Jurnal Manajemen Teknologi

Examining the Technical Issues in Teletherapy for Children with Developmental Delays

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Abstract. *Medical digitization has advanced in developing countries, improving work efficiency. Teletherapy has emerged from this advancement. Nevertheless, teletherapy has encountered obstacles, such as software and hardware issues. Problems arose from technological factors such as slow connectivity, inadequate hardware specs, and poor audiovisual. This study aims to examine the technical issues related to teletherapy for children with developmental delays. By implementing descriptive statistical approaches with 43 participants, we found that patients struggled to be involved in teletherapy, resulting in the need for special guidance in the process. Therapists felt their clients' places were extremely crowded, and the low video quality of their devices hampered their ability to conduct optimal observations. Patients had a higher level of satisfaction and interest than therapists, meaning the patients would likely continue to be involved in the future. We also came up with another finding indicating that confidentiality has not become a major concern since building an intimate therapeutic relationship and learning to operate technology are still top priorities. Henceforth, implementing teletherapy would need a solid strategy in the future.*

Keywords: *Children, digitization, technical issues, teletherapy, therapists*

Abstrak. *Digitalisasi kesehatan mengalami kemajuan di negara-negara berkembang, sehingga meningkatkan efisiensi kerja. Teleterapi muncul dari kemajuan ini. Meski demikian, teleterapi memiliki berbagai kendala, seperti masalah perangkat lunak dan keras. Masalah muncul dari faktor teknologi seperti konektivitas lambat, spesifikasi perangkat keras yang tidak memadai, dan audiovisual yang buruk. Studi ini bertujuan untuk mengkaji permasalahan teknis terkait teleterapi untuk anak-anak dengan keterlambatan perkembangan. Dengan menerapkan pendekatan statistik deskriptif terhadap 43 partisipan, kami menemukan bahwa pasien kesulitan untuk terlibat dalam teleterapi, sehingga memerlukan bimbingan khusus dalam prosesnya. Terapis merasa tempat klien mereka sangat ramai, dan kualitas video yang rendah pada perangkat mereka menghambat kemampuan mereka untuk melakukan observasi yang optimal. Para pasien memiliki tingkat kepuasan dan minat yang lebih tinggi dibandingkan para terapis, di mana para pasien kemungkinan besar akan terus terlibat di masa mendatang. Kami juga menemukan temuan lain yang menunjukkan bahwa kerahasiaan belum menjadi perhatian utama karena membangun hubungan terapeutik yang intim dan belajar mengoperasikan teknologi masih menjadi prioritas utama. Untuk selanjutnya, penerapan teleterapi akan memerlukan strategi yang solid ke depannya.*

Kata kunci: *Anak-anak, digitalisasi, permasalahan teknis, teleterapi, terapis*

Introduction

Health digitization has significantly accelerated in developing countries, reducing paperwork, and increasing job efficiency (Gebre-Mariam & Bygstad, 2019). Digital technology can improve healthcare activities, enabling higher quality and benefits for physicians and patients (Laurenza et al., 2018). If implemented correctly, this technology can have a positive impact and minimize weaknesses in previous practices. Digitization in healthcare focused on innovative solutions to healthcare challenges, providing unique patient experiences, and accelerating the growth of healthcare professionals (Kumar et al., 2020). This phenomenon led to technological breakthroughs that improve health services and offer new ways of practicing medicine (Bele et al., 2018). Telehealth or telemedicine came as one of the innovations from this digitalization. It delivered health care services over the internet and video conferencing technologies.

Those aged 18 and older represented the largest proportion of telemedicine users in the United States, with 42% of this demographic being female (Lucas & Villarroel, 2022). Across all population categories, telehealth utilization maintained regularly above 20% between 2021 and 2022 (Lee et al., 2023). Outside the United States, Indonesia was also already familiar with telehealth and telemedicine programs, especially during the COVID-19 pandemic. Amid the pandemic, there has been a surge in the adoption of local application-based services, such as Halodoc and Alodokter. Additionally, several healthcare providers offered online health services.

About 202.6 million people in Indonesia (or 73.7% of the total population) had access to the internet (kominfo.go.id). With the availability of telemedicine services, the health service needs of 73.7% of internet users could be resolved. The number of new users of telemedicine services reached 44.1% in the previous six months of 2022 (Setyowati, 2022).

Based on the percentage, it could be concluded that a significant number of people benefited themselves from telemedicine services There were two main considerations that greatly influenced one's decision for switching to these services. The pandemic situation, which prevented them from seeking treatment in person, was mentioned by many telemedicine users as the primary reason. This was followed by a sense of ease and familiarity with the telemedicine platform (katadata.co.id).

Telehealth can be a viable alternative for children's EI (Early Intervention) "'(Cole et al., 2019). "Cole et al. (2019) also stated that it might assist physicians in overcoming schedule conflicts, sickness, and severe weather. Telehealth has become a key component in providing healthcare and rehabilitation to children with developmental disorders (Eguia & Capio, 2022). One example of this telehealth is teletherapy or online therapy. A great deal of consideration was required prior to the implementation of this type of therapy. These included establishing a therapeutic rapport, ensuring user confidentiality, and preparing for potential technical difficulties that might occur during the session.

Building Relationship in Teletherapy
Therapeutic presence (TP) is crucial in the relationship between patients and therapists, enhancing treatment techniques (Geller, 2021) and fostering openness, honesty, and co-responsibility (Cipolletta, 2015). Traditional therapy, such as in-person sessions, is successful due to direct exchanges (Cataldo et al., 2021). The therapeutic relationship (TR) in teletherapy has evolved over time, with three key themes: distanced relationships, powerful connections, and strenuous interactions "'(McCoyd et al., 2022). The practice of teletherapy involves diagnosis, technology use, and therapeutic guidelines (Cipolletta et al., 2018). Accessibility, affordability, and therapeutic feasibility are major issues in online therapy "(Simpson et al., 2021), particularly for physically isolated, remote, mobility-related, and confined individuals.

Wood et al. (2021) identified four main challenges in online therapy: interpreting therapeutic competence, establishing a therapeutic alliance quickly, mitigating risks, and sustaining a digital relationship. Patients may feel uncomfortable exposing their emotions without their therapist's physical presence. "Simpson et al. (2021) mentioned that videotherapy may involve examining therapeutic linkage through the screen and feelings of security. McCoyd et al. (2022) argued that the inability to use one's physicality affects therapeutic alliance, intervention, and relationship issues. Online therapists face challenges in delivering their attendance, which can hinder their ability to create a sense of security and confidence (Geller, 2021). Simpson et al. (2021) found that technology can also lead to boundary violations, as it may mislead the belief that physical contact prevents boundary crossings. This could negatively impact the professional competence of the relationship and therapeutic output. Thus, the versatility of technology in psychology is crucial for effective therapeutic relationships.

Confidentiality
Therapeutic relationships between patients and therapists involve ethical considerations. Fitzgerald et al. (2010) identified four principles: respecting integrity, providing adequate care, and maintaining professional commitments. Lee (2010) explored ethical considerations in online therapy, including potential harm, maintaining professionalism, confidentiality challenges, and intrusion. Stoll et al. (2020) highlighted privacy, confidentiality, and security concerns, while Pulat and Yıldırım (2021) emphasized on the need for differentiated qualifications, security, and risk mitigation in virtual consultations.

Confidentiality is a crucial aspect of medical practice, involving the protection of private information (cambridge.org). It involved therapists not disclosing patient details without explicit consent (Fitzgerald et al., 2010). According to Pulat and Yıldırım (2021), confidentiality is the most frequently

mentioned challenge for practitioners, followed by privacy and proficiency. Other vital issues included crisis response, security problems, client authentication, risk evaluation, and maintaining professionalism (Pulat & Yıldırım, 2021). Online therapy often involves using computers, and measures such as password protection and not sharing family computers are recommended (Lee, 2010).

The COVID-19 pandemic has prompted a shift in therapy methods, with online therapy emerging as a viable alternative. However, concerns about security, privacy, and nonverbal cues have been raised before the pandemic (Lee, 2010). Potential access to patient emails by business owners or relatives (Lau et al., 2013), meaning there were potential threats to confidentiality and privacy—have raised concerns (Bolton, 2017).

Technical Issues in Teletherapy
Teletherapy has gained popularity due to technological advancements and the importance of parent intervention in language development. It remained a valuable tool for children's language learning. Studies highlight the need for engagement, responsiveness to child speech, quality linguistic input, and language learning support techniques (Rojas-Torres et al., 2020). However, teletherapy contained some drawbacks, such as practitioners not providing the same quality of therapy as face-to-face therapy (Rotger & Cabré, 2022), weighing privacy needs, behavior management challenges, and technology's inattentiveness (MacEvilly & Brosnan, 2020).

Teletherapy delivery faced significant challenges due to technological failures, such as poor internet connection, difficulty adjusting to software, and poor audiovisual clarity. Other factors included lack of personal space, patient attitudes, and technological disruptions (Chaudhary et al., 2021; Cole et al., 2019; Johnsson & Bulkeley, 2021; Markowitz et al., 2021; Pesämaa et al., 2004). Online therapy also lacked documentation, questionnaires, and scales, and lack advice on addressing therapeutic relationships (Kotera et al., 2021).

Eguia and Capio (2022) suggested that dependable technology and the ability to utilize it were critical enablers for therapists. Several problems regarding technical issues could be identified, such as internet speed, device specification, environment, technical knowledge, audio/video quality, device interruption, and technical guidance.

The emotional prominence of therapy may be diminished by the use of online platforms given the possibility for an impairment in boundaries between therapists and clients (Kotera et al., 2021). As a result of the "raw" and "alive" aspect of online treatment, therapists were confronting and tackling factors such a lack of knowledge while managing risk, technical subtlety, and unpredictability '(Smith & Gillon, 2021). Managing their behavior might be laborious if several patients were online at once, and the technology could be a distraction in and of itself (MacEvilly & Brosnan, 2020). This addressed the significance of uninterrupted technology in teletherapy and how constant disruptions lower patient and physician satisfaction (Chaudhary et al., 2021). The current understanding of the potential of online therapy remained insufficient, necessitating greater investigation into the unique characteristics of computer-mediated interactions inside the therapeutic alliance (Cipolletta et al., 2018).

Extensive studies have been conducted concerning technological aspects within the context of teletherapy (Cipolletta et al., 2018; Kotera et al., 2021; Pesämaa et al., 2004; Simpson et al., 2021). However, it is essential to note that teletherapy encompassed multiple scenarios, which were contingent upon the specific treatment being administered. A considerable portion of the prior research has primarily concentrated on adults within the domain of psychology (Cipolletta et al., 2018; Erlandsson et al., 2022; MacMullin et al., 2020; McBeath et al., 2020). Different types of patients or clients have different treatment settings. Consequently, the technological issues that emerged were inherently expected to vary.

When referred to studies on teletherapy for children with developmental difficulties, the study by Eguia and Capio (2022) came the closest. Still, like many other research on related topics, they assessed only how satisfied patients and therapists were in general (Cataldo et al., 2021; Johnsson & Bulkeley, 2021; MacEvilly & Brosnan, 2020; Tousignant et al., 2011). Frequent references were made to technical concerns, yet the level of detail provided in the explanations were rather inadequate. Our study aims to examine the technical issues in teletherapy. Considering that technology is one of the fundamental requirements for effective online therapy, we believed that patient and therapist satisfaction could not be used as the primary indicator. We also believed that technology "bridged" the communication and fostered a sense of bonding among therapists and their clients. In the context of our research, participants' satisfaction will continue to be assessed as a broad response referring to the likelihood of future practice, while encompassing more extensive discussions concerning technological challenges encountered during the session. Moreover, this study offered an extensive overview of the future implications of teletherapy for business and management contexts.

Research Methodology

In this study, we wanted to know the role of technical issues in implementing teletherapy for children with developmental delays. To investigate this problem, the researchers implemented an online survey distributed to 36 patients and seven therapists. The survey was conducted after the patients and therapists completed the entire therapy process. The questions in the survey referred to a study conducted by Chaudhary et al. (2021); however, the researchers modified it further by adding several question items (close and open-ended) based on the other previous studies to obtain richer findings and implementing a descriptive analysis approach. Likert scales were applied as a rating for each question (1 = very low/strongly disagree and 5 = very high/strongly agree).

A purposive sampling technique was implemented for selecting the respondents. Purposive sampling is an efficacious non-probability technique utilized to investigate a particular cultural domain by recruiting knowledgeable experts who possessed attributes related to the study (Andrade, 2021; Tongco, 2007). It selected study participants based on their predetermined qualities, guaranteeing that every person contributed novel and useful data (Etikan et al., 2016). Purposeful sampling procedures avoided random sampling and ensured that only particular cases are included in the research study's final sample (Campbell et al., 2020), since it was rendered infeasible by the lack of a reliable estimate of the total population size (Neuman, 2014). The case in this research was when technical difficulties occurred during the teletherapy for children with developmental delay. Henceforth, to fulfill the desired outcome, the selected participants for this study were patients with developmental delay.

Due to the prevalence of underage patients, the duty for their treatment fell onto their respective caregivers. Hence, the involvement of caregivers was needed in the survey activities conducted in this study. The selection of participants was carried out through a regular discussion process with doctors, therapists, and chief administrators, where they suggested selecting patients with developmental delays. A developmental delay occurs when a child lags behind their age-peers in reaching specific developmental achievements (Choo et al., 2019). Preschool-aged children with developmental delays are rather frequent, occurring in 10%-15% of the population (Choo et al., 2019). Patients who fulfilled these criteria were deemed the most probable for inclusion in this study, as they did not necessitate prolonged and frequent treatment, in contrast to those who reported with developmental disorders. Due to the long-lasting nature of developmental disorders (Morin, 2023), it would be difficult to predict the result with any degree of precision at an early stage and patients with such characteristics were excluded from this study.

This exclusion helped to minimize errors and bias in data collecting and analysis. Patients with developmental delays were the focus of this study, thus the therapists who took part were those who are qualified to provide care for people with these kinds of conditions.

Respondents
36 patients (children) (n = 36) had an age range of 0.58 – 18 years. The most significant number of patients consisting of males and females were those aged 3 and 4, with a total of five (n = 5 | 13.9%), followed by those aged 5 and 9 each with a total of four (n = 4 | 11.1%). For male patients, the highest number were those aged 3, with a total of five (n = 5 | 22.7% of male patients only). As for female patients, the highest number were those aged 2 and 4, with a total of three (n = 3 | 21.4% of female patients only). The patient's caregivers had an age range of 23 – 62 years, with 36 people (n = 36). Most caregivers were dominated by mothers with 32 people (n = 32 | 88.9%), followed by two fathers (n = 2 | 5.6%), a grandmother (n = 1 | 2.8%), and an older sibling (n = 1 | 2.8%). Most of the patients' caregivers were those aged 36 – 40 with a total of 13 people (n = 13 | 36.1%), followed by those aged 26 – 30 (n = 8 | 22.2%), 31 – 35 (n = 6 | 16.7%), and 41 – 45 (n = 4 | 11.1%). Based on the education level of the patient's caregivers, caregivers with an undergraduate education background had the highest number, with a total of 16 people (n = 16 | 44.4%). Caregivers of high school or vocational graduates were in second place, with a total of 11 people (n = 11 | 30.6%). The third position was occupied by caregivers of diploma graduates with eight people (n = 8 | 22.2%) and junior high school graduates with one person (n = 1 | 2.8%) were ranked last. Regarding the occupation of the patient's caregivers, they have very diverse types of work, ranging from housewives and employees to retirees. The patient's caregivers, who were housewives, occupied the highest position, with 15 people (n = 15 | 41.7%), followed by those who worked as employee with 11 people (n = 11 | 30.6%). Therapists consisted of seven people (n = 7) who specialized in handling developmental delays patients.

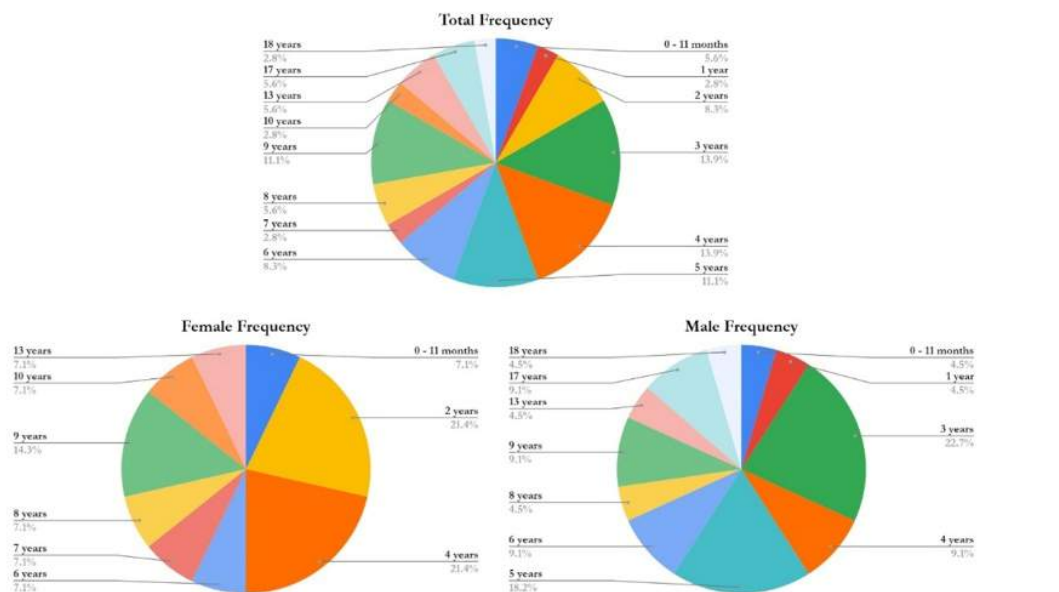*Figure 1.*
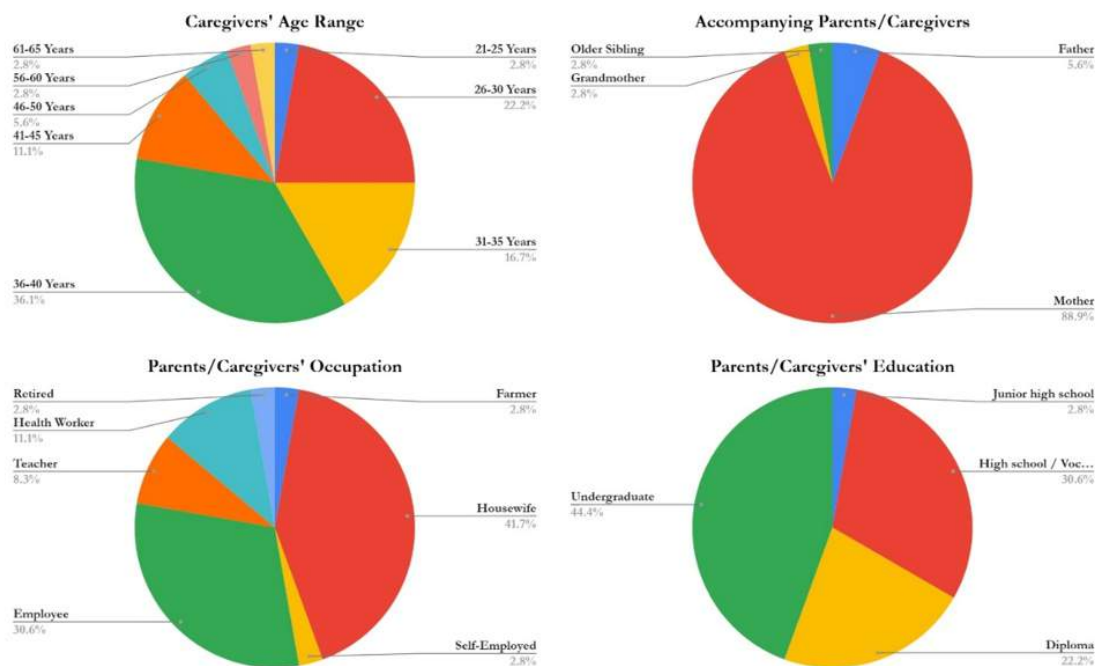Visualizations For Total, Female, And Male Patients (Children)

Figure 2.
Visualizations Of the Accompanying Caregivers, Their Age Range, Occupation, and Educational Background

Data Validity and Reliability

The validity of a scale corresponds to the extent to which it accurately assesses the intended construct (Hermawan & Amirullah, 2016; Pallant, 2010). Corrected item-total correlation technique was utilized for validity assessment (Hermawan & Amirullah, 2016) for our study. Its values provided information regarding the extent to which the total score was correlated with each individual item (Pallant, 2010). As a linear association measure among quantitative factors, Pearson's correlation is frequently used to validate the strength of an existing linear connection between them (Paranhos et al., as cited in Ahrens et al., 2020).

As such, the distribution of r values is described: Extremely low correlation (r = 0 – 0.25); low correlation (r = 0.26 – 0.49); moderate correlation (r = 0.5 – 0.69); strong correlation (r = 0.7 – 0.89); and extremely strong correlation (r = 0.9 – 1.0), respectively (Munro, 2005 as cited in Ahrens et al., 2020). Based on Table 1, the correlation between the items and the total score ranged from moderate (r = 0.5 – 0.69) to mostly strong (r = 0.7 – 0.89). Thus, these results showcased a strong level of validity. This data validity analysis was done in Jamovi Version 1.6.9.

Table 1.
Each Items' Correlation with Total Score

No	Items	Pearson's r	p-value
1	Internet Speed	0.705	< .001
2	Device Specification	0.615	< .001
3	Environment	0.764	< .001
4	Technical Knowledge	0.741	< .001
5	Audio Quality	0.822	< .001
6	Video Quality	0.757	< .001
7	Device Interruption	0.646	< .001
8	Technical Guidance/Support	0.692	< .001

Reliability referred to the extent to which the indicators of a construct consistently assessed the same underlying component or concept (Hermawan & Amirullah, 2016). The degree of internal consistency is measured by Cronbach's α (Hajjar, 2018).

It is considered acceptable to have a Cronbach's α value between 0.6 and 0.8 (Wim et al., 2008 as cited in Hajjar, 2018). Table 2 showed that Cronbach's α is 0.856. It can be concluded that the scale is highly acceptable (reliable). This data reliability analysis was done in Jamovi Version 1.6.9.

Table 2.
Scale Reliability

	Cronbach's α
Scale (Item 1 – 8)	0.856

The Flow of Teletherapy

Before conducting the research, the researchers held a discussion session with a doctor, a therapist, and a clinic chief administrator to determine how the teletherapy activity would work.

It should be noted that Nameera Clinic has yet to implement online therapy before. This discussion process considered several things, from the availability of schedules in the clinic, the devices that would be used later, and the number of sessions that would be held. Below is the result of the discussion.
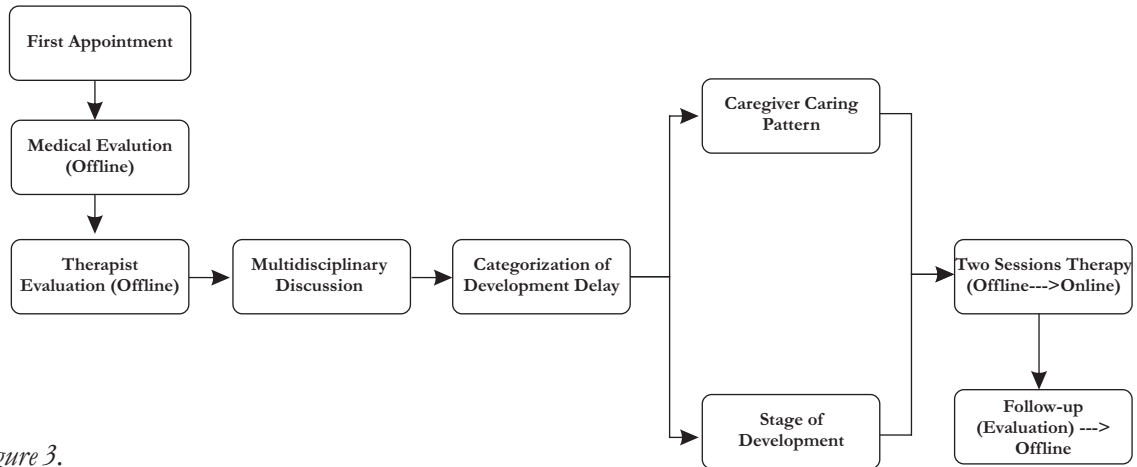
Figure 3.
The Flow of Teletherapy

Figure 3 shows that patients should make an appointment first, where they and the clinic admin would discuss the treatment scheduling through telephone or WhatsApp. After the patients got the schedule, they would see a doctor to do a medical evaluation, then proceed with a therapist evaluation assisted by a therapist. Those two evaluation processes contained a multidisciplinary discussion. In the discussion, there was a categorization of development delay to decide whether the patient experienced problems related to the caring caregiver pattern or the stage of development, then they proceeded to the therapy session. The therapy process is divided into two sessions: one offline (face-to-face) and one online session, one week apart. The online session was held through a WhatsApp video call. WhatsApp is chosen in this study because it is a popular messaging app that did not cost users (Fernandez et al., 2021; Mars & Scott, 2017). Physicians in a third-world country found it effective in both clinical and administrative settings (Mars & Scott, 2017), thus, it is expected that both therapists and patients would find convenience in the process. After the therapy ended, the patient received a follow-up (evaluation) from the therapists regarding the treatment results and what had been achieved during the therapy.

Results and Discussion

Technical Issues
The technical problems in this study are divided into several aspects: internet speed, device specification, environment, technical knowledge, audio/video quality, device interruption, and technical guidance/support. The responses of patients and therapists can be seen as a summary in the Table 3 below. In this table, the authors decided to show only agree and strongly agree answer options, indicating that they experienced technical problems during therapy.

Table 3 shows the technical problems experienced by patients and therapists. For patients, we can see that most patients needed special guidance or instruction for teletherapy (47.2%). There are problems related to technical knowledge, where they found it challenging to participate in teletherapy and needed help to set up the device position properly. Participating in a teletherapy program provided multiple obstacles that exceeded their expectations. One of which came from most patients who had never participated in online therapy sessions. The change in the form of the therapy program took some patients by surprise. In the past, clients simply had to visit the clinic for in-person sessions and give all their problems to the therapists.

However, in the context of online sessions, parental involvement was increasingly important as they were required to guide their children while also mastering the therapists' provided material.

Since therapists were unable to take an active role, the success of the therapy was contingent on the caregivers' capacity to deliver it.

Table 3.
Technical Issues Experienced by Patients And Therapists

Technical Issues		Patients (n = 36)		Therapists (n = 7)	
		n	%	n	%
Internet Speed	Slow internet/connection	4	11.1	1	14.3
	Disconnected/broken internet connection	4	11.1	0	0
	Internet/connection delay	3	8.3	0	0
Device Specification	Slow Device	4	11.1	0	0
	Quickly-dropped battery	6	16.7	3	42.9
Environment	Crowded place	10	27.8	4	57.2
	Lack of proper lighting	8	22.2	1	14.3
	Uncomfortable place	10	27.8	0	0
Technical	Difficult to participate in teletherapy	15	41.7	0	0
Knowledge	Inability to set up the lighting	9	25	1	14.3
	Inability to set up the device position	11	30.6	1	14.3
	Inability to utilize thedevice's features properly	10	27.8	1	14.3
Audio Quality	Cracking audio	7	19.4	2	28.6
	Low audio	4	11.1	2	28.6
	Broken audio	7	19.4	1	14.3
Video Quality	Cracking/low resolution	6	16.7	6	85.7
	Unsynchronized video (delay)	5	13.9	2	28.6
	Broken video	2	5.6	3	42.9
Device Interruption	Hang/freeze device	6	16.7	1	14.3
	Interruption from device (alarm, message, or incoming call)	10	27.8	4	57.2
Technical Guidance/ Support	Inability to understand the technical guidance	8	22.2	1	14.3
	Needing special guidance/instruction for individuals	17	47.2	2	28.6

Another factor that made online therapy sessions troublesome was the stance of caregivers who restricted their children's device use. Several caregivers tried to mitigate their children's addiction to electronic devices. Despite the favorable advantages of teletherapy, caregivers were anxious that their children will be too preoccupied with gadgets to pay attention during treatment. Several earlier research found that patients responded satisfactorily (Eguia & Capio, 2022; Fernandez et al., 2021; Pesämaa et al., 2004); our discoveries, however, ran contradictory to those findings. The subsequent issue was the patients' struggle; they continued to require assistance with the device's optimal configuration. Numerous patients might have struggled to place their devices in the best positions for teletherapy as they were still learning how things worked. A dysfunctional therapy session might result from improper placement of their electronic devices.

It is fundamental to underscore that the therapists' observations were exclusively predicated on the visual feeds from their electronic devices. Unflattering camera position or poor video resolution would all make it virtually impossible for the therapist to make a precise assessment. This issue would prevent the therapeutic bond between patient and therapist from developing as it should. Unquestionably, a damaged relationship would influence the outcome of treatment. Such issues were addressed by Kotera et al. (2021) in their study. They noticed that there needed to be more advice on how therapeutic relationships and results may be addressed in teletherapy and a lack of technical assistance during the process. As such, technical assistance and training must be made available for the easier transition from offline to online (Johnsson & Bulkeley, 2021).

As for the therapists, they experienced video quality problems, namely cracking or low resolution (85.7%) and there were disturbances from devices (57.2%). Video quality is crucial for therapists. Everything they observed and assessed was reliant upon the information displayed on the screen of their devices.

Videos with poor resolution would make observation difficult to accomplish. Inadequate video clarity might limit therapists' ability to pick up on small (emotional) cues from their patients. Continuing with the subject of observation, the therapists reported that their patients often seemed to be in noisy or crowded environments (57.2%). Whereas therapy sessions needed to have the ability to establish private surroundings, having the presence of too many individuals in the room made it challenging for both therapists and patients to feel intimate. Additionally, incoming messages, phone calls, or even alarms from electronic devices might contribute to the noise. It corresponded to findings from prior research (Kiriakaki et al., 2022) that highlighted unfulfilled therapeutic relationships and inadequate observation as results of a disturbance during the sessions.

Based on the phenomenon above, we discovered several constraints in using the technology among people. In the daily use of technology, physical, mental, and educational inadequacies were among the problems (Yazdani-Darki et al., 2020). Yazdani-Darki et al. elaborated more on the difficulties, such as confined technology access, undesirable sentiments regarding technology, and appliance-related challenges. Thus, creating an escalating necessity to comprehend the interaction of technology (Freeman et al., 2020). Therapists, as clinic workers, were also impacted by this rapid development of digital transformation.

Interest and Satisfaction
The responses of patients and therapists' interests and satisfactions can be seen as a summary in the Table 4 below. In the table, the researchers chose the answers of interested, strongly interested, satisfied, and strongly satisfied, which indicated the highest level of satisfaction and interest from the patients and therapists after the therapy process.

Table 4.
Interest And Satisfaction Level Of Patients And Therapists

Patients (n = 36)				Therapists (n = 7)			
Interest		Satisfaction		Interest		Satisfaction	
n	%	n	%	n	%	n	%
17	47.2	16	44.4	1	14.3	2	28.6

Interest and satisfaction levels among patients were, respectively, 47.2% and 44.4%, as shown in Table 4. The outcome is nearly balanced (50/50). Such a scenario arose due to the varied responses exhibited by the patients. Many individuals remained uncertain regarding teletherapy. Respondents who were in favor of teletherapy perceived it as having the potential to enhance treatment efficiency and reduce expenses. Still, there was a constant apprehension that online sessions would not provide the best results for therapy. When compared to the findings of Chaudhary et al. (2021), who found that 85% of patients were satisfied with the service overall, the current situation stood in complete opposition. Results from their research indicated that many patients were enthusiastic about the idea of continuing their online sessions. Our findings indicated that patients have an almost 50/50 probability of continuing teletherapy.

In comparison to their patients, therapists showed a lower degree of interest (14.3%) and satisfaction (28.6%). According to these numbers, therapists had an unfavorable attitude towards teletherapy. They were dissatisfied with its effectiveness. Therapists voiced their displeasure with the caregivers' inability to comprehend their instructions. Caregivers' lack of engagement and circumstances that precluded therapists' direct involvement contributed to the exacerbation of these issues. Such an occurrence stood apart from what was found in the research by McBeath et al. (2020). They concluded that, according to the therapists' responses, remote work might be beneficial.

Our survey results also contradict a study conducted by Johnsson and Bulkeley (2021), in which they found that 82% of therapists would continue teletherapy services in the future. Many of the therapists who participated in our survey indicated a strong preference to not implement teletherapy in the future.

Table 4 showed that most patients had higher interest and satisfaction, although they met several technical issues. Interestingly, it shared a similar condition with Hanley's (2021) study. He added while negative features such as technical faults or the restrictions of interacting at a distance are identified, people seeking help online commonly believe the sacrifices are justified. Conversely, most therapists were not very interested in the teletherapy process; moreover, they were not satisfied with the teletherapy output. From the technological point of view, therapists were not skilled to provide clinical treatments via videoconferencing since they favored direct contact. Hence, presence becomes vital (Geller, 2021). Lack of attentiveness might also have played a role in the process because device screens (smartphone or computer) created a new barrier (McCoyd et al., 2022) for both patients and therapists. Consequently, on a few occasions, patients and therapists felt as if they were not in the same space while conducting teletherapy.

Merits and Demerits
Regardless of the various problems experienced by patients and therapists, the researchers found advantages of teletherapy based on their responses to open questions in the questionnaire. These advantages were divided into several categories: flexibility, a stronger bond between caregivers and children, and efficiency.

Flexibility

For patients, teletherapy offers a flexible solution to therapy. Flexible in terms of they did not need to leave the house, could do it at any time, and caregivers could do other house works. Moreover, if the conditions at home are less proper, the caregivers could do it elsewhere, showing that teletherapy can be done anywhere and anytime. Meanwhile, from the therapists' point of view, they shared the same opinion, such as not needing to leave the house in which this decision felt right, considering there were concerns about a pandemic that required limited direct contact.

Our findings were consistent with previous studies. Aside from providing convenient home-based services during the pandemic, teletherapy also helped families in rural areas save time and had better access to treatment (Eguia & Capio, 2022; Kotera et al., 2021; MacEvilly & Brosnan, 2020). It was also consistent with the study by 'Kiriakaki et al. (2022), who added that teletherapy was available to people who had limited mobility, those who resided in areas with no healthcare facilities, and those who had social anxieties. Subsequently, teletherapy would enable therapists to conduct more sessions, as the time spent for traveling would be decreased (Cole et al., 2019).

The Stronger Bond Between Caregivers and Children

A positive bond is formed during the process of teletherapy. Through this therapy, the caregivers felt they could oversee their children's learning and take care of them directly. In addition, they could also participate in mentoring their children. This process caused the relationship and interaction between caregivers and their children to be closer than before. Therapists believed that teletherapy helped strengthen caregivers' role in the child development process. On their watch, the caregivers became more active in therapy activities and gained new insights regarding their children's development.

This phenomenon corresponded to the previous studies. Caregivers' self-assurance in evaluating uncertain symptoms increased during (asynchronous) telemedicine sessions, which helped them gauge the severity of their children's sickness and establish whether they need further expert treatment or not (Langkamp et al., 2015), and feeling highly motivated "(Sikka, 2023). Because of this, they now understand their issues better, are less anxious, and feel more accepted (Saptandari et al., 2022).

Efficiency

One of the significant benefits of teletherapy was that it did not cost much. Most of those involved in the teletherapy process felt that they could limit their spending on transportation costs, time, and energy. Limiting expenditures on transportation costs means that patients did not need to come to the clinic, and they spent little on vehicle fuel. Both patients and therapists' experiences were consistent with past studies. By providing accessible therapeutic alternatives to patients in remote areas, teletherapy helped cut expenses and staff shortages (Kotera et al., 2021; Stoll et al., 2020), thus making it more economical than in-person sessions (Sikka, 2023).

Having fewer requirements for workspace means less money allocated to therapists and care facilities –'(Erlandsson et al., 2022). The treatment process ran shorter than face-to-face therapy; thus, caregivers who had busy working hours still had plenty of time to do their work. The phenomenon above was also in line with past researchers who argued that online therapy may substantially lower the amount of practitioner time required (Fairburn & Patel, 2017). Even so, the researchers still found several aspects considered obstacles in teletherapy. These deficiencies included technical knowledge and skills, contextual knowledge and skills, children's conditions, distractions, and technical problems.

Technical Knowledge and Skill

According to Tousignant et al. (2011), the involvement of the technological platform immediately prompted a high degree of assurance. However, their argument contradicted our findings. The patients complained that they found it difficult to understand and apply the technical requirements of teletherapy. The difficulties experienced included that they had never attended online therapy before, were unsure of their ability to operate their devices, and the lack of material explanations from the therapist regarding what and how the teletherapy process was from a technical point of view (such as what type of equipment to be prepared). Meanwhile, the therapists also needed help providing educational facilities and knowledge related to the technical process of teletherapy.

This created a discrepancy between the instructions conveyed by the therapist and the caregivers' understanding of what should be shown and done in front of the screen. Families' lack of technological equipment, dependable internet, and technology competence limit their engagement in remote services, and they were mainly involved in all the technology without training, without assistance, and overwhelmed by expectations '(Steed et al., 2022). One must be present at the participant's residence during teletherapy sessions to monitor their well-being during mobility, transfers, and emergencies; this individual could be a relative or close companion who has experience using the equipment (Tousignant et al., 2011).

Contextual Knowledge and Skill

In this section, the contextual knowledge and skills referred to are the understanding and ability of patients and therapists related to teletherapy contexts outside of technical matters, such as the readiness to understand the material in each therapy session. The patients felt they needed more time to understand the therapist's explanations and directions regarding what must be fulfilled during treatment.

They also needed intense and regular socialization regarding teletherapy content or materials before conducting online sessions. In line with the patients' views, therapists saw that caregivers had difficulty directing their children. This obstacle caused confusion among therapists about what direction they should have given and where they should have started, considering there were different levels of understanding and ability among caregivers. This phenomenon stood apart from the study by 'Steed et al. (2022), who stated that families were praised by participants for the successful partnership. The sessions were hampered. As a result, it corresponded with past scholars who said that practitioners primarily could not deliver the same quality as the offline (face-to-face) session (Rotger & Cabré, 2022). They weighed each family's privacy needs, conceivable behavior management challenges due to having many children online simultaneously, and the technology's inattentiveness (MacEvilly & Brosnan, 2020).

Children's Condition

According to 'Steed et al. (2022), due to the caregivers' heightened awareness of their children's developmental requirements, several of the children are achieving excellent improvement in the home environment. Their discovery contradicted our findings. The teletherapy process came as a new challenge for caregivers and therapists to follow and manage the uncertain condition of patients (children). Caregivers reported that most of their children were diverted from their focus (such as not looking at the camera, more interested in playing with the gadgets they were using, and there were distractions from their siblings), not in a good emotional state, feeling bored, challenging to control (the children), and a lack of interest in following the therapy. The therapists also came up with the same argument. They encountered children who could not focus during the treatment. Establishing direct eye contact with a gadget camera lens may prove difficult for patients, as it might divert their attention and make the therapist's own image seem out of place (Markowitz et al., 2021).

Distraction

During the teletherapy process, patients and therapists experienced several problems. Most patients were disturbed by the crowded conditions around them, which hindered the therapist's conveying directions. Some of them also experienced interference, such as incoming calls. The therapists also witnessed the noisy conditions around the patients. This caused the children to be unable to focus on following the therapist's instructions. Most of the time, these issues were beyond both therapists and patients' control. Our findings were consistent with previous studies. One notable disturbance came from the devices. Both therapists and patients may have been preoccupied with other matters outside of treatment due to interruptions from phone calls, texts, and notifications (Békés et al., 2021). The regular buzz of incoming messages happens at both locations since the gadget volume is on (and sometimes set quite high) to facilitate therapist-patient exchange (Markowitz et al., 2021).

Effectivity

Despite the lack of face-to-face interaction in the telerehabilitation setting, patients reported very high levels of satisfaction (Tousignant et al., 2011). Teamwork and cooperation were strengthened '(Steed et al., 2022). In terms of service efficacy, most therapists rated it as capable, able to meet their goals, and achieving teletherapy performance that above expectations (Rettinger et al., 2021). Those findings stood apart from ours. Most patients and therapists believed that teletherapy still needed to be improved. According to one patient, teletherapy would have worked better if it was done for a longer time and directly handled by the therapist (face-to-face). On the other hand, therapists have different complaints, like difficulty controlling the situation. Since they were on the other side of the line, therapists could not provide further assistance other than directing the caregivers since and controlling the therapeutic space because the sessions may be conducted almost anywhere –'(Erlandsson et al., 2022).

In addition, they also pointed out that caregivers did not contribute actively to helping their child's therapy process at home. This phenomenon was also addressed in the study by Orlowski et al. (2022), in which they noticed that there was a slow development of connections as a result.

Technical Problems

Technical problems in this section refer to disturbances originating from the patient's and therapist's devices. Internet disruptions became a major problem for both parties. This interference could be a slow or intermittent connection. One of the therapists even argued that the treatment process would be disrupted if one of the parties experienced a lousy internet connection. Our findings contradicted previous studies. Patients who decided to take part in the new method of providing care might have been more enthusiastic about using computers (Tousignant et al., 2011). Our participants did not subscribe to this point of view since they struggled with internet connectivity. Accessibility was also a main concern. Families did not always have the technology so that initial set up can be really challenging (Cole et al., 2019).

Confidentiality Issues

Apart from therapist-patient relationships and technological problems, past studies have demonstrated the crucial relevance of confidentiality in teletherapy. Confidentiality was not reported as a problem by either therapists or patients here. However, when it was being investigated further, the aspects most closely associated with confidentiality were those when therapists noticed the crowded and busy surroundings of their patients, which the presence of other individuals hindered the sessions. As a result, a (virtual) counseling environment developed, but it was neither intimate nor private. These challenges, however, were not mentioned nearly as much as relationship and technological problems. This situation was intriguing because it was suggested that: (1) confidentiality was not essential during

therapy, in the sense that it was not a major issue; and (2) both therapists and patients were aware of how crucial confidentiality was, therefore it was not a concern.

We draw a conclusion that technical issues, which are the subject of this study, continue to be an obstruction to performing remote treatment. When such obstacles emerge during therapy, they usually hinder the progress toward a healthy therapeutic alliance. Still, as previously mentioned, confidentiality did not become an issue. Previous research indicated that there were various explanations why confidentiality was not a concern. It should be remembered that this research was conducted in Indonesia, which is a developing country. According to Mars and Scott (2017), in developing countries, where cultures, beliefs, and mores might not adhere to Western standards and expectations, confidentiality and data security issues that were well recognized in the developed world were less clearly defined. This is evident from the fact that nearly all studies addressing the topic of confidentiality in the context of telehealth and teletherapy originated in relatively developed countries like the United States (Fitzgerald et al., 2010; Lee, 2010; Orlowski et al., 2022) and some of the European countries (Erlandsson et al., 2022; Stoll et al., 2020). However, numerous studies conducted in developing countries remain under-discussed or perhaps un-discussed.

Previous scholars who studied the topic of confidentiality highlighted its importance "(Tuna & Avci, 2023). Tuna and Avci further added that a lack of private space was one of the reasons why therapists and patients later abandoned online sessions. Interestingly, ""Orlowski et al. (2022) offered a different, yet positive point of view regarding a lack of private space. A face-to-face session did not allow for as much in-depth observation of the patient's external surroundings and circumstances in their house, so they viewed this as a good chance to do so. In the observations made at the Nameera Clinic, the therapists have indirectly observed the environmental conditions around the patients.

When the situation at the patient's residence looked crowded, the therapists immediately perceived it as a nuisance.

When analyzing the two intriguing ideas that confidentiality was not a major concern and that therapists and patients were already aware of this, we found that there were various reasons. Despite the widespread use of smartphones, tablets, and laptops in recent years, many therapists and patients remain unfamiliar with online treatment. The ineffective use of technology obstructed therapists' efforts to connect with their patients optimally. The therapist-patient relationship is still developing as they figure out how to best employ the available technology. As a result, confidentiality was not even on anyone's radar yet, much less a top priority.

Teletherapy: The Bad, The Good, and The Efforts
Many therapists at the Nameera Clinic believed they required further education and training in teletherapy methods before they could effectively apply it. Because when performing online consultations, professionals were significantly more at ease when they had prior experience in doing so and perceived to be more *tele* present (Tohme et al., 2021). Technical challenges prevented therapists and patients at the Nameera Clinic from effectively communicating their treatment interventions and progress. This led them to conclude that in-person consultations were still superior. Such cases have also occurred in a study conducted by Erlandsson et al. (2022), McBeath et al. (2020), Orlowski et al. (2022), and McCoyd et al. (2022).

In the study conducted by McBeath et al. (2020), most therapists expressed diminished social signals, weariness, and technical difficulties. Therapists in –'Erlandsson et al. (2022) study recounted how they were confronted with technical and moral hurdles while striving to get over the absence of their typical therapeutic instruments.

Both studies mentioned that poor and temporal delays between visuals and audio agitated and made individuals insecure, failed to receive information, disrupted working relationships, and created an unpleasant working setting. From the patients' perspectives, they were initially averse to attempting online therapy and were unwavering that they only wanted to be seen in person (Orlowski et al., 2022). Orlowski et al. also cited "Zoom fatigue" as a contributing factor. It gave an additional notion that this form of therapy was more suitable for established patient relationships than for those with new patients (de Guzman et al., 2022).

Benefits for both therapists and patients at the Nameera Clinic ranged from improved relationships between caregivers and their children to reduced expenses. The patient's resistance may be mitigated by the fact that teletherapy increased accessibility and decreased cost and expenditure –'(Erlandsson et al., 2022). Nameera Clinic was still in the phase of making the switch from traditional to digital service delivery. Thus, the teletherapy program was still in its early phases. It is a lifelong learning (de Guzman et al., 2022; Saptandari et al., 2022) and to meet the needs of today's society and succeed in work, it is crucial to continually honing one's skills and knowledge (Saptandari et al., 2022).

Projecting the Future and Enhancing the Business
As the COVID-19 epidemic escalated, telehealth has become a more extensively used and more reliable service. Many healthcare providers have sought to use it outside of a pandemic scenario, including Nameera Clinic. There are two primary motivations for the adoption: (1) To reduce the patient queues. Due to high demand and insufficient resources, the clinic often had to place patients on a waiting list. (2) The clinic expected that in the future, people would not have to travel so far for treatment, especially for those who came from other cities.

When telehealth has gained universal acceptance and is incorporated into the usual workflow of a field with extensive clinical standards, only then can it be said to have achieved its effectiveness (Mars & Scott, 2017). Effectivity in telehealth programs might be aided by many things, two of them are the advantages of technology and the ability to outperform competitors by capturing a larger proportion of the market for prospective consumers' (Velayati et al., 2021). However, when considering the findings in this study which indicated the low interest and satisfaction of therapists and the status of teletherapy which is still in its early development, this success is still a long and winding road.

To fully utilize digital technologies, healthcare providers must undergo a change in perspective. Healthcare providers and managers ought to be attentive to new technologies and business models that improve healthcare output metrics (Millan et al., 2017). Individuals' level of technological proficiency will determine the rate of telehealth's future acceptance (Antarsih et al., 2022).

The transition to digital would cause various changes, meaning new managerial concerns. Compatibility issues with the organization's operational infrastructure should be properly managed (Vincente & Jean-Jules, 2022) since an additional sophisticated system was being integrated in the new environment. To solve larger problems like rising costs and inadequate infrastructure, telemedicine needed to reach its full potential (Cheng et al., 2022). However, ' Velayati et al. (2021) warned that despite the fact that their goods adhered to technical standards and satisfied customer needs, the healthcare provider might run into difficulties because they lacked a sound business strategy for generating income. Again, the previous statement emphasized on how essential it was to have a solid business scheme.

Conclusion

This study aims to delve further into technical issues of teletherapy for children with developmental delays by focusing on the implementation. We discovered that patients (caregivers) frequently required special guidance to use the device, while therapists struggled with observation issues brought on by poor visual quality. Patients tended to have a higher level of satisfaction and interest from therapists, whereas the latter were less enthusiastic due to intimacy and effectiveness problems. The issues of intimacy and effectiveness discussed showed that the success of teletherapy lies in a healthy and intimate relationship between therapists and their patients. However, it cannot be denied that technology still plays an important role in teletherapy, considering its function in bridging long distances between the two. Apart from technical issues, our findings showed that the participants did not indicate much concern about confidentiality.

This outcome contradicted prior research that has highlighted several privacy and security concerns factors that healthcare providers might decide to take into consideration when developing strategies to incorporate technology into their businesses in the future. Consequently, the subject of confidentiality provided an unprecedented and pivotal contribution to the study of teletherapy in children with developmental delays, given its capability to compromise treatment convenience. Our research still has limitations. First, this study focused on children who had developmental delays in general. Future research would be better to focus more on specific types of delay, such as speech delay. Second, this study was only conducted in one clinic, so the results cannot be generalized. There might be specific differences in the mechanism from technical and implementation perspectives in other clinics.

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