Benefits and challenges of teleconsultation service for non-communicable disease follow-up in public healthcare clinics in Malaysia: a qualitative study

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ABSTRACT

Introduction: Teleconsultation gained popularity to provide safe medical care during the pandemic. However, literature on the sustainability of teleconsultation service at primary care beyond pandemic situations is scarce. This study aimed to determine the use of teleconsultation services for non-communicable disease (NCD) follow-up and explore the benefits and challenges of the service implementation during and beyond COVID-19 pandemic in Malaysia.

Materials and Methods: An exploratory qualitative study was conducted using videoconferencing. Fourteen medical officers working in public primary healthcare clinics from various regions of Malaysia were chosen using purposive sampling process, and participants underwent a total of seven paired in-depth interview (IDI) sessions. IDIs were video recorded, transcribed and subjected to interpretive thematic analysis.

Results: The two main themes which emerged were the benefits and challenges of NCD teleconsultation service. Various categories relating to benefits of teleconsultation for NCD care are as follows: (1) Improved efficiency for patient care delivery (improved effectiveness, convenient, improved safety, better disease monitoring, patient empowerment) and (2) Benefits for Health Care Providers (improved healthcare and service delivery). Main challenges identified were as follows: (1) Challenges for Delivery of Care (Patients' adaptation in using teleconsultation service, Patients abusing the system, Poor digital literacy, No proper disease monitoring record), (2) Challenges for Health Care Providers (Lack of dedicated team and training, Higher workload and time-consuming) and (3) Challenges for Health Care System (Institutional policy, legal and regulatory weakness, Medical record documentation and prescription updates).

Conclusion: Optimisation of NCD patient healthcare delivery via teleconsultation is beneficial during and after pandemic. Targeted improvements to address current challenges are crucial to optimise its use beyond the pandemic period in the Malaysian public healthcare system.

INTRODUCTION

In late December 2019, a continuous outbreak of mysterious pneumonia was reported in Seafood Wholesale Market, in Wuhan, Hubei, China.[1] Within a short period of time following its initial occurrence, the disease spread to other nations worldwide. The World Health Organization (WHO) then declared the illness a global pandemic on March 11, 2019,[2] and thereafter known as Coronavirus Disease 2019 (COVID-19). The COVID-19 pandemic is considered the greatest global economic and health challenge of this century.[3]

Malaysia is one of many nations impacted by the pandemic. On March 18, 2020, Malaysian government enforced the Movement Control Order (MCO) to limit the disease spread and fatalities.[4] MCO prohibited mass movement and gatherings at all places nationwide.[5] Its adoption, which only permits one driver per vehicle and travel restriction confined to a 10-km radius around one's residence, resulted in a substantial impact on the accessibility and provision of healthcare services to non-COVID-19 patients.[6] Many patients skipped or delayed their routine surveillance follow-up for chronic diseases due to the MCO. These measures could potentially increase their risk of developing complications or worsen the course of their illness.[2] Thus, one of the most important method for enabling people to continue receiving medical care while remaining safe at home is the use of teleconsultation.[7]

Teleconsultation is defined as synchronous or asynchronous consultation using information and communication technology to omit geographical and functional distance.[8] In Malaysia, teleconsultation via Virtual Clinic (VC) services at public healthcare clinics has been outlined under the National Health Reform Agenda initiative in 2019 and also included in the 12th Malaysia Plan. The service was

Table I: Socio-demographic and practice characteristics of participants (n = 14)

Participant ID	Age (years)	Gender	Ethnicity	Duration of service (years)	Location of Healthcare clinic (region)
P1	35	Female	Malay	10	Central
P2	32	Male	Malay	5	Sabah
P3	35	Male	Malay	9	Central
P4	32	Male	Chinese	6	Sarawak
P5	30	Female	Indian	3	Northern
P6	34	Female	Malay	7	Sarawak
P7	35	Male	Malay	8	Eastern
P8	29	Male	Malay	2	Eastern
P9	36	Female	Malay	10	Southern
P10	34	Male	Malay	8	Northern
P11	36	Female	Others	9	Central
P12	32	Female	Malay	4	Northern
P13	36	Male	Malay	10	Northern
P14	30	Female	Indian	2	Southern

Two of the main themes which emerged from the interviews were the (1) Benefits and (2) Challenges of teleconsultation services.

implemented as a Proof of Concept (PoC) in August 2019 at a few chosen public healthcare clinics for a year, and the service was expanded from 5 to 40 public healthcare clinics during the COVID-19 pandemic in 2020.

Recognising that teleconsultations is currently seen as a vital adjunctive tool for ensuring access to healthcare services; this study was proposed to investigate the benefits and limitations of teleconsultation adoption for NCD follow-up during the COVID-19 pandemic among Medical Officers. Given that healthcare professionals who conducted these consultations were responsible for the quality of this modality, it is crucial to understand how they felt about this service. By identifying the limitations of teleconsultation service that was implemented in the current healthcare system, improvements can be made before expanding teleconsultation for other healthcare services such as home visits for patients who may be physically (i.e., bedridden) or geographically challenged to attend on-site follow-up at public primary healthcare clinics.

MATERIALS AND METHODS
Study Design and Study Setting
This was an exploratory qualitative study among 14 Medical Officers working in 13 Public Primary Healthcare Clinics across Malaysia between June and September 2022. Clinics which provided teleconsultation services were identified and categorised based on state and region, representing both Peninsular and East Malaysia.

Participants
The participants were purposively selected from different states in Malaysia. The included participants shared some key characteristics i.e.: (1) Medical Officer (MO) who is fully registered with Malaysian Medical Council (i.e. grades UD43 and above), (2) working in public primary healthcare clinics and (3) had experience conducting teleconsultation service. Medical Officers who had no experience providing teleconsultation service or pre-registration house officers were excluded. The participants were divided into smaller groups of two people, based on participants' request and to overcome scheduling problems for the IDIs. The grouping of participants was done using a simple random sampling method.

Data Collection
The semi-structured interviews were conducted based on a topic guide that had been designed. The questions for the interview had been vetted by the research team and had undergone pilot testing on two medical officers prior to the study commencement. The questions required very minimal changes before finalisation. Training sessions were conducted prior to the study commencement, and experts gave feedback and guidance to the researcher. One researcher conducted all the interviews. A total of 7 IDIs were conducted using Zoom videoconferencing application to record video interviews, with the participants' prior consent. The recordings were then transcribed verbatim for analysis. The researcher then checked all transcripts against the video recordings to ensure accuracy. For the purpose of reporting, all the excerpts in Malay were translated into English. The translations were done by the researcher who is a native Malay language user with good English proficiency and checked for accuracy by two other researchers with bilingual professional proficiency (in Malay and English). Transcripts were made available to all researchers.

Data Analysis
The transcripts were analysed using thematic analysis method. Codes were identified from the transcribed data using NVIVO Plus 12 Software. The coded data were grouped based on potential themes and classified into main themes and sub-themes. A thematic map was formed once the themes have been reviewed. As the themes evolved, the study was considered to have attained data saturation when no more new themes emerged from the interviews. This was achieved by the fifth IDI (involving total of 10 participants) and confirmed by two more additional IDIs (with 4 participants). All research members[3] convened to discuss and finalise the themes and subthemes before consensus was achieved.

Ethical Approval and Consent to Participate
Ethical approvals were obtained from the Research and Ethics Committee National University of Malaysia [JEP-2021-581] & Ministry of Health Medical Research and Ethics Committee (MREC). The study was also registered with the National Medical Research Registry (NMRR) [NMRR-21-1895-60059 (IIR)]. All the participants were briefed about the study, and those who agreed to participate gave verbal permission and

Table II: Themes for benefits of teleconsultation service

Themes	Transcripts
1.1 Improved efficiency of Care Delivery	
1.1.1 Improve effectiveness	*"I think that our teleconsultation system is very good to reduce the crowd in our clinic, the congestion in our clinic because NCD patients alone, let's say, our diabetic patient, morning alone, can reach (up) to 90 patients per day" (P1)*
	"For our NCD, what we will do is, our NCD patient we monitor SMBG patients who don't need to be seen urgently, BP monitoring or post ACE inhibitor renal profile reviewing results – situations that don't need the patients to be physically (present) in the clinic" (P11)
	"One more thing is about compliance issue, patient give reasons of not coming to see doctor because – a lot of people, afraid of COVID infection, afraid to mix with other people, hard to find parking, tired. At least with teleconsultation, there is no excuses to skip appointment. We only need to call and ask, "Are you free now?", most of the patient will answer the call and this can reduce number of defaulter" (P10)
1.1.2 Convenient	*"As far as I have been doing the teleconsultation, patients they like it, most of them they like this service because they can do consultation over the phone at the comfort of their own homes" (P1)*
	"…some of the patients prefer to do the teleconsultation instead of come to the clinic to wait for long hours, queue for hours just to see the doctor for 5 minutes and collect medication then go back to their house" (P6)
	"They do not need to come and wait for a few hours to see doctors and wait for prescriptions. All these can cut down on their waiting time and logistic costs, so patients like it because of those reasons" (P1)
	"In my opinion, this service is convenient to patient and important for accessibility – especially for client that cannot come for frequent appointments for example those who is (are) working outstation" (P13)
1.1.3 Improve safety	*"Specifically, during this COVID-19 pandemic time, benefit is - reduce the crowds, patients have less contact with those high risk patients of COVID" (P1)*
	"Initially, the intention for virtual clinic during pandemic is to reduce the risk of infection and transmission" (P12)
1.1.4 Better disease monitoring and patient empowerment	*"The benefits for NCD monitoring is that we can monitor patient closely especially in uncontrolled DM patients. We can review SMBG frequently and when optimized only we discharged from virtual clinic" (P13)*
	"So those who are interested to participate in teleconsultation, they will try their best to really…you know to be part of the criteria and then they will try to monitor themselves so things like that it empowers them to…for better…for their own health improvement." (P6)
1.2 Benefits for Health Care Providers	
1.2.1 Improve healthcare service delivery	*"With this kind of system, it is really based on appointment based so we are able to control. I give a more quality service and better consultation as well" (P4)*
	"Not all but probably 30% of the patients have their children involved, so they are more likely cooperative to help. Some of the patients will feel that it is more of a personalized care through this service" (P11)

signed the written consent form. The participants' identities were coded to maintain anonymity.

RESULTS
A total of seven IDIs were carried out among individuals of different demographic backgrounds as shown in Table I. The mean age of the participants was 33.3 (SD 2.4) years, and average number of years served as medical officer at a public primary healthcare centre was 6.6 (SD 3.0) years.

BENEFITS
Benefits of teleconsultation for NCD monitoring were clustered around two main themes: (1.1) Improved efficiency of care delivery and (1.2) Benefits for health care providers.

Improved Efficiency of Care Delivery
Altogether four sub-themes were identified, first was improved effectiveness in the implementation of teleconsultation services would aid in reducing congestion and overcrowding in the clinic. Clinical assessments, such as reviewing laboratory blood results and reviewing home blood pressure monitoring (HBPM) and self-monitoring of blood

Table III: Themes for challenges of teleconsultation service

| Themes	Transcript
2.1 Challenges for Delivery of Care	
2.1.1 Patients'adaptation in using teleconsultation service	*"… most of the time when we ask them why you didn't pick up the phone is because they are afraid of 'scam'" (P4)*
	"It takes time. Sometimes call was not answered, need to call other patient then try to call the previous patient again. Sometimes need to call multiple times" (P12)
	"Somehow the satisfaction of seeing someone physically is better and have contact with someone. To convince patients to use teleconsultation is a challenge for me because they feel that everything is back to normal as compared to MCO period" (P14)
2.1.2 Patient abusing the system	*"Because we are using our own phones, of course some patients abuse the system. They WhatsApp me and my colleagues also, sometimes at night, during the weekends, middle of the night. "I'm having chest pain doctor, what should I do?"...and some of them abuse the system requesting to change their appointment due to inevitable reason also" (P1)*
2.1.3 Poor digital literacy	*"Some of them don't know how to operate XX (3rd party platform) and we must teach them step-by-step. Worst case scenario, end up we must call them also and explain step-by-step which is very time-consuming explaining to them, how to go about the thing" (P3)*
	"The cons are – most of our NCD patients are old and elderlies, so we can't expect them to be IT savvy and they might have some trouble. Eventually, we call them 5 minutes before and say, "I'm calling you in 5 minutes, can you turn on your XX (3rd party platform)?" and it won't happen so we will opted for telephone call instead" (P14)
2.1.4 No proper disease monitoring record	*".....because we ask patient to monitor their HBPM and SMBG…so…sometimes patient not properly did it" (P6)*
	"…So, the entire…the picture of the SMBG wasn't really reflected when I do calls with them" (P4)
2.2 Challenges for Health Care Providers	
2.2.1 Lack of dedicated team and training	*"As we are moving towards a digitalised environment, we would need to have cooperation and assistance from everyone to run this service smoothly. Because our clinic is manual, no staff to give next appointment (date), all documentation was done by that one medical officer (MO). So in (the) long run, we need more staff in the future to help run this service" (P14)*
	"..need to have a leader and specific team for virtual clinic. If we (medical officer) request any of the staff to help us for virtual clinic, number of staff for other work is also not enough. In the end, we need to do all the work ourselves - trace card, trace results, book appointment" (P7)
	"When you are talking about healthcare clinics' staffs, not everyone is familiar with this. So, I think we do need multiple training. For now, we do have training but only for the medical officer who are involved in this because this thing works as one unit and not one person" (P14)
2.2.2 Higher workload and time consuming	*"Also, because our clinic is still using the manual system, not the Tele-Primary Care (TPC) that is when all the headache comes, as we have to trace the cards, manual documentation, and also virtual documentation. The work burden is a bit more" (P5)*
	"…it will take time to take consent and convinced patient, sometimes to go through this lengthy path of work – it is difficult to commit" (P11)
2.3 Challenges for Health Care System	
2.3.1 Institutional policy, legal and regulatory weakness	*"What is the guideline and act that we need to apply when they received our consultation – do they need to pay? If there are paying, then we need to give them receipt" (P9)*
	"If patient come for DOTs at Pusat Rawatan 1 (PR1), usually only Community Nurse will attend to them, but there is no black and white in paper that mentioned that they can do virtual clinic. Supporting staffs expecting instructions from superiors to do virtual clinic, then only they will do it" (P7)
2.3.2 Medical record documentation and prescription updates	*"However, when doing teleconsultation, patient did not come, so when we need to explain on which medication is modified, when to come to collect medication and so on – it is a challenge" (P9)*
	"..we don't have a proper system. In clinic we use Tele-Primary Care – Oral Health Clinical Information System (TPC-OHCIS) but we need to transfer the documentation, it takes time. So sometimes we tend to forgot to document – only in their book that we write" (P9)
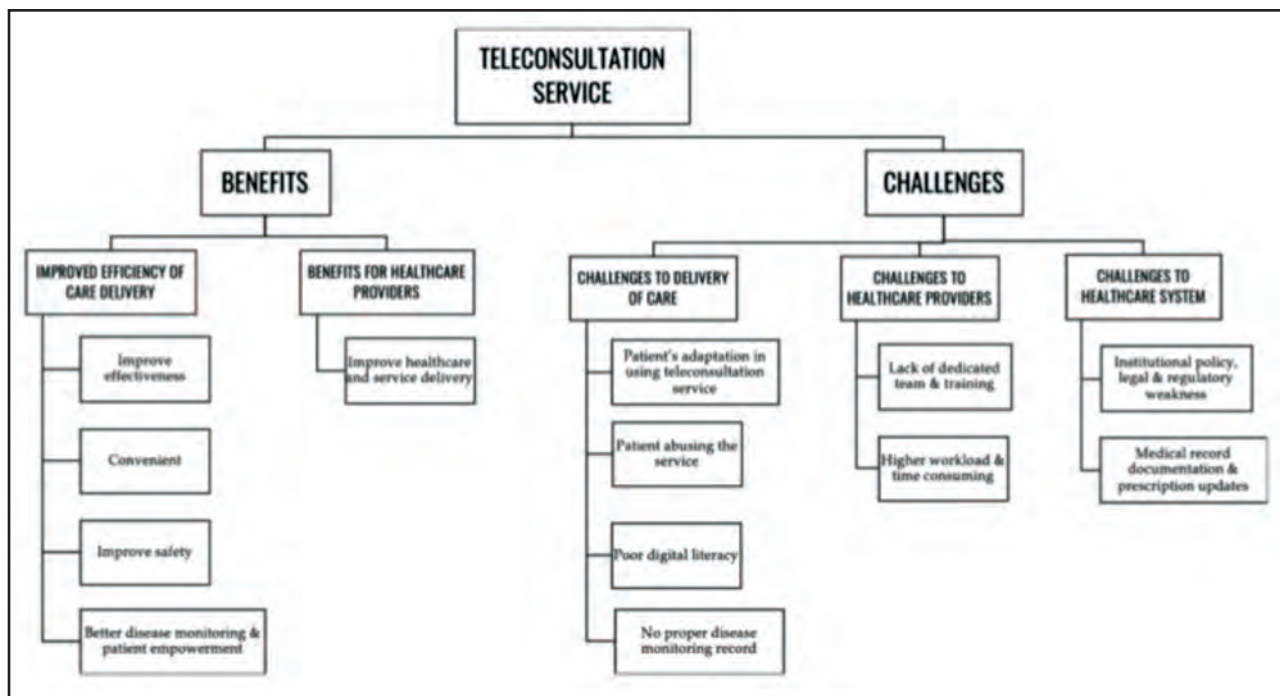
Fig. 1: Themes and subthemes identified

glucose (SMBG), may not require the patient to be physically present in the clinic and this can be achieved via teleconsultation. Second, teleconsultation service is convenient for patients as one of the participants (P10) mentioned that the number of people who missed appointments due to work-related obligations may be reduced because this service can be accessed anytime and from any location at patients' convenience.

The fact that this service aids patients to avoid lengthy waiting time at clinics and saves money on transportation are two of the most frequently mentioned topics of conversation among participants. Not only is it more convenient for the patient but it also greatly lowers the costs from both the patient and healthcare providers' perspectives (i.e., the total cost of healthcare), which is an important consideration during an economic downturn. Thirdly, teleconsultation service improves patients' safety by reducing exposure and risk of contracting COVID-19 infection in crowded clinics. Fourthly, participants also believed that patients felt more empowered to take care of themselves as improved disease monitoring is supported through frequent teleconsultation follow-up sessions. Some participants emphasised that teaching the elderly new skills, i.e., using an email system or operating a third-party internet platform for teleconsultation services, would be a part of cognitive stimulation which would be beneficial for them as well.

Benefits for Healthcare Providers

Teleconsultation services provide an avenue for improving healthcare and service delivery. For instance, according to P11, patients feel as though they are receiving more individualised care from the doctor than they would receive during a regular in-person visit to the clinic. The appointment-based teleconsultation service also aids in limiting the number of patients seen each day, resulting in improved service and consultation. A few participants (P4, P8, P9) remarked that the use of teleconsultation services ensures continuity of care as well because the same doctor overseeing the virtual clinic would see the same patient, which is occasionally not possible during on site clinic appointments.

CHALLENGES

Challenges were summarised into three themes: (2.1) Challenges for Delivery of Care, (2.2) Challenges for Healthcare Providers and (2.3) Challenges for Healthcare Systems.

Challenges for Delivery of Care

Total of four sub-themes were identified. Firstly, and which is the most difficult challenge in providing service via teleconsultation, is the patients' adaptability to use the service. P4 mentioned that some patients did not respond to calls or emails when contacted because they are afraid of 'scam' calls. Second subtheme identified was that some patients abused the teleconsultation service. According to P1, some patients took advantage of the 'contact' with health care services by requesting assistance in changing clinic appointments due to unavoidable circumstances, enquiring about acute complaints and using the contact number as a personal direct access, both during and after office hours or when the public health center is closed. The researchers noted that the device used for official teleconsultations ranged from using a device provided by the district health office to personal mobile telephones belonging to the participants themselves. A few participants (P11, P14) also brought up the fact that some patients genuinely prefer in-person clinic visits over virtual consultations and frequently missed the teleconsultation appointments (P11, P13).

Thirdly, one of the difficulties that healthcare professionals face while offering teleconsultation services is the low level of digital literacy among the patients. Some patients were not familiar with how to use a particular platform. P2 reported that he found it challenging to perform teleconsultation because the patient could not even use a phone or email. Fourthly, a small number of participants (P4, P6, P7) stated that some patients receiving follow-up via teleconsultation lacked sufficient disease surveillance monitoring, i.e., SMBG and HBPM records. Teleconsultation would be difficult since clinical decisions required justification e.g., to substantiate modification of the patients' medication regime.

Challenges for Health Care Providers

There were two sub-themes identified under challenges for health care providers. First, there was a lack of a trained dedicated team to support the teleconsultation service. Most participants thought that a committed team and adequate staff training were essential for the successful implementation of the teleconsultation service. According to P7, there was no assistance from other staffs at his clinic since he was the only one conducting the service. Since there were numerous tasks that had to be completed to ensure the service functioned smoothly, this became a huge challenge. A small number of participants (P8, P11, P14) also complained that the staff did not receive sufficient prior training to deliver this service. Some of the staff became hesitant and refused to participate in teleconsultations since they were unfamiliar with the technology used.

Second subtheme was teleconsultation service added heavier workload to the healthcare staff and was time consuming to conduct. One participant (P5) felt that having a teleconsultation service added to their daily workload. Pre-teleconsultation session for new patients required several steps (i.e., tracing the medical records plus scheduling the appointments), and these became an additional burden for the MO who had to cope with the lack of supporting staff during pandemic. The participants claimed that one of the obstacles they faced in providing this service was getting the patients' consent and explaining the teleconsultation service to them. They found organising teleconsultations to be more labour-intensive and time-consuming to perform, which was often burdened by the increased administrative tasks.

Challenges for Health Care System

There were two sub-themes identified under challenges for health care system. One of the difficulties in offering teleconsultation services was dealing with legal, ethical and regulatory constraints. P7 reported that some staff were reluctant to undertake teleconsultations since there were no official guidelines or policies stating that supporting staff were permitted to provide teleconsultation services. In addition, one participant (P9) brought up the subject of payment, pointing out that while teleconsultation patients were not charged, those who physically visited the clinic were expected to pay for the services. Therefore, it was necessary to address these issues and problems if teleconsultation services would be maintained as a regular service.

Second subtheme was related to the medical record and prescription updates. The fact that medical professionals frequently failed to update the documentation in the clinic information system e.g., patients' current clinical status and prescription changes after each session was another drawback in offering teleconsultation services. This raised a potential medico-legal issue which was not adequately addressed or clarified in some health centres. Difficulties arise when the patient receives teleconsultation from a different MO who may not be aware of the updated management plans undertaken by the prior MO. Additionally, one participant (P9) experienced difficulties with medication readjustment during the teleconsultation service. Compared to in-person consultations, it was more difficult to adjust and change patients' medication when using a teleconsultation service. Undocumented consultations harbour potential medico-legal consequences for both the healthcare providers and patients.

DISCUSSION

Before the COVID-19 pandemic, teleconsultation was not commonly practiced, and neither patients nor healthcare professionals thought the idea of obtaining healthcare services over a virtual platform was feasible.[9] The quick rise in COVID-19 cases and the widespread lockdowns had impacted patient care delivery, hence it was recommended that teleconsultation services be adopted as a substitute for in-person visits to reduce the risk of disease transmission. Teleconsultations have been extensively expanded in recent years since it has been proven to be the right solution during the COVID-19 pandemic.

Participants in this study acknowledged a variety of advantages of providing teleconsultation services. The reduction of COVID-19 transmission and improved safety during pandemics were clear benefits of teleconsultations emphasised by healthcare professionals in this study. Numerous other advantages for patients and healthcare providers were also recognised, including improved patient convenience and time savings, reduction in defaulters and subsequently increased efficacy, similarly supported and mentioned in earlier studies.[10,11]

Numerous participants in this study felt that conducting teleconsultations can improve healthcare and service delivery. They believed that the service would help them build better relationships and rapport with patients as well as increase patients' trust in healthcare professionals. However, the results differ from earlier studies. Conversely, those studies found that the loss of personal connection prevented patients from discussing personal matters during telemedicine appointments.[12] Additionally, it was noted in several studies that both patients and healthcare professionals were concerned about the development and maintenance of rapport. Patients can feel that video consultations put them at a distance from their healthcare practitioners and risk developing a distrustful connection.[11,13] According to a study by Wilson et al., the length of the typical doctor-patient consultation appears to be closely related to how satisfied the patient is with their care.[14] Click or tap here to enter text. More protected time that healthcare providers devote to each patient during teleconsultations as compared to physical visit may play a role in the personalisation of

care; however, further studies are required to confirm this. In addition to the benefits of teleconsultation service, although it was mentioned in the literature that teleconsultations expedited the healthcare system,[15] none of the participants went into further details. They only mentioned their own experiences learning new systems, which had changed their job description. Although they might have had trouble picking up new skills, it nonetheless aided in their advancement.

The challenges of implementation of teleconsultation identified by our participants were consistent with other earlier studies.[11,16,17] The patients' acclimatisation to the system is the most frequent challenge experienced by healthcare professionals when providing teleconsultation services. Some of them did not answer telephone calls when contacted. Patients' fears and reluctance to answer the phone during teleconsultation services are legitimately attributed to the high number of scam calls in Malaysia. The Commercial Crimes Investigation Department (CCID) of the Royal Malaysian Police (PDRM) reports that between 2020 to March 2021, a total of 13 120 scam calls worth more than RM580 million in damages were reported, a dramatic increase in Malaysia during the COVID-19 outbreak.[18] As Malaysia has a high rate of scam calls, patients' anxiety about answering calls from unknown numbers is understandable. Pre-session prompting utilising introductory messages or posters delivered text messaging before a planned virtual consultation might help reassure patients that the number or email address is legitimate.

Few interviewees mentioned that patients preferred in-person visits to clinics over teleconsultation services, and this has turned into one of the obstacles to the adoption of teleconsultation service. The idea of being able to physically speak with one another and consulting face-to-face is also a part of the therapeutic process between a doctor and a patient. This is corroborated by Lampraki, who concluded that social isolation during the COVID-19 epidemic, particularly during the MCO, may be reduced by regular interaction and meetings.[19] During MCO, patients who had follow-ups and needed medical attention were allowed to leave their homes to go to clinic or hospital.[20] The patients benefited from being able to leave the house while under lockdown, and unconsciously benefited as part of a therapeutic process to finally meet someone, leading to a preference for physical visits as compared to teleconsultations.

Technological difficulties and patients' poor digital literacy were issues voiced among healthcare professionals. This has been reported in multiple studies discussing similar issues.[21,22] Therefore, to prevent problems with technological difficulties, careful patient selection is essential. Identification of the suitable profile for NCD patients who would benefit from teleconsultation is necessary. There may be some patients who are qualified for teleconsultation service but have certain digital proficiency limitations; this should not be a reason for complete exclusion from this service. Options like the presence of a responsible main caregiver who would be able to assist and be actively involved during the consultation can be taken into consideration. This assertion

is reinforced by a study conducted by Sophy et al., which found that caregivers' own technology and digital literacy can have an impact on patients' ability to receive and benefit from successful teleconsultation service.[23]

The interviewees also emphasised how crucial it is to have a committed team while providing teleconsultation services. One research concluded that for teleconsultation services to achieve its potential, a well-structured team was required.[24] A proper team approach is needed to ensure that workload is distributed to prevent burnout. Some participants indicated that there is a need for a designated staff to manage technical support to ensure the teleconsultation service runs well. By defining the key person, positions and functions, task distribution can be ensured. In addition, to manage this rapidly changing system, healthcare personnel must also possess the necessary training.[25] To ensure that the staff is comfortable with the system and the tools, training on the usage of teleconsultations is essential.[26] It is important to have standardised orientation and training process for staff so that they can manage teleconsultations as part of the clinic's services. Additionally, the training materials must be based on current, up-to-date national guidelines as well as regional primary care regulations and governance.

Teleconsultation involves the circulation of very personal data i.e., the patients' health information. Therefore, when establishing teleconsultation services, the perspective of data protection should be considered. The Personal Data Protection Act (PDPA) limits access to the data and assures confidentiality to protect patients' personal information and health information.[27] Although teleconsultation services appear handy because patients can participate in consultations from their own offices or homes, confidentiality issues still prevail and must be appropriately addressed. Some studies concluded that the major barrier to teleconsultations was the lack of privacy and confidentiality during consultations.[28,29] One of the participants (P11) highlighted the fact that some Retroviral Disease (RVD) patients preferred telephone calls without any video or photos. They felt that discussions conducted virtually lacked confidentiality, and the likelihood that the patient's co-workers or friends would be aware of their health status if the consultation was held in a public space, raising medicolegal implications. To allay patient concerns about confidentiality, proper guidelines and instructions on how teleconsultations should be conducted should be emphasised, such as the necessity to be in a single room or cubicle and the use of headphones to ensure privacy. Hence, proper official advanced scheduling for teleconsultations must be allocated in the clinic schedule to ensure adequate privacy is accorded during sessions. During the interview, one participant suggests using a standard or universal platform rather than the current platform- which requires an email address, to conduct teleconsultations. However, confidentiality issues should be raised as some platforms would not be secure for medical data due to the possibility of data leakage.

Few participants also suggested the promotion of teleconsultation services to the community with the purpose to increase their awareness regarding this service. Some advocates for the extension of services in the allied health

field are recommended, including services from dieticians and physiotherapists. However, detailed work processes and guidelines are required before information is disseminated and service scope is expanded, as mentioned in a study by Intan Sabrina and Defi. Ensuring uniformity of teleconsultation services requires the development of a comprehensive and universally adaptable telemedicine guidelines that can be tailored to the local context of each country.[30] This can also guarantee that the adoption of the teleconsultation service benefits both patients and healthcare providers.

STRENGTH AND LIMITATIONS
To the best of our knowledge, this is the first qualitative study to examine the advantages and difficulties of teleconsultation following its extensive use in Malaysia during the COVID-19 pandemic. The qualitative approach of the study allowed for a deeper understanding of how the participants handled the current existing service and the difficulties they faced during implementation.

It is important to understand the findings of this study in consideration of its constraints. Only Medical Officers were involved in this study; hence, subsequent research should emphasise on incorporating other healthcare personnel's opinion, including allied health groups. It would also be advisable to study the barriers perceived by patients related to the implementation of video consultations to improve the quality of service delivered.

CONCLUSION
To successfully integrate teleconsultation as a method of service within a health system, it is critical to understand how healthcare professionals perceive them. Optimisation of NCD patient healthcare delivery via teleconsultation is beneficial in providing tailored patient consultations which promote empowerment for self-care. Challenges to healthcare providers require better organisation of the teleconsultation session and workflow algorithms, technical support, medico-legal and policy issues. Targeted improvements should be made to address challenges to optimise its use beyond the pandemic period in the Malaysian public healthcare system. Concerted efforts to improve the current system will assist in ensuring its operability, effectiveness and acceptance of the service.

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