.

DISCUSSION

The use of telemedicine in mild mental health consultation services results that tend to be the same or even more efficient when compared to face-to-face consultations. Especially efficiency in terms of time, cost, and distance or geography. This is in line with the results of Greenwood's study, which examined 931 patients with various symptoms. This study has examined psychotherapy provided for a variety of less common mental health conditions and other conditions requiring psychotherapy.

Of the 12 studies, 2 (17%) involved patients with type 1 diabetes mellitus, 2 (17%) involved patients with addictive disorders, 1 (8%) involved patients with bulimia nervosa or eating disorders, 3 (25%) studies involved participants with disorders in children (including disruptive behavior disorders, conduct disorders, tic disorders, and attention deficit hyperactivity disorder), 2 (17%) involved patients with chronic diseases (chronic fatigue syndrome and chronic multisymptom disease), 1 (8%) study involved patients with various mental health conditions, and 1 (8%) involved patients with cancer who had high psychological needs.

The type of therapy varied by target condition: of the 12 studies, 5 (42%) used CBT, 4 (33%) used family therapy (parent-child interaction therapy, parent coaching, and behavioral family systems therapy for diabetes), 2 (17%) used addiction therapy (opioid treatment programs and acute

therapy services), and 1 (8%) used a cognitive behavioral intervention for tics. Finally, of the 12 studies, 3 (25%) used telephone to deliver telehealth, 7 (58%) used video, and 1 (8%) included both video and telephone groups, and in 1 (8%) study, it was unclear whether video or telephone was used. All studies compared telehealth interventions with face-to-face interventions (Greenwood et al., 2022). Greenwood's main findings from this systematic review of 12 trials were that there was insufficient evidence for differences between psychotherapy delivered via telehealth (telephone or video) and face-to-face therapy, when treating less common mental health conditions or physical conditions requiring psychological support. There were no significant differences between telehealth and face-to-face for patient outcomes (symptom severity, symptom improvement, or global functioning), post-treatment or at follow-up time points. Although financial outcome data on costs could not be meta-analyzed, patients with substance use disorders rated telehealth therapy higher than face-to-face therapy, treatment costs were lower for telehealth than face-to-face therapy for patients with bulimia nervosa (especially across a large geographic area), and therapist time costs were equivalent, regardless of delivery mode, for cancer patients receiving CBT. This suggests that telehealth is at least as cost-effective as face-to-face care and may potentially be perceived as superior by clients. Psychotherapy delivered via telehealth may be an alternative to face-to-face psychotherapy for the treatment of less common mental health conditions and physical conditions requiring psychological care. Further research is needed to assess the efficacy of telehealth for some conditions for which this review did not find evidence (such as schizophrenia and bipolar disorder) and to optimize the delivery of telehealth interventions across different patient groups (Greenwood et al., 2022). For patients with mild mental disorders, telemedicine provides the right solution for patients in remote areas and far from health facilities to get the mental health services they need. This solution reduces the time needed for the diagnosis and treatment process. Online consultations can not only overcome the shortage of medical personnel, but also improve the efficiency of medical

treatment and the quality of hospital services. This saves patients time and money compared to visiting the hospital in person. The use of telemedicine is considered safe and comfortable, and can meet the needs of patient consultation. Meanwhile, for severe mental disorders such as schizophrenia and bipolar disorder, further research is needed to determine its effectiveness in implementing telemedicine and online psychotherapy.

CONCLUSION

Optimal utilization of information and communication technology opens up opportunities for the development of professional psychology services with the aim of achieving public mental health. Telemedicine has become an effective alternative in mental health consultation services. This is because telemedicine is considered more effective and efficient and always innovates with technological developments. The effectiveness of telemedicine in online psychotherapy for mild and moderate mental disorders is as effective as face-to-face therapy. And in terms of cost, time, and distance or geographical conditions, telemedicine is considered more effective and has a wider reach. So many people prefer telemedicine to consult about the mental problems they experience and most of them are satisfied with this service. The existence of factors that play a role such as professionalism and ethics in service, supporting infrastructure, patient multiculturalism, and the competence of psychologists as service providers are determining factors for the success of implementing telemedicine in mental health services. TMH in Indonesia has now been rolled out nationally, especially psychological counseling services through the SEJIWA hotline as one of the answers to the mental health needs of the community in the digitalization era, which provides mental health and psychosocial services. Meanwhile, the use of telemedicine for severe mental disorders such as schizophrenia and bipolar disorder requires further research. This is because it requires different handling and care. This is in accordance with the results of the analysis of Greenwood, et al (2022). So further studies are needed for the development of telemental health in

the future. This creation and development needs to be carried out by government agencies and related hospitals as a form of seriousness in utilizing telemental health. Cooperation with professional organizations as ethical managers, monitors and controls is needed so that services synergize in setting professional boundaries and authorities. The government as a provider of facilities, both infrastructure, regulations, and systems, is expected to play an optimal role in efforts to improve comprehensive and effective community mental health services.

DECLARATION OF POTENTIAL CONFLICT OF INTEREST

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