



The Utilization of Telehealth for Adolescents Mental Health 2019-2025: A Review

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Abstract

Globally, one in seven adolescents experiences mental disorders, accounting for 15% of the disease burden in this age group. Depression, anxiety and behavioral disorders are the most common mental health problems experienced by adolescents. Services that can be used to prevent and address mental health problems include telehealth-based digital consultation services. Telehealth refers to remote healthcare services. This study aims to determine the effectiveness of telehealth in managing mental health issues, particularly among adolescents. The method is a Systematic Literature Review (SLR) with PRISMA guidelines. Articles were searched through Google Scholar and PubMed. Inclusion criteria are the use of telehealth among adolescents with mental health issues, articles in English with full access and published between 2019 and 2025. 21 articles were reviewed. Most telehealth applications for addressing mental health issues in adolescents have been conducted in developed countries, while studies in developing countries, including Indonesia, remain limited. Telehealth is an effective, efficient, and widely accepted solution for improving adolescent mental health access, but it is not a perfect substitute for face-to-face services. Its success depends on technological adaptation, equitable access, and an approach based on adolescent preferences. Telehealth offers an innovative solution but still faces several challenges in its implementation.

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Introduction

Adolescence is a very crucial period. During this time, adolescents experience rapid physical, cognitive, and psychosocial growth. This affects how they feel, think, make decisions, and interact with their surroundings (WHO, 2024).

Globally, one in seven adolescents experiences mental disorders, accounting for 15% of the disease burden in this age group. However, most of these disorders remain unrecognized and untreated (Garcia-Carrion et al., 2019). Depression, anxiety, and behavioral disorders are the leading causes of illness and disability among adolescents. Suicide is the third leading cause of death among those aged 15–29 tahun (Riastuti Kusuma Wardani et al., 2023; WHO, 2024). In Indonesia, adolescent mental health requires attention (Riastuti Kusuma Wardani et al., 2023) based on the Indonesia–National Adolescent Mental Health Survey (I-NAMHS, 2022), one in three adolescents (34.9%) in Indonesia experienced at least one mental health issue in the past 12 months, and one in twenty adolescents (5.5%) experienced at least one mental disorder in the past 12 months. According to the Health Policy Development Agency (BKPK, 2023) 1% of adolescents experience depression, 3.7% anxiety, post-traumatic stress disorder (PTSD) 0.9%, and attention-deficit/hyperactivity disorder (ADHD) 0.5%. Approximately 80-90% of suicide cases are attributed to depression and anxiety (Sari, 2024).

Often, these psychological disorders go unnoticed and do not receive appropriate treatment (BKPK, 2023) leading to ongoing failure to address adolescents' mental health conditions into adulthood, disrupting physical and mental health, and limiting opportunities to lead fulfilling lives as adults. To grow and develop healthily, adolescents need information, including comprehensive and age-appropriate

sexuality education; opportunities to develop life skills; accessible, fair, appropriate, and effective health services; and a safe and supportive environment (WHO, 2024).

Various forms of mental health support are available for children and adolescents, including school-based interventions, community-based services, and psychotherapy programs within healthcare services. However, in addition to waiting times, other barriers such as financial constraints, social stigma, and geographical accessibility pose significant limitations to accessing in-person visits (Liverpool et al., 2025).

Services that can be provided to adolescents to prevent and address mental health issues include utilizing digital consultation services such as telehealth as a form of digital transformation (Harun, 2025; Liverpool et al., 2025; Nuru et al., 2021). Chiang et al. (2021) in Muhammad (2024) write that telehealth has a broader scope. It is sometimes also referred to as telemedicine, which is the use of electronic information technology and telecommunications to expand healthcare services when healthcare providers and patients are not available at the same time and place. Telehealth is also a new term referring to remote healthcare that includes clinical and social services provided using telemedicine. Since the onset of COVID-19, these digital interventions have been widely used to provide healthcare services with easier access, including mental health issues (Komm, JV. et, 2020; Liverpool et al., 2025).

Numerous studies have shown that telehealth is effective in addressing and preventing mental health disorders in adolescents. However, there are also many barriers to implementing telehealth as a promising method for preventing and treating mental health issues (Breslau et al., 2025). Based on this, the purpose of this study is to determine the effectiveness of telehealth in managing mental health issues, particularly among adolescents from 2019-2025.

Methods

The research method employed is a Systematic Literature Review (SLR), following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework. Article searches were conducted through Google Scholar and PubMed. Inclusion criteria consisted of studies focusing on the use of telehealth among adolescents (aged 10–19 years) experiencing mental health issues. Only articles published between 2019 and 2025, written in English, with full access available, were considered. The keywords used included (“Telehealth” OR Telemedicine”) And “Utilization,” And (“Mental Health OR Mental Disorder”) And “Adolescents.”

Results

Following a search for scientific articles through Google Scholar and PubMed, 21 articles were identified that met the inclusion and exclusion criteria (Figure 1). These articles were published between 2019 and 2025, with the findings summarized as follows (table 1).

Most telehealth use to address mental health issues in adolescents has been in developed countries, while research in developing countries, including Indonesia, is still very limited. Several sources have written that telemental health is an effective, efficient, and widely accepted solution to improve adolescent mental health access, but it is not a perfect substitute for face-to-face services. Its success depends on technological adaptation, equal access, and an approach based on adolescent preferences.

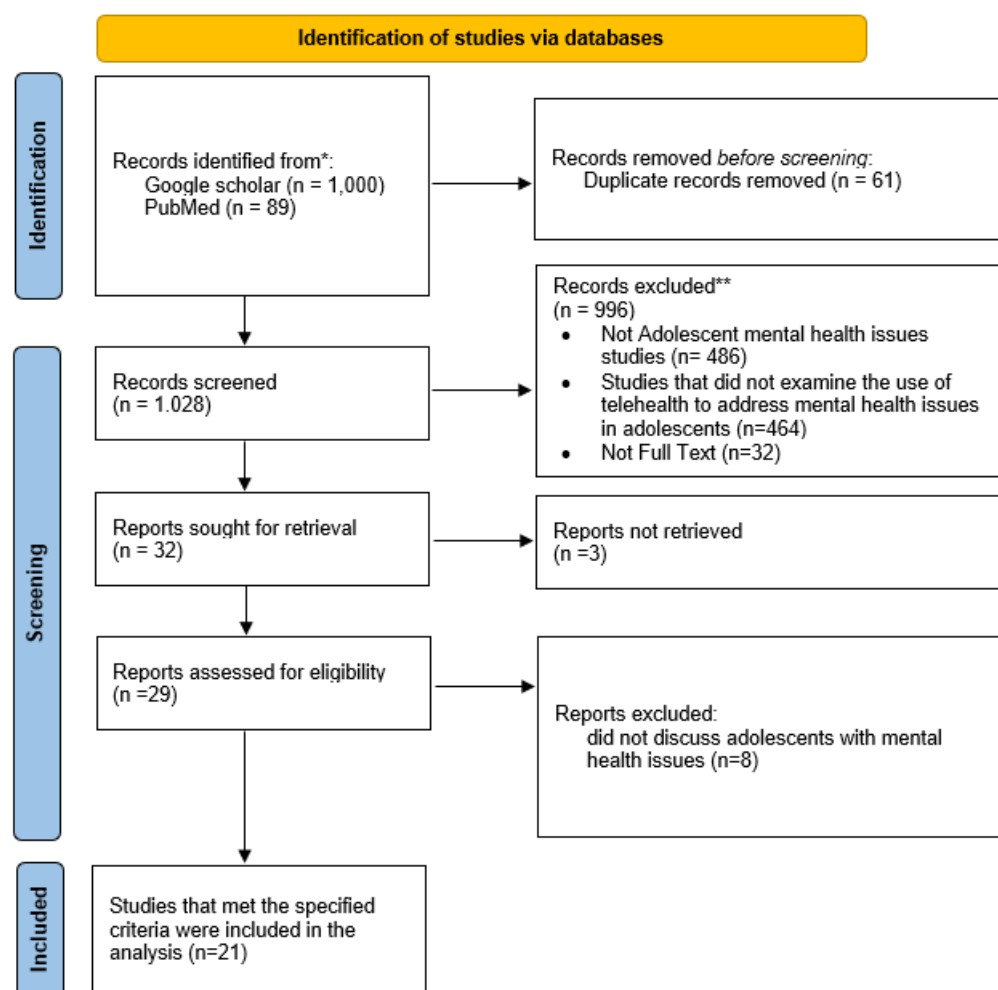


Figure 1. PRISMA 2020 Flow Diagram

Table 1. Articles Collected

No	Author	Title	Method	Location	Result
1	(Baldofski et al., 2019)	Efficacy and cost-effectiveness of two online interventions for children and adolescents at risk for depression (E.motion trial): study protocol for a randomized controlled trial within the ProHEAD consortium	Randomized Controlled Trial (RCT)	Germany	This study is the first randomized clinical trial to evaluate the effectiveness and cost of two online interventions for children and adolescents over the age of 12 who are at risk of depression. The aim of this study is to understand how they seek help, the benefits of online mental health interventions, and any negative effects that may arise. This clinical trial will: (1) provide evidence on internet-based depression prevention in children and adolescents; (2) evaluate its impact on help-seeking; and (3) provide information on the cost-effectiveness of the intervention.
2	(Edbrooke-	A Feasibility Trial of	Feasibility	United	Research conducted through

No	Author	Title	Method	Location	Result
	Childs et al., 2019)	Power Up: martphone App to Support Patient Activation and Shared Decision Making for Mental Health in Young People	Trial	Kingdom	interviews shows that adolescents find the Power Up app acceptable. Adolescents conveyed (1) their reasons for using Power Up, (2) the impact of its use, and (3) the difficulties they encountered when using the app. The findings of this study indicate that this app is acceptable and worthy of testing its effectiveness in a prospective randomized controlled clinical trial.
3	(Toscos et al., 2019)	Teens Using Screens for Help: Impact of Suicidal Ideation, Anxiety, and Depression Levels on Youth Preferences for Telemental Health Resources	Cross-sectional	United States of America	16.03% of students have used at least one of four types of Telemental Health resources, such as anonymous conversations, online counselors, or crisis hotlines. Many teenagers who experience symptoms of depression or have suicidal thoughts do not talk to their parents about their problems. There is a link between suicidal ideation and the use of mental health resources. Teenagers who face mental health problems tend to seek support from available resources. Further research should take their preferences into account.
4.	(Moorman, 2022)	COVID-19 pandemic-related transition to telehealth in child and adolescent mental health	Case study-qualitative design	United States of America	Telehealth in mental health services provides benefits such as increased patient attendance and adolescent participation, although it is less effective for young children. While it helps overcome barriers to care, there are concerns about privacy, risk assessment, and interpretation of nonverbal cues. Families and practitioners like its convenience but remain aware of its limitations. Post-pandemic telehealth integration is now a top priority.
5.	(Lau et al., 2021)	Telemental Health For Youth With Chronic Illnesses: Systematic Review	Systematic Review	United States of America	Telemental health interventions need to be appropriate, acceptable, and satisfactory to patients and parents without hindering access to services. Studies

No	Author	Title	Method	Location	Result
					show mixed results, but variations in treatment and diagnosis make comprehensive analysis difficult. Research on telemental health for adolescents with chronic illnesses is still limited, although face-to-face interventions can be adapted to telehealth. However, evidence of their effectiveness is still scarce and inconsistent. Further research is needed to assess its feasibility as a long-term post-pandemic alternative.
6.	(Nicholas, 2021)	Implementation lessons from the transition to telehealth during COVID-19: a survey of clinicians and young people from youth mental health services	Cross-sectional	Australia	The majority of adolescents believe that telehealth has a positive impact on the quality of mental health services, with perceptions that are better than those of medical personnel. There is a strong desire to maintain its use after the pandemic, demonstrating its potential as a sustainable service. Further research is needed to optimize long-term implementation.
7.	(Orsolini et al., 2021)	A Systematic Review on TeleMental Health in Youth Mental Health: Focus on Anxiety, Depression and Obsessive-Compulsive Disorder	Systematic Review	Italy	A total of 56 studies focused on Telemental Health applied to adolescent depression (n = 29), adolescent anxiety alone (n = 12), or mixed adolescent anxiety/depression (n = 7), and adolescent obsessive-compulsive disorder (OCD) (n = 8). Based on the findings of these studies, Telemental Health—which leverages telecommunications and information technology to provide services such as mental health assessments, diagnosis, intervention, consultation, and supervision remotely—has proven to be an effective and efficient solution in addressing various barriers to accessing mental health services for adolescents.
8	(Svistova et al., 2022)	Use of Telehealth Amid the COVID 19 Pandemic: Experiences of Mental Health	qualitative research design—exploratory	United States of America	This study examined the experiences of 147 mental health service providers and public insurance providers

No	Author	Title	Method	Location	Result
		Providers Serving Rural Youth and Elderly in Pennsylvania	study		with telehealth. The findings showed the benefits of telehealth, such as maintaining services during the pandemic, increasing parental participation, reducing transportation issues, and decreasing patient absenteeism. However, there were challenges, such as it not being suitable for all adolescents, technological difficulties for parents, and areas without internet connectivity.
9.	(Toulany et al., 2022)	Health System-Level Evaluation of Tele-Mental Health Services Among Children and Adolescents in Ontario, Canada	Quantitative - Retrospective	Canada	Telemental health services are underutilized in Ontario, even among children and youth with high needs, despite being associated with increased access to care and fewer needs for acute mental health care.
10.	(Wright, 2021)	Using telehealth to assess depression and suicide ideation and provide mental health interventions to groups of chronically ill adolescents and young adults	Mixed-methods	United States of America	Group therapy sessions were conducted via an audiovisual telehealth platform with an encrypted system protected by a firewall, with patients at home and therapists in the office. Of the 40 participants, 25% initially showed symptoms of depression or suicidal thoughts. Following the intervention program, all participants experienced significant improvement, with depression scores returning to normal and no reports of suicidal thoughts over the course of one year. Evaluations indicated that participants were highly satisfied with the interactions, ease of use of the technology, and new knowledge gained. The research protocol demonstrated that telehealth is effective for mental health support.
11.	(Zhou et al., 2021)	Are online mental health interventions for youth effective? A systematic review	Systematic review	Australia	The results showed that 64% (29 interventions) of telemedicine interventions were effective in treating depression, anxiety, stress, insomnia, and improving quality of life compared to the control group. In conclusion,

No	Author	Title	Method	Location	Result
					online mental health interventions are considered effective for managing various mental disorders in adolescents. Online self-help platforms are the most widely used method, while AI-based chatbots emerge as a promising solution. However, further research is needed to explore strategies that can improve participant retention rates and satisfaction with telemedicine interventions in this population.
12.	(Campos-castillo et al., 2020)	Mental Healthcare Utilization, Modalities, and Disruptions During Spring 2021 of the COVID-19 Pandemic Among U.S. Adolescents	Cross-sectional	United States of America	Demographic data shows variations in preferences and accessibility of mental health services. Text/chat communication is more commonly used by racial and ethnic minority groups. Parental support plays an important role in providing a private space for telemedicine consultations. Meanwhile, Black adolescents are less likely to make in-person visits compared to other groups. However, among those who cannot access care, a higher proportion of Black adolescents prefer in-person consultations.
13.	(Davidson et al., 2022)	Best Practice During Teleconsultations With Adolescents: A Scoping Review	Scoping review	Australia	There is still limited evidence regarding the challenges of implementing teleconsultation for adolescents. Several aspects that still require further study include: (1) limitations on the severity and scope of health problems that can be handled through teleconsultation, (2) its impact on health service gaps, and (3) technical aspects of implementing online consultations.
14.	(Mseke et al., 2023)	A systematic review of the preferences of rural and remote youth for mental health service access: Telehealth versus face-to-face consultation	Systematic review	Australia	Although telehealth improves access to mental health services, adolescents in rural and remote areas tend to prefer face-to-face consultations with professionals, viewing telehealth as a supplement rather than a replacement.

No	Author	Title	Method	Location	Result
					However, more in-depth research is needed to understand the context and reasons behind this preference.
15.	(Hong et al., 2023)	Trends in Pediatric Primary Care Visits During the COVID-19 Pandemic: Opportunity to Address Adolescent Behavioral Health Through Telemedicine	Quantitative retrospective	California	A study of 4,844 pediatric visits (2019-2021) revealed: A 15% increase in adolescent mental health cases ($P<0.001$). Telemedicine remained dominant (43%) among adolescents despite a decline in other groups. The pandemic had the most significant impact on adolescent mental health. There is a need for innovation in mental health services post-COVID-19.
16.	(Rankine et al., 2023)	Adolescent Perspectives on the Use of Telemedicine for Confidential Health Care: An Exploratory Mixed-Methods Study	Mixed-method study	United States of America	The study involved 88 participants (57 gender-diverse youth/GDY and 28 cisgender women). Factors influencing acceptance of telemedicine for confidential services included: patient location, telehealth technology, clinician-youth relationship, and quality of service experience. Efforts to protect confidentiality that were considered effective included the use of headphones, secure messaging, and clinician guidance. Most participants (53/88) stated that they were likely to use telemedicine for confidential consultations in the future, although confidence levels in maintaining confidentiality varied depending on the service components.
17.	(Richards et al., 2023)	The Impact of School Closures on Service Utilization in School-Based Health Centers	Retrospective	United States of America	Despite a global increase in mental health needs, this study found a significant decrease in the number of case referrals, psychological evaluations, and total students receiving behavioral health services. This decrease is specifically related to the transition to telehealth services. It is worth noting that service levels did not return to pre-pandemic levels even though in-person

No	Author	Title	Method	Location	Result
					services were available again. These findings indicate that while telehealth offers convenience and is necessary, it has specific limitations when implemented in school-based health centers.
18.	(Toulany et al., 2023)	Sociodemographic Differences in Physician- Based Mental Health and Virtual Care Utilization and Uptake of Virtual Care Among Children and Adolescents During the COVID-19 Pandemic in Ontario, Canada: A Population-Based Study	Cross-sectional	Canada	Analysis shows disparities in the utilization of pediatrician-based mental health services during the first year of the pandemic: in terms of socioeconomic inequality, there was a 5% decrease in the most deprived areas and a 4% increase in the most affluent areas. Based on migration status, immigrants showed a 14-26% increase (July 2020-February 2021), while refugees had visitation rates in line with predictions. Regarding the use of virtual care, 70% of the general population and 65% of refugees (the lowest) utilized it. The conclusion is that service utilization reveals: Limited access for socioeconomically deprived groups, the lowest adoption rate of virtual care among the refugee population, and the need for further investigation into actual access barriers and the need for adjustments to post-pandemic recovery programs.
19.	(Breslau et al., 2025)	Telehealth Use for Mental Health Treatment Among US Adolescents	Cross-sectional	California	45.3% of adolescents who received mental health care in the past year used telehealth. The highest use of telehealth was for specialist services in clinics (54.5%), much higher than in schools (9.2%) or other health facilities (<6%). Adolescents who accessed care in multiple settings were more likely to use telehealth if it included specialist clinic services (71.4% vs. 27.6%). Factors such as age, gender, location, and mental health condition influenced telehealth use. The conclusion is that telehealth is most commonly used in specialist clinic services. Its

No	Author	Title	Method	Location	Result
					use should be expanded in schools and mental health centers to improve access to care.
20.	(Crowley et al., 2025)	Digital Health Interventions for Adolescents with Long-Term Health Conditions in South Africa: A Scoping Review	Scoping review	South Africa.	Of the nine studies analyzed, the majority addressed HIV, depression/anxiety, and diabetes, with interventions based on WhatsApp, SMS, or social media for peer or professional support. Key findings focused on aspects of acceptance and feasibility, while effectiveness data remains limited. Though promising, Digital Health Interventions/DHIs currently have limited scope and face implementation challenges. The development of affordable and adaptive solutions involving adolescents as co-designers is needed to enhance sustainability and scalability in South Africa.
21.	(Liverpool et al., 2025)	Updates on digital mental health interventions for children and young people: systematic overview of reviews	Systematic review	United Kingdom	From 51 systematic reviews (2000-2023), Digital Mental Health Interventions/DMHIs (primarily based on Cognitive Behavior Therapy/CBT via video or apps) have been proven effective for anxiety and depression in children/adolescents (0-25 years). The advantages of these interventions are easy access, cost efficiency, and good acceptance. However, long-term effectiveness remains inconsistent, with challenges related to healthcare provider readiness and ethical standards. Further research with more diverse approaches is needed.

Discussion

Adolescent Mental Health

Kessler et al. (2008) in Nicholas (2021) wrote that mental health disorders generally begin in adolescence and early adulthood, highlighting the importance of early intervention during this period. Based on the results of the above literature study, the high rate of mental health disorders in adolescents is a matter of concern. Some of them have mental health issues such as anxiety disorders, depression, and suicidal thoughts. Adolescents with mental health disorders tend not to have a place to talk about their feelings, so the use of online media, such as telehealth, becomes an alternative for them to cope with what they are feeling (Toscos et al., 2019).

Devita (2020) in Husri et al., (2025) writes that adolescence is a period of comprehensive transformation encompassing physical, psychological, emotional, and social changes. Kholifah & Sodikin

(2020) in Husri et al., (2025) explain that early adolescents experience psychosocial development marked by efforts to search for their identity. This process of identity formation is often characterized by various internal and external conflicts. According to Hutama (2022) in Husri et al., (2025), adolescents in the identity search phase are prone to problems such as conflicts with parents, a tendency to experiment, and unstable emotional fluctuations. If these changes and challenges are not addressed appropriately, they have the potential to trigger psychological and mental disorders in adolescents.

According to Toulany et al. (2022), the average age of adolescents with special needs is 14.9 years, with a predominance of females (58.5%). Based on the nature theory cited by Susanti et al., (2018) from Hurlock (2010), there are differences in psychological development between adolescent girls and boys—where girls tend to be more sensitive and experience emotional changes more quickly. These characteristics make female adolescents more prone to deeply contemplating various issues, potentially leading to mental health disorders (Husri et al., 2025).

Based on the findings of Toulany et al. (2022), the majority of adolescents experiencing mental health issues come from urban areas (85.2%). In fact, most evidence suggests that urban life is a risk factor for poorer mental health, leading to increased risks of psychosis, anxiety disorders, and depression (Collins et al., 2024). The complex urban environment significantly influences adolescent development. Adolescents are highly sensitive to urban social dynamics due to intense neuropsychological responses to rejection and threats, making them vulnerable to the effects of systemic discrimination. Structural inequalities increase the risk of depression and decreased self-efficacy, while social cohesion acts as a protective factor (Collins et al., 2024).

Benefits of Telehealth

Campos-castillo et al. (2020) found that half of mental health service users use telehealth, with text/chat communication being most popular among marginalized racial groups due to stigma associated with mental health care. Text services also provide privacy for adolescents who are concerned about parental supervision during consultations.

Rural and remote areas, in particular, face severe shortages of mental health practitioners and resources for children and adolescents. As a result, telemental health services have been implemented to bridge this geographical gap and improve access to mental health services (Toulany et al., 2022).

The internet is widely used and disseminated among young people, and many web-based applications can be used to improve access to mental health care, especially in remote and distant areas or in places with a shortage of mental health practitioners (Orsolini et al., 2021).

Increased participation of adolescents seeking mental health consultations (Moorman, 2022). Telehealth can result in significant financial savings for families who can access care while avoiding travel costs, accommodation, and time constraints associated with in-person visits far from home.

In general, this model has received positive acceptance from the three main stakeholders: healthcare professionals, the adolescent population, and parents/guardians. However, (Davidson et al., 2022) noted a preference for conventional consultations in certain cases, such as speech disorder therapy (stuttering), which requires direct interaction.

According to research by Orsolini et al. (2021), telemental health interventions via video calls (VC) or audio calls have proven feasible, preferred, and easy to implement for addressing adolescent mental health issues such as depression, anxiety disorders, and OCD. However, the development of more standardized practice models and modalities is still needed to ensure service quality equivalent to face-to-face counseling while guaranteeing safety aspects for adolescents and parents.

Limitations of Telehealth

The use of telehealth in providing mental health services to adolescents has not been well documented to date (Nicholas, 2021). There are concerns regarding data confidentiality, assessment of risk of violence or neglect, and difficulties in understanding nonverbal cues (Moorman, 2022).

Research on telehealth for adolescent mental health remains limited, with the last review in 2004 (Pesämaa et al.) focusing solely on feasibility. Subsequent studies (Richardson et al., 2009; Bashshur et al., 2016) confirm the limited progress in research, particularly for ages 14–25—an irony given that this group is a potential “digital native” population for digital solutions (Burns et al., 2016; Nicholas, 2021).

Additionally, Svistova et al. (2022) noted that telehealth interventions cannot be applied to all adolescents, and network constraints in areas without internet or cellular signals also pose challenges. Variations in internet speed cause clients to have difficulty understanding instructions. Sibley et al. in Davidson et al. (2022) report that privacy is also a minor concern for some adolescents and families, as well as for some doctors. Some adolescents also feel anxious when they are seen on screen during counseling.

Conclusion

Telehealth offers innovative solutions for remote counseling and therapy for adolescents with mental disorders, despite facing several implementation challenges. Although video call or audio-based interventions have proven to be feasible and preferred, the development of a standardized practice model is needed to ensure the same quality as face-to-face counseling and to protect the safety of patients and parents. The need for sustainable policies for the expansion of personalized telehealth services, especially in remote areas. The importance of parental involvement in providing a private consultation space.

The limitation of this article is that it only focuses on a global literature review and does not examine how telehealth is used in Indonesia. It is hoped that future authors will conduct studies or research on how telehealth can be used to address mental health issues, particularly among adolescents in Indonesia.

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