A Client Perspective on Virtual Appointments with Their Primary Health Care Nurse Practitioner during the COVID-19 Pandemic

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ABSTRACT

Background: A systematic review was conducted using Covidence to examine the current literature on the transition to virtual care from a primary health care perspective during the pandemic. A total of 23 studies were extracted and further organized into a literature review table (Appendix A).

Methods: A cross-sectional study was then conducted using a multimodal survey design with a total of six questions to assess clients' perspectives of virtual care during the COVID-19 pandemic. Participants were recruited via telephone call from a generated list of clients who were marked as having had a virtual appointment through the NBNPLC during the pandemic. The interviews were conducted in October 2021.

Results: Overall, majority of participants were satisfied with their virtual appointment and would like an option in the future between virtual and in-person appointments.

Interpretation: Primary health care (PHC) within Ontario during the COVID-19 pandemic resulted in a transition from in-person visits to virtual appointments. Based on this quantitative and qualitative data, there is potential for sustainability with virtual care in the PHC setting. However, future client-centered research is needed to analyze client barriers to virtual care from an equitable standpoint, to understand if video calls rather than phone calls would be preferred as an alternative to face-to-face appointments, and to identify criteria to determine when virtual appointments rather than face-to-face appointments are warranted.

Keywords/Concepts: Virtual appointments, Primary Health Care (PHC), COVID-19, client perspective, nurse practitioner

Introduction

Purpose

The purpose of this study was to understand the current literature around the increased use of virtual care modalities in primary health care (PHC) during the COVID-19 pandemic and to assess client satisfaction with their virtual appointments with their Nurse Practitioner at the North Bay Nurse Practitioner-Led Clinic (NBNPLC) over the past 18 months.

Background Research

Background research on virtual care was collected through a systemic review conducted using Covidence. Three databases were reviewed – Scopus, PubMed, and Medline (OVID) within the last five years. The syntax included "Nurse practitioner" OR "NP" AND "virtual care" OR "telehealth" AND "primary health care". A total of 752 studies were imported, 285 duplicates removed, 440 studies screened, and 379 studies deemed not relevant to this study. A total of 61 full-text studies were assessed for eligibility and further narrowed down to 23 studies for the literature review table (Appendix A).

Virtual Care During the Pandemic

Telehealth is defined as the use of information and communication technologies to perform synchronous or asynchronous consultations at a distance between the healthcare practitioner and client. (Deldar et al., 2016). Telehealth is an umbrella term that encompasses a wide range of technology or tools to facilitate care using methods such as video conference, telephone, or secure messaging (Canadian Medical Association, 2020). Telehealth has existed for decades, however, before

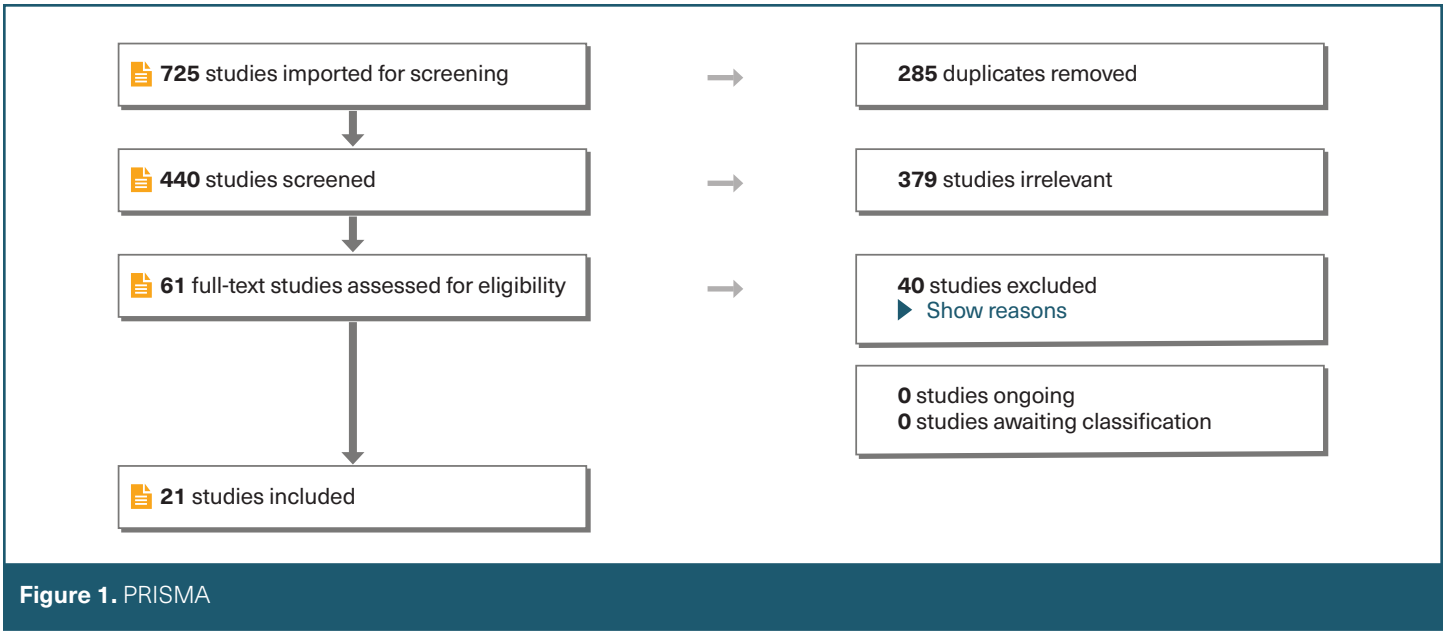

Figure 1. PRISMA

the pandemic the uptake had been slow, particularly among PHC providers (Cheung et al., 2021). During the COVID-19 pandemic, governments at the national level introduced temporary measures to remove barriers to utilizing telehealth (Breton et al., 2021). The increased prevalence of telehealth during the pandemic has assisted PHC practitioners to continue to provide care to patients while continuing to maintain necessary public health measures (Al-Busaidi et al., 2020). Healthcare practitioners and clients were put in a position that required rapid adaptability with little to no experience with virtual methods, presenting an opportunity for integration of regular telehealth use into PHC providers' practice (Breton et al., 2021).

Advantages of Virtual Care

The potential advantages that virtual care offers holds merit and should continue to be further understood to improve aspects of the PHC system. The advantages of virtual care noted in current literature include improved care access (Breton et al., 2021; Haldane et al., 2020; Leblanc et al., 2020), cost-effectiveness (James et al., 2021; Leblanc et al., 2020), increased flexibility (Breton et al., 2021), a great option for routine follow up care where face-to-face isn't necessary (Breton et al., 2021; Goldberg et al., 2021; Haldane et al., 2021), and for the diagnosis and patient care when problems are classified as relatively minor (Breton et al., 2021).

Virtual Care Barriers

To understand the potential of sustainability post-pandemic, barriers to equitable access need to be further examined to preserve the universality of the healthcare system (Breton et al., 2021). Client-related barriers noted in the literature included poor competence with the chosen technology (Connolly et al., 2021; Breton et al., 2021; Franzosa et al., 2021), minimal digital literacy (Cheng et al., 2021; Dhaliwal et al., 2021; Franzosa et al., 2021), a lack of urban-rural coordination (Leblanc et al., 2020, Liaw et al., 2019), the inability to perform a physical exam (Breton et al., 2021), the potential to miss important information leading to less effective care (Franzosa et al., 2021; Vosburg et al., 2022), and maintaining privacy (James et al., 2021). A large barrier noted was the inequality between certain demographics. Examples of these populations include the elderly, new patients, those who have visual, audio, or cognitive impairments, and vulnerable populations that may not have proper access to digital tools (Breton et al., 2021; Franzosa et al., 2021; Kaplan, 2021).

Considerations with Virtual Care

Although virtual care in certain circumstances can be a better alternative, a few considerations should be noted. Virtual care is best utilized with established clients rather than treating new clients (Connolly et al., 2021; Mozes et al., 2022), the appropriateness of the case should be dependent on the severity of the situation or problem (Breton et al., 2021; Mozes et al., 2022), and virtual care should be individualized based on the clients' demographic and if it is a feasible option. It is significant to note that the benefits that accompany virtual care must be considered alongside the potential limitations. Franzosa et al. (2021), discuss that virtual care may expand the capability to increase the number of visits, but it is not valuable or beneficial to the client if vital information is missed or if the time spent to travel to an appointment is now used to assist a patient to log onto the virtual care platform. The implementation of a framework for successful electronic outreach and the internet should be considered for virtual care to be successfully integrated into the healthcare system (Leblanc et al., 2020). Sustaining the use of virtual care beyond the COVID-19

pandemic will involve collaboration, openness to change, and flexibility (Kaplan, 2021), to identify a balance between the use of virtual care and face-to-face visits (Johnson et al., 2021).

Method

Study Design and Setting

A cross-sectional study was conducted using a multimodal survey design with a total of six questions to assess clients' perspectives of virtual care during the COVID-19 pandemic. This study involved the use of the Canadian Institutes of Health Research (CIHR) Strategy for Patient-Oriented Research (SPOR) with an understanding that patient involvement is an aspiration that recognizes shared leadership and decision-making professions to become collaborators in research to ensure a multi-way capacity building and mobilization of patient's experiential knowledge to be valued as evidence (SPOR, 2019). The data collected is beneficial to gaining a client-orientated perspective around the barriers, facilitators, and overall satisfaction of virtual care to further understand the sustainability of virtual care post-pandemic.

Ethical considerations: All participants provided informed consent. Clients who agreed to take the survey were informed by a telephone call that the survey was conducted on behalf of the North Bay Nurse Practitioner-Led Clinic, and the information would be shared within the clinic and that generalizations would be shared at a regional, provincial, or national level. Clients were notified that their answers were anonymous, the survey was voluntary, and that they could stop at any time should they choose to. Telephone dialogue and voicemail dialogue were synchronous to ensure each conversation and the information shared was standardized.

Procedure: Participants were recruited via telephone from a generated list of clients who were marked as having had a virtual care appointment through the NBNPLC during the COVID-19 pandemic. To avoid any bias, the researchers were in no way related to or involved in the care of participants. The list was broken up into three packages and four students enrolled in the Bachelor of Science in Nursing (BScN) program at Nipissing University called clients using the phone numbers provided by the NBNPLC administrative staff. Phone calls were made during clinic hours at the clinic, client information did not leave the clinic and confidentially was maintained. If the client did not answer their phone, a voicemail was left to return the call voluntarily and at their convenience.

Materials: A multimodal survey comprised of six questions (Appendix B) was utilized. The survey contained single-answer questions and included the use of a Likert scale with the following options: strongly disagree, disagree, neutral, agree, and strongly agree. The end of the survey included a comment section that disclosed qualitative feedback regarding the client experience.

Results

Participant demographic: The survey was conducted in October of 2021. A total of 264 telephone calls were made and a total of 84 surveys completed. A total of 19 clients declined, including 7 that stated they did not have or recall a telephone appointment and a total of 161 voicemails were left. The age demographic included ages (0-20) = 5, (21-40) = 23, (41-60) = 23, (61-80) = 24, (81+) = 5, and (no age identified) = 4.

Quantitative Data Analysis

This secondary data analysis is based on the 84 surveys that were completed and will identify the two components of the Likert scale that were of majority for each question. Appointments were classified into three categories: a chronic health concern (57%), an acute health concern (38%), and an unknown (5%). Out of the 84 participants, 100% stated that their appointment was conducted by telephone and that they had proper access to a telephone at the time of their appointment, with 96% stating that they did not need assistance from a family member or friend to attend their appointment. When asked if clients felt their appointment time and date were easy to recall 49% of clients stated that they agreed and 36% strongly agreed. On average clients enjoyed not travelling to their appointments as 42% agreed and 25% strongly agreed with this statement. Clients did make time for their virtual appointments noting that 60% agreed with this statement, and 32% strongly agreed, however, it was identified that there were times it was difficult regarding scheduling appointments during their work hours. The majority of clients were able to access a quiet and confidential space for their appointment, as 55% of participants agreed, and 33% strongly agreed. When asked if clients felt they were able to focus within the virtual environment for their appointment 62% agreed and 27% strongly agreed. Considering that a large concern of virtual appointments is the risk of a privacy breach, it is important to note that 58% of patients agreed, and 40% strongly agreed that their privacy was protected during their appointment. Clients felt comfortable voicing their health concerns during the appointment with 45% of participants agreeing, another 45% strongly agreeing, and 48% of participants strongly agreed, with another 44% agreeing that their concerns were listened to and addressed during the appointment. A total of 70% of clients interviewed stated that their health concern was addressed during the appointment, with only 29% needing to come into the clinic for follow-up. Overall, 51% of clients that participated strongly agreed they were satisfied with their virtual appointment, and another 44% agreed. When asked if clients would like the option for a virtual appointment in the future, 44% agreed, and 33% strongly agreed.

Qualitative Data Analysis

A secondary analysis was completed of the associated qualitative data using the six-step Braun and Clarkes (2006) thematic analysis approach. Thematic analysis of qualitative responses was used to identify common themes reported by respondents. The process is initiated by becoming familiar with the data, then coding the data resulting in an initial set of themes. Inductively the data was tagged and coded using the Delve Qualitative Analysis tool software. Once all data had been tagged, the final list of themes was identified, and a visual thematic map was created to display the associated themes and subthemes (Appendix C). A total of four final themes were identified: Client experience with a virtual appointment, client barriers to a virtual appointment, feedback for nurse practitioners, and the use of virtual care in the future.

Client experience with a virtual appointment

Although clients felt that a virtual appointment was convenient ("Convenient", "Saves me from making a trip to the clinic", "Felt convenient for both patient and practitioner", "Convenient based on the times we are living in", "was comfortable in my own home"), and accessible ("Easier for mobility", "Short and sweet. Easily accessible", "I'm glad the clinic was able to keep up with my appointments during the pandemic"), it was noted that the choice between in-person and virtual was appreciated ("Clinic offered options, it's nice to have a choice", "Like that the option is there", "I enjoyed having the option for phone appointments"), and the overall majority preferred face-to-face appointments with their NP ("Prefer to see a face and talk to someone", "Feels better to see the NP in person, not quite the same over the phone", "Don't like phone appointments, rather face-to-face", "Not as a good as personal visit", "Do like physical appointments better").

Clients felt virtual appointments were sufficient for simple and minor health concerns ("Not necessary to come in for some things", "I would like to have the option for phone visits but would like to go into the clinic for the bigger ones", "I enjoyed having the option for phone appointments, especially for simple/quick concerns"), however, felt it was only appropriate for specific circumstances such as those when a complex diagnosis is not discussed ("Only if appropriate, no major diagnosis", "Found out I had breast cancer over the phone, not appropriate", "Further appointments = follow up in person", "No action was taken to address health concern").

Client barriers to a virtual appointment

Qualitative data did not identify many barriers that were noted in the background. Barriers identified in the thematic analysis include difficulty addressing health concerns over the telephone ("Better understood in person rather than on the phone", "Hard to describe on the phone"), feeling unprepared ("Has to remember to write everything down", "felt unprepared, states they should have made a list, advises patients to make a list"), scheduling concerns ("Needed to book appointment 2 weeks ahead, tried to 3 weeks ahead and was refused. Running out of antidepressants, unable to make an appointment for 2 to 3 days, went off meds"), and the inability to focus ("I wasn't able to focus on the appointment").

Feedback for Nurse Practitioners

Overall clients within the NP-Led clinic felt that their NP exhibited good communication ("Good listeners, they always have the answer", "No loss in communication or effectiveness", "good communication and efficient", "NP is great and listens to concerns", "Good communication over the phone", "NP easy to talk to on the phone"), was attentive ("Staff pleasant and helpful", "NPs have taken care of me", "inviting", "You can talk to her about anything", "the clinic was attentive to my needs, accommodating, kind", "takes time to service patient even if behind schedule"), and thorough ("NP fast, thorough", "They're thorough includes the client in care", "NP is assertive. NP gets to the point but is very nice", "Always get looked after well and treated well. Makes appropriate referrals") during their virtual appointment. This demonstrated a positive correlation between a good NP and client satisfaction during a virtual care appointment.

Virtual care in the future

When clients discussed their overall experiences, the majority of patients stated that they would prefer face-to-face appointments in the future ("I hope for future face-to-face appointment", "I would rather in person but would like virtual appointments in the future for quick visits", "Prefer in-person appointments", "Rather come into the clinic but don't mind doing appointments over the phone", "Seeing the NP in person is preferred"), however, would like to have the option between face-to-face and virtual appointments ("I enjoyed having the option for phone appointments", "Sometimes more convenient virtually", "Likes that the option is there"). Specifying that it is dependent on the health concern ("In person wasn't necessary". "There are some issues that I would prefer to speak with someone in person", "Felt as it was an appropriate context for the situation", "Simple issues are easily addressed", "depends on what it is for") and accessibility ("doesn't have a vehicle/depends on the bus, so phone appointments can make it easier", "when roads are bad, doesn't mind telephone call", "I am happy to go in any time that I feel I need to or to have a phone appointment, whatever makes their life easier makes my life easier!", "If it can be dealt with over the telephone it is easier and I know that if I need to go in, I can", "Easy with kids to be able to attend virtually", "Phone appointments are easier for me because I'm not able to get to my appointments").

Discussion

Many clients appreciated their NP and the staff within the clinic for the care they had received and continued to during the pandemic, being grateful to have continued receiving care during the pandemic. The time the NPs had spent with clients, the trust built, and the holistic care received had helped to form therapeutic relationships that assisted with carrying client satisfaction throughout the difficult times of the pandemic. Even though this study revealed that clients prefer face-to-face appointments from the thematic analysis, the survey demonstrated that clients were still satisfied with the virtual appointment model during the COVID-19 pandemic and would like the option between virtual and in-person. With 70% of clients not requiring in-office follow-up for their virtual appointments, there is merit in the sustainability of virtual appointments with further research and the incorporation of a video interface. Consideration of incorporating telehealth and virtual care competencies within the NP curriculums would be a beneficial measure to ensure NPs are comfortable with providing care with these technologies (Dhaliwal et al., 2021). Significantly, it is important that health care practitioners become familiar with the regulatory aspects involved with telehealth, standards of care, ethics, fraud prevention, and economic aspects (Solari-Twadell et al., 2022). The addition of change management support to increase technical training, in-house organizational support, and administration support are valuable resources that should be impletion to support further integration of virtual care in PHC settings (Mohammed et al., 2021).

Limitations

Strengths of this study include recent preliminary data with a client-centered perspective of the rapid transition to virtual primary care from their NP during the COVID-19 pandemic. The use of a multimodal survey was cost-effective, and the results demonstrate generalizability and reliability. The thematic analysis allowed for interpretation, highlighting of key features, and summary of qualitative data sets. There are several limitations. COVID-19 has disproportionally affected marginalized communities, and the lack of data collection around this specific demographic makes it difficult to generalize data to these populations. There were only 84 respondents out of the 264 called, demonstrating a survey response rate of 32%. This small sample size can affect the reliability of results, as it can lead to a higher variability with the potential to result in voluntary response bias. As BScN students at Nipissing University conducted the interviews for their community placement, this could have resulted in time constraints as clients who did not answer were left voicemails to return the call voluntarily. Clients may have returned the call but were unable to complete the interview as the students were no longer in placement. This could have contributed to the smaller sample size. In the qualitative analysis, clients noted their appreciation and the positive impact their NP has had on them; this could result in biased answers regarding their perspective on virtual care aside from their relationship with their NP. All 84 participants noted their appointment was conducted by telephone call; the lack of video calls makes it difficult to know if patients prefer in-person face-to-face rather than the opportunity of face-to-face via video call. While thematic analysis is flexible, it results in a less rigorous method of analysis and can be applied broadly.

Future Research

Additional research is required to further analyze client barriers from an equitable standpoint, understand the preferred digital tool to use as an alternative to face-to-face, and the identification of standardized criteria to determine when a virtual appointment is warranted and when it should be considered on an individualized case-by-case basis. Further health equity impact assessments of virtual care during the pandemic demonstrate merit to determine if this model is adequately serving all populations along with specific initiatives that could be put into place to sustain an equitable virtual care framework, so it is accessible for all client demographics.

Conclusion

The NBNPLC reports preliminary data on patients' perspectives on transitioning to virtual care during the COVID-19 pandemic. It was noted that the majority of patients prefer face-to-face appointments, however, they remained satisfied with their virtual care appointment. Clients would appreciate the choice between virtual appointments and face-to-face appointments in the future depending on the reason for the appointment and accessibility. The convenience of virtual appointments was noted, and the thematic analysis further revealed client barriers to virtual appointments. Future research is needed to identify if virtual care can remain sustainable post-pandemic, and to make it an equitable means of healthcare delivery.

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