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Continuity of teleconsultation in primary care clinics after the COVID-19 pandemic: Interviews with patients living with chronic diseases

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Continuity of teleconsultation in primary care clinics after the COVID-19 pandemic: Interviews with patients living with chronic diseases

Abstract

Objectives The COVID-19 pandemic has led to the prioritization of teleconsultation instead of face-to-face encounters. However, teleconsultation revealed some shortcomings and undesirable effects that may counterbalance benefits. The purpose of this study is to explore perspective of patients with chronic diseases on teleconsultation in primary care. This article also proposes recommendations to provide patient-oriented and appropriate teleconsultations.

Design We conducted a descriptive qualitative study which explored the perception of the patients regarding teleconsultation services and the following themes: access, perceived benefits, and disadvantages, interprofessional collaboration, patient-centered approach, specific competencies of professionals, and patient's global needs and preferences.

Setting Six primary care clinics in three regions of Quebec

Participants 39 patients were interviewed by telephone, through semi-structured qualitative interviews.

Results Patients want to maintain teleconsultation for the post-pandemic period, as long as their recommendations are followed: be able to choose to come to the clinic if they wish to, feel that their individual and environmental characteristics are considered, feel involved in the choice of the modality of each consultation, feel that interprofessional collaboration and patient-centered approach are promoted, and to maintain the professionalism, which must not be lessened despite the remote context.

Conclusion Patients expressed mostly high satisfaction with teleconsultation, however several issues must be addressed. Patients do and should contribute to the implementation of teleconsultation in primary care. They wish to be frequently consulted about their preferred consultation modality, which may change over time. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Keywords Primary care, telehealth or teleconsultation, chronic disease patients, patient-centered care.

Strengths and limitations of this study

- This article presents field data that reports on patients' experiences and perceptions of teleconsultation in primary care.
- Our partnership and patient-oriented research approach ensures that the data presented are those that emerge from patients' concerns.
- The high rate of patient satisfaction with the teleconsultation could have been influenced by acquiescence and desirability bias[1 ,2]
- Patients' recommendations for continuing teleconsultation services after COVID-19 were not differentiated by health condition, which should be taken into consideration when interpreting the results.

INTRODUCTION

Since March 2020, public health measures adopted in several countries in response to the COVID-19 pandemic have led to the prioritization of teleconsultation over face-to-face services in primary care health organizations. Teleconsultation is defined as any interaction between a patient and a health care professional that takes place at a distance and uses some form of information technology (e.g., virtual approaches via videoconferencing through Zoom, Teams, and Reacts) or communication (e.g., telephone, email, SMS)[3]. Although teleconsultation had been used sporadically across the world, the COVID-19 health crisis led to major advances in the deployment and use of this mode of intervention in several primary care clinics[4 ,5]. These primary care clinics propose health and social services provided by general practitioners working closely with other health and social services professionals, such as nurses and social workers[6].

As teleconsultation will remain after the COVID-19 pandemic [3 ,7-9] at least for certain reasons of consultation, in the post-pandemic period[10 ,11 ,12] the use of teleconsultation revealed some shortcomings and undesirable effects[13-17]. For example, the number of inappropriate or late visits to emergency departments has reportedly increased[18] and this mode of care restricts access to services for people with limited mobility, limited access to the Internet or teleconsultation tools, or low levels of digital literacy[16 ,19]. These undesirable effects may counterbalance the positive effects of teleconsultation demonstrated in the scientific literature[20]. Consideration of patient experience in this rapid and forced march towards teleconsultation allows for a better trade-off between the high potential for improved patient experience or health and the adverse effects of this innovation.

In the past year, various recommendations have been published to support good practice in teleconsultation[4 ,21 ,22]. These recommendations are highly useful in supporting healthcare professionals towards proper implementation of teleconsultation in healthcare settings between a patient and a clinician from an intraprofessional and clinician-centred perspective. However, they may be considered incomplete as they do not consider the needs, preferences and general representation of patients living with chronic diseases with respect to teleconsultation. Furthermore, the tools supporting teleconsultation are built from a clinician's perspective without integrating the patient's perspective.

Some authors explored the factors related to a positive experience (or not) of care in teleconsultation from the perspective of patients[23-28] but there very few focused on patients with chronic diseases in primary care [29 ,30]. In addition, patient-led studies incorporating the concept of patient-oriented research are rare. Since few scientific recommendations have been identified on teleconsultation for professionals working in primary care clinics and considering that patients with chronic illnesses are those who consult family medicine practices most frequently[31], we propose that they are in the best position to testify to the experience of teleconsultation in primary care. As the desire to sustain teleconsultation in primary care takes hold, it seems essential to incorporate the patient perspective during this rapidly accelerating phase of innovation about teleconsultation. To do so, our study, led by two patient-partners, has the following two objectives: 1) to explore the perspective of patients with chronic diseases on the teleconsultation offered in primary care clinics; and 2) to make general recommendations regarding the post-pandemic adequacy between the teleconsultation offer and the needs and expectations of patients with chronic diseases.

METHODS

Patient and public involvement

We conducted[32] a longitudinal descriptive qualitative study[33] with two measurement times[34] in six primary care clinics in three regions (metropolitan, urban and semi-urban) of Quebec, Canada. Primary care clinics in Quebec context of care are defined as a group of family doctors who work together and in close collaboration with other health and social services professionals (e.g., nurse, social worker) [6].The research was led by two patient partners, two researchers and one clinical decision-maker. The patient and clinical co-leaders supported the researchers in carrying out the project according to the partnership methodologies guided by the Canadian Institutes of Health Research. For example, the research question was formulated because of the patient co-leaders' concerns about teleconsultation in primary care. Our project is also guided by a partnership approach. We used the COREQ self-assessment grid for qualitative studies to report on the rigor and methodology of this project[35].

Sample

We built a convenience sample of 49 registered patients from the Training of Trainers in Primary care (F2PL) study[36]. We contacted these individuals by phone by the patient partners or a

research agent. The participants are patients living with chronic diseases who are followed by family physicians in a primary care clinic and, sometimes, in collaboration with a clinical nurse and/or a social worker. The project #2019-037 obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du Saguenay Lac-St-Jean and all participants provided consent to participate in the interview.

Data collection

A research team member first contacted patients during the first wave of the COVID-19 pandemic, between March and August 2020, to ask them about their experience with teleconsultation. This initial data collection[34] highlighted patients' needs for teleconsultation services. Between February and March 2021, we further explored this question by examining, among other things, patients' representations of pursuing teleconsultation, reasons for consultations conducive to teleconsultation, the impact of teleconsultation on interprofessional collaboration, as well as the use of the patient partnered care approach. We conducted semi-structured qualitative telephone interviews (Appendix 1: Interview guide) lasting approximately 30 minutes in February 2021 by three research professionals (X), three graduate nursing students (X), as well as one patient partner (X) after a training provided by both principal co-investigators, X (junior) and X (senior). We audio recorded the interviews with the consent of the study participants. We have taken field notes during each interview to enrich data analysis.

Analysis

Interviews were not transcribed but we performed qualitative analysis according to three concurrent streams: condensation (e.g., selection, transformation of raw data), presentation (e.g., narrative text, table, matrix) and verification of conclusions (e.g., go back to field notes for each patient, discussion with the research team). We conducted a deductive thematic analysis[33] of the interview data based on the themes explored by the interview guide, which are, in relation to teleconsultation: satisfaction with the services received, interprofessional collaboration, inclusion of significant relatives in care, digital literacy of patients, soft skills and attitudes of professionals, valuing experiential knowledge in shared decision making. We then coded the interviews by themes predetermined by two members of the research team, including a patient partner, that relate to the teleconsultation context by using Microsoft Word software. We explored the following seven themes: 1) access to primary care clinics services during a pandemic; 2) advantages and disadvantages of teleconsultation compared with face-to-face

encounters; 3) interprofessional collaboration; 4) healthcare professionals' competencies specific to teleconsultation; 5) the patient partnered approach to care; 6) avenues for improving measures of patients' perceptions of their care experience[37]; and 7) patients' needs and preferences during a teleconsultation. The principal investigators (X) and patient partner (X) validated the themes. At the end of the analysis cycle, a meeting with all members of the research team allowed for the extraction of proposals and recommendations.

RESULTS

Participants

Of the 49 participants initially recruited for the F2PL study, 39 agreed to participate in the present study, six were unreachable and four declined to participate. Table 1 presents the sociodemographic characteristics of the participants and table 2 their medical and psychosocial conditions.

Table 1: Sociodemographic characteristics of the study participants

Characteristics	Patients (N=39) n (%)
Sex	
Male	16 (41)
Female	23 (59)
Age (mean=60.5)	
< 30	0 (0)
31-40	5 (13)
41-50	3 (8)
51-64	17 (43)
65 +	14 (36)
Marital status[a]	
Married/Common-law partner	31 (80)
Single	3 (8)
Separated/Divorced	4 (10)
Highest level of education[a]	
Primary/High school	10 (25)
Professional/College	18 (46)
University	10 (25)
Employment status[a]	
Working	14 (36)
Work interruption	7 (18)
Retired	15 (38)
Other	2 (5)

Income (CAN$)[b]	
[0 – 29 999]	7 (17)
[30 000 – 59 999]	14 (36)
[60 000 – 99 999]	9 (23)
≥100 000	5 (13)
Location	
Metropole	10 (26)
Rural	15 (38)
Urban	14 (36)
Healthcare provider before COVID-19	
Family physician	6 (15)
Family physician and nurse	16 (41)
Family physician and social worker	12 (31)
Family physician, nurse and social worker	5 (13)

[a] Data missing for 1 patient; [b] Data missing for 4 patients

Table 2: Medical and psychosocial conditions of the study participants

Medical and psychosocial conditions	Patients (N=39) n (%)
Type [a]	
Diabetes	13 (33)
Arterial hypertension	11 (28)
Personal issues	6 (15)
Difficulties adapting to situations	5 (13)
Mental health issues	6 (15)
Coronary artery disease (CAD)	5 (13)
Cancer	4 (10)
Asthma	3 (7.5)
Relationship issues	4 (10)
Suicidal thoughts	1 (2.5)
Bereavement	1 (2.5)
Chronic obstructive pulmonary disease	1 (2.5)
Heart failure	0 (0)
Neurodegenerative disease	0 (0)
Professional issues	5 (13)
Other	15 (38)
Number of conditions	
1	18 (46)
2-3	14 (36)
4-5≤	7 (18)

[a] *Not mutually exclusive*

Analysis of the interview data allowed us to develop recommendations based on the perspective of the participants. Additional verbatims to support each of the findings are presented in Table 3.

Table 3 Recommendations of patients living with chronic diseases regarding the continuity of teleconsultation after the COVID-19 pandemic

Recommendations	Verbatims	Participants identification
Considering its many advantages, the end of the pandemic must allow the continuity of teleconsultation services	*"I don't have a driver's license; I don't have a car. So, I don't have to travel* *"It suits my needs [teleconsultation], because I don't have to spend"*	101-5-001
Face-to-face consultation must take precedence over teleconsultation when a physical examination is required	*"I had sores on my face, on the phone, it was more difficult"*	302-5-003
Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation	*"Anything that has to do with social relations, when there's a lot of explaining or emotional issues...I think face-to-face would be much easier"* *"My husband is deaf. The telephone consultation is not ideal. I absolutely have to make time to accompany my husband during phone meetings because he is not able to do it alone"* *" I don't have internet...computers, internet, I don't know that..."*	202-5-001 102-5-004 101-5-010
Involve the patient in choosing the consultation mode for each encounter	*"In my case, I don't have a relationship with my family doctor, I don't need to have one either. I'm not looking for that. If I needed a consultation with a social worker, I'd like it to be face to face because I'm looking more for the relationship"*	202-5-001
Explain to the patient how the interprofessional dimension will be addressed	*"I don't know what the difference is between the nurse and the nutritionist"* *"They [social worker, doctor, and nutritionist] write to each other every time I have a meeting. They know everything"*	301-5-001 302-5-003
Intervene according to the care approach in partnership with the patient in teleconsultation	*"My healthcare professional asks questions and is interested in my problem, I don't perceive any change in his or her approach virtually compared to when I come to the office"* *"He [the healthcare professional] asked me for my opinion, we decided to pursue this [in teleconsultation, regarding treatment choice]"*	202-5-007 301-5-006
The positive attitudes expressed by healthcare professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting	*"I had the impression that there was more time to listen to me. The first question was, «How are you»? It was in a calm way. On the phone, it's even more important, I find, because you don't see the person "* *"Five to ten minutes late is acceptable to me. If it's longer than that, I would like to be notified. My doctor was about 30, 40 minutes late. I was at my office, doing paperwork while waiting for my teleconsultation, so it wasn't a problem, but for people who do not have a desk job it can be a problem"*	202-5-005 201-5-001

Findings

Through this unique perspective of experiential knowledge, we aim to promote the continuity and adequacy of teleconsultation services offered in primary care clinics following the pandemic (Appendix 2: Patients' 10 recommendations for continued teleconsultation after the pandemic).

1- Considering its many advantages, the end of the pandemic must allow the improved continuity of teleconsultation services

According to the participants, teleconsultation brings its own set of benefits. As expressed by the patients interviewed, the savings in time and money are significant for routine clinical follow-up needs. In addition to the financial aspect, teleconsultation is also advantageous from an organizational point of view since it saves time. One patient mentioned that a teleconsultation lasting approximately fifteen minutes, saves him quadruple and more the time. This patient explained that the absence of travel allowed him to spend less time on his consultation in a primary care clinic. In addition, many patients reported not having to ask their employer to be released from work, not having to deal with unexpected road conditions (traffic jams, winter driving), losing time to find a parking space and waiting several minutes in a waiting room. For patients with young children or other family responsibilities, teleconsultation facilitates family logistics. However, this desired continuity must be accompanied by a review of the perverse effects of consultation. For example, teleconsultation must not delay the consultation process to emergency services or minimize the importance of interprofessional collaboration.

2- Face-to-face consultation must take precedence over teleconsultation when a physical examination is required

During the pandemic period, some patients received teleconsultation services for which they would have preferred to be seen in person and for which certain concerns persisted after the meeting: "By telephone, it wasn't easy, I would have liked the doctor to look at my knee, she asked me if it was swollen. I couldn't see if it was swollen" (pt # 202-5-007). If a patient has a health condition that requires visual examination or auscultation by the clinician, an in-person consultation should be encouraged.

3- Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation

The patient's reason for consultation must be considered when making the decision to offer a face-to-face or remote encounter. Indeed, certain reasons for consultation make patients uncomfortable when they must discuss them during a teleconsultation, such as consulting for a mental health-related reason or for one that has emotional components. For example, addressing weight gain over the phone can be difficult for some patients: "I gained weight, but I don't want to talk about my weight. I gained weight but she the doctor didn't see me. It's something that affects me too much to talk about on the phone" (Pt # 202-5-007). When dealing with potentially sensitive issues for patients, a face-to-face meeting should be preferred. The reasons for consultation reported by the patients and which lend themselves well to teleconsultation include: the follow-up of stable chronic conditions, the transmission of test results when they announce good news, or the renewal of prescriptions. These verbatims capture the possible motives: "When the results are nothing serious, give them to me by phone..." (Pt # 302-5-005). "It can be done in teleconsultation if it's just to renew, there's no problem" (Pt # 301-5-002).

Individual characteristics must also be considered when deciding on the best consultation mode. In some situations, individual characteristics such as deafness make it impossible to offer teleconsultation services. Similarly, there are environmental characteristics that hinder patients' teleconsultation experience. Some patients have limited access to communication services such as the Internet and telephone. This is the case for the following participant: "My mother lives in a seniors' residence. The phones are connected to the Internet, if the power is down, the phone is not available" (Pt # 102-5-004).

4- Involve the patient in choosing the consultation mode for each encounter

The patient expresses personal preferences regarding the choice of teleconsultation or face-to-face mode. The patient expresses preferences depending on the type of professional services needed and their preferences change over time. For example, one patient expressed her needs as follows: "My needs have changed since the beginning of the pandemic last year. Before, I would have preferred to have a video-conference meeting, now the telephone meets my needs ... we just got used to the telephone and it's okay" (Pt # 302-5-003).

5- Explain to the patient how the interprofessional dimension will be addressed

Communication between professionals is associated with a positive care experience for patients: "I feel that there is a whole multidisciplinary team and that they don't hesitate to talk to each other, that they know each other's strengths" (Pt # 201-5-005). Patients appreciate when the collaboration between professionals is carried out in the same way as during a face-to-face meeting: "I had the impression that they were more available [with the use of technology]. When my doctor isn't available, the super nurse meets with me. That works for me" (Pt # 202-5-005).

6- Intervene according to the care approach in partnership with the patient in teleconsultation

In the patient partnered approach to care, the patient is an active participant in the meetings and must feel being listened by the healthcare professional to express their needs[38]. However, some patients felt that the teleconsultation did not allow them to express all their needs: "It's hard to talk on the phone, I have less chit-chat than face to face" (Pt # 302-5-005). Yet participants emphasized the value of their experiential knowledge, which they have acquired over time. This specific knowledge must be considered by the professional, including in the context of teleconsultation. The following example about the pain felt by a patient is telling: "If I have problems because of chemotherapy, I am the one who has the pain, I am the pain specialist. If it's not strong enough, I'll tell my doctor, but they know how far I can go, I don't know that..." (Pt # 301-5-003).

7- The positive attitudes expressed by healthcare professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting

Despite the distance, the patient feels an eventual lack of professionalism in teleconsultation. Patients interviewed found important to feel the availability and attentiveness of the professional in teleconsultation. Similarly, punctuality is a professional attitude that is important to the care experience: "I find it important that the professional is on time for the teleconsultation meeting" (Pt # 201-5-001).

Patients named other important professional attitudes to be maintained by professionals during teleconsultation, namely: empathy, trust, consideration, the feeling that the professional has knowledge related to his or her field of practice, communication (especially for follow-up information) and the preparation of the professional before an encounter. This verbatim excerpt supports the importance of professional attitudes: "I find it important to know that the

professional knows my case. There are doctors who ask why did you come?... Look in my medical record" (Pt # 102-5-006).

Patients underlined the risk that technological mediation may be the gateway to fewer professional attitudes: "Sometimes I would hear him cleaning his house at the same time as his consultation, doing his dishes and then going to make himself a little supper... I even heard a toilet flush during my appointment [...]" (Pt # 101-5-003).

DISCUSSION

The data collected at two points in time during phases 1 (February to July 2020) and 3 (March to July 2021)[39] of the pandemic allowed us to identify the expectations of patients with chronic diseases regarding the teleconsultation services offered in primary care clinics. First, patients mentioned several advantages related to teleconsultation. They state the relevance of maintaining teleconsultation after the health crisis caused by COVID-19. However, patients' characteristics must be known and considered to decide on the best meeting mode for them. Despite the distance imposed by the change in service provision related to COVID-19, patients must be able to express their preferences and maintain their ability to participate in healthcare decisions that affect them. Interprofessional collaboration and a partnership approach to care with the patient must remain at the heart of professional teleconsultation practices. Moreover, they must be explicit despite the teleconsultation. Finally, certain attitudes expressed by healthcare professionals must be felt and perceived by the patient during the consultation. These results have allowed us to identify general recommendations from the patients' perspective, which are explained below.

We found patients' overall positive assessment of teleconsultation. This observation is consistent with the literature[40]. Our results corroborate what Ramaswamy & al (2020) [41] reported from a cohort study of 40,000 patients that teleconsultation is associated with higher patient satisfaction compared with face-to-face visits. Our study adds to these data and demonstrates that this principled adherence is conditional on meeting key conditions recognized by patients. Patient satisfaction is partly explained by the pragmatic efficiency of teleconsultation, such as time saving, money saving and the impact on daily life of a short consultation for the professional. In addition, the perception of faster access to healthcare professionals is highly valued. These efficiency indicators from the users' point of view are often cited by patients and associated with a positive experience of care for them[37]. Similarly, as

mentioned by Schaller et al. (2021)[42], the digitization of practices, as accelerated by the pandemic, is a modality that will endure in the post-pandemic period. We believe, however, that this potential for sustainability has conditions for improvement and success, and that the patient's perspective in identifying these is very useful.

From the patient's perspective, teleconsultation should not be used systematically, despite its great potential. Certain reasons of consultation and individual and environmental characteristics make teleconsultation inappropriate and must, therefore, be considered when choosing the best consultation mode. The patient must be considered as a key partner in the analysis of these reasons for each situation where teleconsultation is potentially useful[43], as corroborated by the data in this study.

According to an evaluation report of an healthcare organization[20] and in accordance with the recommendations of a medical association[43], the need to perform a physical or psychological examination is a reason for consultation that is not compatible with teleconsultation, due to the possible risks for patients. Some health conditions, co-morbidities or multiple chronic diseases may also affect the patient's ability to benefit from teleconsultation services[21]. This is the case for patients with advanced age, cognitive impairments, and severe mental health problems[10 ,20 ,43]. Issues related to mental health and teleconsultation have been raised by primary care nurses who have expressed unease in using technology with clients with mental or psychosocial problems[11].

Teleconsultation can also be a source of health inequity. A study by Khoong et al (2021)[44] found that the most significant barrier to teleconsultation is limited access to the Internet and mobile data. Internet costs and digital literacy are therefore factors that may be limiting for some patients and hinder the provision of teleconsultation services. In order to determine the best consultation mode, the French Haute Autorité de la santé[45] mentions that the professionals must ensure the patient's eligibility for such a teleconsultation mode by considering several factors, such as the clinical situation, the ability to communicate at a distance, individual factors (physical, psychological, socio-professional, family), confidentiality at a distance, and the nature of the care (e.g., physical contact necessary). However, we believe that this analysis must be done in partnership with the patient. The latter has a unique experiential knowledge acquired over time through daily experience with the health condition. The benefits and limitations of teleconsultation should be known to the patient. This is part of a collaborative care approach

with the patient which is designed to ensure that decisions are made with the patient's needs and preferences in mind.

Some patients reported a lack of communication between healthcare professionals during teleconsultation. Patients had to repeat their needs and health history to each healthcare professional involved so that everyone was aware of their situation. This negatively impacts the patient's experience of care[37]. According to the literature review by Graves and Doucet (2016)[46], there are several barriers to interprofessional collaboration to consider in teleconsultation. These include technical issues caused by technology, as well as coordination and organizational challenges, such as ambiguous responsibilities or increased workload caused by teleconsultation. Similarly, difficult relationships between professionals, marked by a lack of trust and tension, have a negative impact on teleconsultation collaboration within the team[47]. In addition, the technology used can have a mono-disciplinary silo effect if it promotes solo (clinician-patient) meetings that replace formal and informal consultation between clinicians[17 ,48]. If teleconsultation meetings are to be maintained over time, it seems appropriate to equip professionals with the skills needed for interprofessional collaboration at a distance[49].

Some patients reported feeling less comfortable expressing their needs in teleconsultation. As a result, encounters are quicker, colder, more informal, or even incomplete. The partnership approach to care with the patient must remain central even in the teleconsultation context. In this regard, the family member can also be consulted for decision-making purposes, if the patient so wishes[5]. One study has shown that teleconsultation encounters are more likely to reproduce a paternalistic approach to care, where the professional speaks more and controls the dialogue, while the patient has a more passive role[50]. Schaller & al.[42] mention that the patient must be the conductor of his or her care pathway, even in teleconsultation. This implies access to quality, useful and understandable information from healthcare professionals.

Based on data collected in this study, we believe that the rapid adoption of teleconsultation in response to the healthcare measures imposed by pandemic crisis may have hindered the implementation of the patient centered approach. Indeed, professionals had to adapt quickly, adding the additional burden of the health crisis, which may have had an impact on their well-being and mental health[11 ,51]. In addition, technologies used were not always mature enough to support intelligent teleconsultation, such as appointment scheduling, clinical record

information and teleconsultation itself. The telephone often served as the teleconsultation technology, which fell far short of the capabilities of the best available technology devices[52]. A post-pandemic routinization will therefore need to go beyond the telephone mode and rely on technological development commensurate with scientific and patient recommendations. We assume that the technological delay has had an impact on the adoption of good practices. It is therefore recommended to ensure that the patient has full access to information as well as the required technology supplies.

Patients named several professional qualities and attitudes associated with a positive teleconsultation care experience. Many patients reported that a first encounter with a professional remotely makes them more uncomfortable. To this end, according to the literature review by Graves and Doucet (2016)[46], the importance of creating a relationship of trust between the professional and the patient is emphasized. This is created through quality communication and the experience of mutual understanding. The first visit with the patient should be face-to-face, to help build trust.

CONCLUSION

The strict resumption of face-to-face clinical activities in primary care services, including the primary care clinics, would contribute to slowing down the modernization of services while risking a negative impact on the patient's experience of care. Indeed, patients perceive several benefits associated with teleconsultation and believe that it should be maintained in the post-pandemic period. However, teleconsultation should always be a win-win situation for both the patient and the clinician, ensuring that the patient is comfortable with it, and for each consultation. It is essential to take the time needed to effectively implement teleconsultation in primary care, particularly by highlighting the good practices of professionals to keep this encounter mode in line with patients' needs. We must emphasize the importance of documenting the perverse effects of imperfect teleconsultation to correct them quickly before it becomes routinized and bad behaviors crystallize. Finally, healthcare systems have gone through a technological advancement precipitated by the pandemic crisis and the integration of the patient experience has often been sidelined. The experiential knowledge of patients makes them credible and indispensable actors in the improvement of health care and services. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Statements and Declarations

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Author contributions

MEP (female), YC (male), MDP (female), GG (male) contributed to the study conception and design. All authors contributed to material preparation, data collection and analysis. The first draft of the manuscript was written by CC (female) and VTV (female) and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Ethics approval

The study (project #2019-037) obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du Saguenay Lac-St-Jean and all participants provided consent to participate.

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Continuity of teleconsultation in primary care after the COVID-19 pandemic : The perspective of patients living with chronic diseases

Running heading: Perspective of patients living with chronic diseases on teleconsultation

The Patient

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Electronic Supplementary Material

Appendices

Appendix 1: Interview guide for patients of FMGs, participating in the F2PL project, on their perception of an ideal remote consultation in COVID-19 times

INTRODUCTION

Hello MR. or MS. (NAME OF PARTICIPANT), how are you?

My name is (YOUR NAME), I am a (research agent, student or patient-researcher) on the F2PL project team.

I am part of the F2PL research project in which you are participating, which aims to better understand how professionals in FMGs respond to patient needs. You met or spoke with members of our team in the fall of 2019 or winter of 2020. Our team did a phone interview with you this summer, do you remember?

MR. or MS. (NAME OF PARTICIPANT) is this a good time to talk to you?

1. NO: Can we schedule an appointment at a time that is more convenient for you? (Schedule an appointment and let him/her know we will contact him/her then, thank him/her and hang up)
2. YES: Continue

I am calling you today to hear from you and to ask you a few questions about your perception of the care and services you have received through remote consultations since the beginning of the pandemic in your FMG (medical clinic). A remote consultation is any follow-up by a healthcare professional that did not take place face-to-face.

Our call should last about 30 minutes.

May I ask you a few questions?

May I record our call?

1. PATIENT REFUSED: No problem, thank you. Our team will contact you again when it is time for the next F2PL interview.
2. PATIENT ACCEPTS: Great, thank you very much. If you agree, I will now record the interview.

INTERVIEW QUESTIONS

1. First of all, I would like to know how you're doing in this particular Covid-19 pandemic period?
2. Since our last call this summer, have you consulted a healthcare professional (or assisted a loved one in a meeting) in your FMG?

** Note, if patients talk about their doctor, let them talk, then specify for nurses or SW's.*
If yes: question 3
If no: would you have needed a consultation? If yes or no, why? If the meeting had been possible, how would you have liked this? question 4

3. Can you tell me about your experience from the beginning?

Sub-questions:

- *a. What professional(s) did you meet with?*
  - *i. What professionals other than the physician did you meet with?*
  - *ii. Was this the first time you met with this professional? How long have you been followed?*
  - *iii. Did you repeat any information that was already known by this professional?*
- *b. How was the meeting conducted (or by what means)? (e.g. video conference, call, email, texting) ...*
  - *i. Where were you during this meeting?*
  - *ii. What were your concerns about confidentiality?*
  - *iii. Who accompanied you to your meeting?*
- *c. If it was not by video, do you wish it had been?*
- *d. How did this meeting meet your needs or reason for consultation?*
- *e. How did the remote encounter help or hinder your comfort in talking with the healthcare professional?*
- *f. What would it take for you to be comfortable? (help with using the platforms)*
- *g. Why do you think some encounters are better suited for in-person than remote consultation?*
- *h. How do you see teamwork among healthcare professionals?*
  - *i. How do you observe them sharing information?*
  - *ii. Have you had any conflicting discussions with them?*
- *i. Why was the teleconsultation equivalent or not in terms of quality?*
  - *i. What were the differences in the professional's approach?*
  - *ii. What issues would you have liked to discuss with your professional, but did not dare to address?*

j. *How did you feel called upon as an expert on your health condition during your teleconsultation meeting?*

i. *How did you express your perception of the situation?*

ii. *How did you have time to think about the different options?*

iii. *How did you explore the benefits and advantages of each option?*

iv. *How were you able to express your personal values about managing your health and the choices (treatments, etc.) available?*

v. *How did they give importance to what was a priority for you?*

vi. *How was the involvement of your loved ones in your care addressed?*

vii. *Do you have a follow-up care plan that addresses your health and wellness needs? Has your healthcare provider reviewed your medication in the past year? Did the md inquire if it was appropriate for you (cost, side effects, etc.)*

(Expected answers: I spoke with the secretary; she was helpful, she guided me with the use of the web platform. They offered me if I wanted an in-person, phone or virtual meeting. I met X professional(s), by phone, because I don't have access to the internet).

4. Would you have any advice for the healthcare professionals in your FMG to make the remote consultation ideal?

(Suggested probes to rephrase the question if needed):
- How might healthcare professionals ensure that patients' needs have been met during a remote consultation?
o How were you asked the question?
- What's important to you in a remote encounter?
- What are your needs and expectations during a remote encounter?
- How would you like the teleconsultation meetings to continue over time?

(Expected responses: the doctor didn't move, I felt like the screen stopped working... I wish he had nodded... I found it harder to feel the empathy of the professional through the screen, he didn't tell me he would be taking notes during our encounter, I felt like he was disinterested... I would have liked him to ask me how I found the meeting or to make sure that my understanding was good, I have hearing difficulties, it was difficult for me to do the meeting by phone)

ACKNOWLEDGEMENTS

Thank you very much, MR. or MS. (NAME OF PARTICIPANT).

If you agree, we may get back to you in a few months to chat again.

Goodbye.

Appendix 2: The perspective of patients with chronic diseases - Recommendations for continuity of teleconsultation after the pandemic

The perspective of patients with chronic diseases

Recommendations for continuity of teleconsultation after the pandemic

As a patient, I would like

1. To continue receiving teleconsultation services even after the pandemic, but not make it mandatory if it is not beneficial to me.
2. To know the advantages and disadvantages of teleconsultation and face-to-face meetings, so that I can form an opinion that suits my needs.
3. That my preferences are considered when choosing the consultation mode. I don't want to feel that the choice is imposed on me. I want to express myself for each meeting, because my needs evolve with time and my condition.
4. That the professional team considers both my personal characteristics and the determinants of my health as this may influence my ability to have teleconsultation meetings.
5. To have a meeting by phone for certain reasons for consultation, in particular during follow-ups when my condition is stable or for medication renewals, for example. This allows me to save time.
6. That in the event that the reason for my consultation requires a physical examination or visual observation by the healthcare professional, to be able to benefit from a face-to-face appointment from the outset, while avoiding a remote meeting, as this duplicates the appointments.
7. That even if I receive services in teleconsultation, my interprofessional team collaborates. I realize the lack of collaboration even if I am not physically present.
8. That my professional team exhibits the following attitudes for a positive care experience: punctuality, listening, empathy, trust, consideration, knowledge of their profession, availability, involvement, communication and active listening. I capture the professionalism even in teleconsultation.
9. That certain topics are avoided over the phone, especially when it comes to my mental health, weight gain, or other topics that make me uncomfortable.
10. To be able to invite a loved one to join the discussion if I wish. They should be able to hear and watch the consultation like me. I can also consult with him or her to make a decision if I feel the need.

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CHAIRE DE RECHERCHE SUR LES PRATIQUES PROFESSIONNELLES OPTIMALES EN SOINS PRIMAIRES

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COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the inter view or focus group?	
Duration	21	What was the duration of the inter views or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

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Chronic conditions patient's perception on post-COVID19 pandemic teleconsulting perennity in primary care clinics: A qualitative descriptive study

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Chronic conditions patient's perception on post-COVID19 pandemic teleconsulting perennity in primary care clinics: A qualitative descriptive study

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Abstract

Objectives The COVID-19 pandemic has led to the prioritization of teleconsultation instead of face-to-face encounters. However, teleconsultation revealed some shortcomings and undesirable effects that may counterbalance benefits. The purpose of this study is to explore perspective of patients with chronic diseases on teleconsultation in primary care. This article also proposes recommendations to provide patient-oriented and appropriate teleconsultations.

Design We conducted a qualitative descriptive study which explored the perception of the patients regarding teleconsultation services and the following themes: access, perceived benefits, and disadvantages, interprofessional collaboration, patient-centered approach, specific competencies of professionals, and patient's global needs and preferences.

Setting Six primary care clinics in three regions of Quebec

Participants 39 patients were interviewed by telephone, through semi-structured qualitative interviews.

Results Patients want to maintain teleconsultation for the post-pandemic period, as long as their recommendations are followed: be able to choose to come to the clinic if they wish to, feel that their individual and environmental characteristics are considered, feel involved in the choice of the modality of each consultation, feel that interprofessional collaboration and patient-centered approach are promoted, and to maintain the professionalism, which must not be lessened despite the remote context.

Conclusion Patients expressed mostly high satisfaction with teleconsultation, however several issues must be addressed. Patients do and should contribute to the implementation of teleconsultation in primary care. They wish to be frequently consulted about their preferred consultation modality, which may change over time. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Keywords Primary care, telehealth or teleconsultation, chronic disease patients, patient-centered care.

Strengths and limitations of this study

- This article presents field data that reports on patients' experiences and perceptions of teleconsultation in primary care.
- Our partnership and patient-oriented research approach ensures that the data presented are those that emerge from patients' concerns.
- The patients' satisfaction high rate of with the teleconsultation could have been influenced by acquiescence and desirability emotional bias
- Patients' recommendations for continuing teleconsultation services perennity after COVID-19 were not differentiated by health condition, which should be taken into consideration when interpreting the results.

INTRODUCTION

Since March 2020, public health measures adopted in several countries in response to the COVID-19 pandemic have led to the prioritization of teleconsultation over face-to-face services in primary care health organizations. Teleconsultation is defined as any interaction between a patient and a health care professional that takes place at a distance and uses some form of information technology (e.g., virtual approaches via videoconferencing through Zoom, Teams, and Reacts) or communication (e.g., telephone, email, SMS)[1]. Although teleconsultation had been used sporadically across the world, the COVID-19 health crisis led to major advances in the deployment and use of this mode of intervention in several primary care clinics[2 3]. These primary care clinics propose health and social services provided by general practitioners working closely with other health and social services professionals, such as nurses and social workers[4]. Innovations' spreading requires time sensitive key elements and it can normally take up to a decade to cross, successfully or not, the adoptions' classic five steps in real life.[5] Yet under pandemic time shortage the tele-consultations' broadcast was hastened, and their *promotion-to-adoption* journey most likely did not get the time to fulfill that theoretical framework. Given so, In the post-pandemic period[9 10 11] the use of teleconsultation faced some shortcomings and undesirable effects[12-17]. As such, the number of inappropriate visits to Emergency departments have reportedly increased in the province of Québec, given some teleconsultation-users patients got to have a physical exam (e.g. auscultation) ending up to the emergency room. In reality, the majority of emergency rooms' visits were related to minor problems that could have been treated by a family physician or primary care teams.[18]This mode of care restricts access to services for people with limited mobility, limited access to the Internet or teleconsultation tools, or low levels of digital literacy[15 19]. These undesirable effects may counterbalance the positive effects of teleconsultation demonstrated in the scientific literature.[20],Given teleconsulting will still remain, at least in part, a regular practice of healthcare professionals and patients after the COVID-19 pandemic .[1 6-8] Considering the patients' perception, in regard to this

fast overview, the teleconsultation allows for a better trade-off between the high potential for improved patient experience or health and the adverse effects of this technical innovation.

In the past year, various recommendations have been published to support good practice in teleconsultation[2 21 22]. These recommendations are highly useful in supporting healthcare professionals towards proper implementation of teleconsultation in healthcare settings between a patient and a clinician from an intraprofessional and clinician-centred perspective. However, they may be considered incomplete as they do not consider the needs, preferences and general representation of patients living with chronic diseases with respect to teleconsultation. Furthermore, the tools supporting teleconsultation are built from a clinician's perspective without integrating the patient's perspective.

Some authors explored the factors related to a positive experience (or not) of care in teleconsultation from the perspective of patients[23-28] but there very few focused on patients with chronic diseases in primary care [29 30]. In addition, patient-led studies incorporating the concept of patient-oriented research are rare. Since few scientific recommendations have been identified on teleconsultation for professionals working in primary care clinics and considering that patients with chronic illnesses are those who consult family medicine practices most frequently[31], we propose that they are in the best position to testify to the experience of teleconsultation in primary care. As the desire to sustain teleconsultation in primary care takes hold, it seems essential to incorporate the patient perspective during this rapidly accelerating phase of innovation about teleconsultation. To do so, our study, co-led by two patient-partners, has the following two objectives: 1) to explore the perspective of patients with chronic diseases on the teleconsultation offered in primary care clinics; and 2) to make general recommendations regarding the post-pandemic adequacy between the teleconsultation offer and the needs and expectations of patients with chronic diseases.

METHODS

We conducted[32] a longitudinal qualitative descriptive study[33] with two data collection periods [34] in six primary care clinics located in three regions (metropolitan, urban and semi-urban) of Quebec, Canada. These primary care clinics are funded by public funds[35] being defined as family physicians group working together and in close collaboration with other health and social services professionals (e.g., registered nurses, social workers, nurse practitioners)[4].Teleconsultation is offered here in a variety of modalities, including email, chat, telephone, and video through a wide variety of applications (FaceTime, Zoom, Microsoft Teams, etc.). Modalities can be used alone or in combination. Some clinics got these features belt into an electronic medical record. We have used the COREQ self-assessment grid for qualitative studies in order to report on this project accuracy and methodology [36].

Patient and public involvement

The research was co-led by two patient partners, two researchers and one decision-maker. The patient and clinical co-leaders supported the researchers in carrying out the project according to the partnership methodologies guided by the Canadian Institutes of Health Research. One of the patient co-leaders had concerns about teleconsultation in primary care and the original research idea emerged from there. Both patient co-leaders had collaborate to each step of this study and their contribution is detailed in further sections. As co-authors, they have also revised the manuscript and provided feedback to enhance it.

Sample

We built a convenient sample of 49 registered patients from the Training of Trainers in Primary care (F2PL) study[37], whom were assessed by phone by the patient co-leaders or by a research agent. These patients are persons living with chronic diseases who are followed by family physicians in a primary care clinic and, sometimes, in collaboration with a clinical nurse and/or a social worker. The project #2019-037 obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du

Saguenay Lac-St-Jean and all participants provided consent to participate in the interview.

Data collection

A research team member first contacted patients during the first wave of the COVID-19 pandemic, between March and August 2020, to ask them about their experience with teleconsultation. This initial data collectionhighlighted patients' needs for teleconsultation services and results had been published elsewhere[34]. Between February and March 2021, we further explored this question by examining, among other things, patients' representations of pursuing teleconsultation, reasons for consultations conducive to teleconsultation, the impact of teleconsultation on interprofessional collaboration, as well as the use of the patient partnered care approach. We conducted semi-structured qualitative telephone interviews (Appendix 1: Interview guide) lasting approximately 30 minutes in February 2021 by three research professionals (X), three graduate nursing students (X), as well as one patient co-leader (X) after a training provided by both principal co-investigators, X (junior) and X (senior). We audio recorded the interviews with the consent of the study participants. We have taken field notes during each interview to enrich data analysis.

Analysis

We performed qualitative analysis according to three concurrent streams: data condensation (e.g., selection, transformation of raw data), data display (e.g., narrative text, table, matrix) and verification of conclusions (e.g., go back to field notes for each patient, discussion with the research team).[33] We conducted a deductive thematic analysis[33] of the interview data based on the themes explored by the interview guide, which are, in relation to teleconsultation: satisfaction with the services received, interprofessional collaboration, inclusion of significant relatives in care, digital literacy of patients, soft skills and attitudes of professionals, valuing experiential knowledge in shared decision making. Then, we, including a patient co-leader, determined the themes

related to the teleconsultation context. We explored the following seven themes: 1) access to primary care clinics services during a pandemic; 2) advantages and disadvantages of teleconsultation compared with face-to-face encounters; 3) interprofessional collaboration; 4) healthcare professionals' competencies specific to teleconsultation; 5) the patient partnered approach to care; 6) avenues for improving measures of patients' perceptions of their care experience[38]; and 7) patients' needs and preferences during a teleconsultation. All research team members had collaborated to the coding identification and to create a Microsoft Word template to display the data and organize the text for the next step of the analysis. We performed a live encoding which allows for simultaneous manual coding while still listening audio recording. This method is beneficial to preserve the participants' voice, thus empowering the process tp sense the intent, context, and meaning of their words.[39] Patients co-leaders in this project were favoring this method over the transcript coding because they felt they understanding more of what the participants wanted to express. The interviews' encoding was made by at least two members of the research team, using the Microsoft Word software. The principal investigators (X) and patient co-leaderr (X) validated all the encodings one-by-one. We had all data analyzed and the conclusions were discussed in a meeting with all members of the research team, leading the extraction of proposals and recommendations reported in the present article.

RESULTS

Participants

Of the 49 participants initially recruited for the F2PL study, 39 agreed to participate in the present study, six were unreachable and four declined to participate. Table 1 presents the sociodemographic characteristics of the participants and table 2 their medical and psychosocial conditions.

Table 1: Sociodemographic characteristics of the study participants

Characteristics	Patients (N=39) n (%)

Sex	
Male	16 (41)
Female	23 (59)
Age (mean=60.5)	
< 30	0 (0)
31-40	5 (13)
41-50	3 (8)
51-64	17 (43)
65 +	14 (36)
Marital status[a]	
Married/Common-law partner	31 (80)
Single	3 (8)
Separated/Divorced	4 (10)
Highest level of education[a]	
Primary/High school	10 (25)
Professional/College	18 (46)
University	10 (25)
Employment status[a]	
Working	14 (36)
Work interruption	7 (18)
Retired	15 (38)
Other	2 (5)
Income (CAN$)[b]	
[0 – 29 999]	7 (17)
[30 000 – 59 999]	14 (36)
[60 000 – 99 999]	9 (23)
≥100 000	5 (13)
Location	
Metropole	10 (26)

Rural	15 (38)
Urban	14 (36)
Healthcare provider before COVID-19	
Family physician	6 (15)
Family physician and nurse	16 (41)
Family physician and social worker	12 (31)
Family physician, nurse and social worker	5 (13)

[a] Data missing for 1 patient; [b] Data missing for 4 patients

Table 2: Medical and psychosocial conditions of the study participants

Medical and psychosocial conditions	Patients (N=39) n (%)
Type [a]	
Diabetes	13 (33)
Arterial hypertension	11 (28)
Personal issues	6 (15)
Difficulties adapting to situations	5 (13)
Mental health issues	6 (15)
Coronary artery disease (CAD)	5 (13)
Cancer	4 (10)
Asthma	3 (7.5)
Relationship issues	4 (10)
Suicidal thoughts	1 (2.5)
Bereavement	1 (2.5)

Chronic obstructive pulmonary disease	1 (2.5)
Professional issues	5 (13)
Other	15 (38)
Number of conditions	
1	18 (46)
2-3	14 (36)
4-5≤	7 (18)

[a] *Not mutually exclusive*

Analysis of the interview data allowed us to develop recommendations based on the perspective of the participants. Additional verbatims to support each of the findings are presented in Table 3.

Table 3 Recommendations of patients living with chronic diseases regarding the continuity of teleconsultation after the COVID-19 pandemic

Recommendations	Verbatims	Participants identification
Considering its many advantages, the end of the pandemic must allow the continuity of teleconsultation services	*"I don't have a driver's license; I don't have a car. So, I don't have to travel* *"It suits my needs [teleconsultation], because I don't have to spend"*	101-5-001
Face-to-face consultation must take precedence over teleconsultation	*"I had sores on my face, on the phone, it was more difficult"*	302-5-003

when a physical examination is required		
Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation	*"Anything that has to do with social relations, when there's a lot of explaining or emotional issues...I think face-to-face would be much easier"* *"My husband is deaf. The telephone consultation is not ideal. I absolutely have to make time to accompany my husband during phone meetings because he is not able to do it alone"* *" I don't have internet...computers, internet, I don't know that..."*	202-5-001 102-5-004 101-5-010
Involve the patient in choosing the consultation mode for each encounter	*"In my case, I don't have a relationship with my family doctor, I don't need to have one either. I'm not looking for that. If I needed a consultation with a social worker, I'd like it to be face to face because I'm looking more for the relationship"*	202-5-001
Explain to the patient how the interprofessional dimension will be addressed	*"I don't know what the difference is between the nurse and the nutritionist"* *"They [social worker, doctor, and nutritionist] write to each other every time I have a meeting. They know everything"*	301-5-001 302-5-003
Intervene according to the care approach in partnership with the patient in teleconsultation	*"My healthcare professional asks questions and is interested in my problem, I don't perceive any change in his or her approach virtually compared to when I come to the office"* *"He [the healthcare professional] asked me for my opinion, we decided to pursue this [in teleconsultation, regarding treatment choice]"*	202-5-007 301-5-006

The positive attitudes expressed by healthcare professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting	*"I had the impression that there was more time to listen to me. The first question was, «How are you»? It was in a calm way. On the phone, it's even more important, I find, because you don't see the person "*	
	"Five to ten minutes late is acceptable to me. If it's longer than that, I would like to be notified. My doctor was about 30, 40 minutes late. I was at my office, doing paperwork while waiting for my teleconsultation, so it wasn't a problem, but for people who do not have a desk job it can be a problem"	202-5-005 201-5-001

Findings

Through this unique perspective of experiential knowledge, we aim to promote the continuity and adequacy of teleconsultation services offered in primary care clinics following the pandemic (Appendix 2: Patients' 10 recommendations for continued teleconsultation after the pandemic).

1- Considering its many advantages, the end of the pandemic must allow the improved continuity of teleconsultation services

According to the participants, teleconsultation brings its own set of benefits. As expressed by the patients interviewed, the savings in time and money are significant for routine clinical follow-up needs. In addition to the financial aspect, teleconsultation is also advantageous from an organizational point of view since it saves time. One patient mentioned that a teleconsultation lasting approximately fifteen minutes, saves him quadruple and more the time. This patient explained that the absence of travel allowed him to spend less time on his consultation in a primary care clinic. In addition, many patients reported not having to ask their employer to be released from work, not having

to deal with unexpected road conditions (traffic jams, winter driving), losing time to find a parking space and waiting several minutes in a waiting room. For patients with young children or other family responsibilities, teleconsultation facilitates family logistics. However, this desired continuity must be accompanied by a review of the adrverse effects of consultation. For example, teleconsultation must not delay the consultation process to emergency services or minimize the importance of interprofessional collaboration.

2- Face-to-face consultation must take precedence over teleconsultation when a physical examination is required

During the pandemic period, some patients received teleconsultation services for which they would have preferred to be seen in person and for which certain concerns persisted after the meeting: "By telephone, it wasn't easy, I would have liked the doctor to look at my knee, she asked me if it was swollen. I couldn't see if it was swollen" (pt # 202-5-007). If a patient has a health condition that requires visual examination or auscultation by the clinician, an in-person consultation should be encouraged.

3- Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation

The patient's reason for consultation must be considered when making the decision to offer a face-to-face or remote encounter. Indeed, certain reasons for consultation make patients uncomfortable when they must discuss them during a teleconsultation, such as consulting for a mental health-related reason or for one that has emotional components. For example, addressing weight gain over the phone can be difficult for some patients: "I gained weight, but I don't want to talk about my weight. I gained weight but she the doctor didn't see me. It's something that affects me too much to talk about on the phone" (Pt # 202-5-007). When dealing with potentially sensitive issues for patients, a face-to-face meeting should be preferred. The reasons for consultation reported by the patients

and which lend themselves well to teleconsultation include: the follow-up of stable chronic conditions, the transmission of test results when they announce good news, or the renewal of prescriptions. These verbatims capture the possible motives: "When the results are nothing serious, give them to me by phone..." (Pt # 302-5-005). "It can be done in teleconsultation if it's just to renew, there's no problem" (Pt # 301-5-002).

Individual characteristics must also be considered when deciding on the best consultation mode. In some situations, individual characteristics such as deafness make it impossible to offer teleconsultation services. Similarly, there are environmental characteristics that hinder patients' teleconsultation experience. Some patients have limited access to communication services such as the Internet and telephone. This is the case for the following participant: "My mother lives in a seniors' residence. The phones are connected to the Internet, if the power is down, the phone is not available" (Pt # 102-5-004).

4- Involve the patient in choosing the consultation mode for each encounter

The patient expresses personal preferences regarding the choice of teleconsultation or face-to-face mode. The patient expresses preferences depending on the type of professional services needed and their preferences change over time. For example, one patient expressed her needs as follows: "My needs have changed since the beginning of the pandemic last year. Before, I would have preferred to have a video-conference meeting, now the telephone meets my needs ... we just got used to the telephone and it's okay" (Pt # 302-5-003).

5- Explain to the patient how the interprofessional dimension will be addressed

Communication between professionals is associated with a positive care experience for patients: "I feel that there is a whole multidisciplinary team and that they don't hesitate to talk to each other, that they know each other's strengths" (Pt # 201-5-005). Patients appreciate when the collaboration between professionals is carried out in the same way as during a face-to-face meeting: "I had the impression that they were more available

[with the use of technology]. When my doctor isn't available, the super nurse meets with me. That works for me" (Pt # 202-5-005).

6- Intervene according to the care approach in partnership with the patient in teleconsultation

In the patient partnered approach to care, the patient is an active participant in the meetings and must feel being listened by the healthcare professional to express their needs[40]. However, some patients felt that the teleconsultation did not allow them to express all their needs: "It's hard to talk on the phone, I have less chit-chat than face to face" (Pt # 302-5-005). Yet participants emphasized the value of their experiential knowledge, which they have acquired over time. This specific knowledge must be considered by the professional, including in the context of teleconsultation. The following example about the pain felt by a patient is telling: "If I have problems because of chemotherapy, I am the one who has the pain, I am the pain specialist. If it's not strong enough, I'll tell my doctor, but they know how far I can go, I don't know that..." (Pt # 301-5-003).

7- The positive attitudes expressed by healthcare professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting

Despite the distance, the patient feels an eventual lack of professionalism in teleconsultation. Patients interviewed found important to feel the availability and attentiveness of the professional in teleconsultation. Similarly, punctuality is a professional attitude that is important to the care experience: "I find it important that the professional is on time for the teleconsultation meeting" (Pt # 201-5-001).

Patients named other important professional attitudes to be maintained by professionals during teleconsultation, namely: empathy, trust, consideration, the feeling that the professional has knowledge related to his or her field of practice, communication (especially for follow-up information) and the preparation of the professional before an encounter. This verbatim excerpt supports the importance of professional attitudes: "I

find it important to know that the professional knows my case. There are doctors who ask why did you come?... Look in my medical record" (Pt # 102-5-006).

Patients underlined the risk that technological mediation may be the gateway to fewer professional attitudes: "Sometimes I would hear him cleaning his house at the same time as his consultation, doing his dishes and then going to make himself a little supper... I even heard a toilet flush during my appointment [...]" (Pt # 101-5-003).

DISCUSSION

The data collected at two points in time during phases 1 (February to July 2020) and 3 (March to July 2021)[41] of the pandemic allowed us to identify the expectations of patients with chronic diseases regarding the teleconsultation services offered in primary care clinics. First, patients mentioned several advantages related to teleconsultation. They state the relevance of maintaining teleconsultation after the health crisis caused by COVID-19. However, patients' characteristics must be known and considered to decide on the best meeting mode for them. Despite the distance imposed by the change in service provision related to COVID-19, patients must be able to express their preferences and maintain their ability to participate in healthcare decisions that affect them. Interprofessional collaboration and a partnership approach to care with the patient must remain at the heart of professional teleconsultation practices. Moreover, they must be explicit despite the teleconsultation. Finally, certain attitudes expressed by healthcare professionals must be felt and perceived by the patient during the consultation. These results have allowed us to identify general recommendations from the patients' perspective, which are explained below.

We found patients' overall positive assessment of teleconsultation. This observation is consistent with the literature[42]. Our results corroborate what Ramaswamy & al (2020) [43] reported from a cohort study of 40,000 patients that teleconsultation is associated with higher patient satisfaction compared with face-to-face visits. Our study adds to these data and demonstrates that this principled adherence is conditional on meeting key

conditions recognized by patients. Patient satisfaction is partly explained by the pragmatic efficiency of teleconsultation, such as time saving, money saving and the impact on daily life of a short consultation for the professional. In addition, the perception of faster access to healthcare professionals is highly valued. These efficiency indicators from the users' point of view are often cited by patients and associated with a positive experience of care for them[38]. Similarly, as mentioned by Schaller et al. (2021)[44], the digitization of practices, as accelerated by the pandemic, is a modality that will endure in the post-pandemic period. We believe, however, that this potential for sustainability has conditions for improvement and success, and that the patient's perspective in identifying these is very useful.

From the patient's perspective, teleconsultation should not be used systematically, despite its great potential. Certain reasons of consultation and individual and environmental characteristics make teleconsultation inappropriate and must, therefore, be considered when choosing the best consultation mode. The patient must be considered as a key partner in the analysis of these reasons for each situation where teleconsultation is potentially useful[45], as corroborated by the data in this study.

According to an evaluation report of an healthcare organization[20] and in accordance with the recommendations of a medical association[45], the need to perform a physical or psychological examination is a reason for consultation that is not compatible with teleconsultation, due to the possible risks for patients. Some health conditions, co-morbidities or multiple chronic diseases may also affect the patient's ability to benefit from teleconsultation services[21]. This is the case for patients with advanced age, cognitive impairments, and severe mental health problems[9 20 45]. Issues related to mental health and teleconsultation have been raised by primary care nurses who have expressed unease in using technology with clients with mental or psychosocial problems[10].

Teleconsultation can also be a source of health inequity. A study by Khoong et al (2021)[46] found that the most significant barrier to teleconsultation is limited access to the

Internet and mobile data. Internet costs and digital literacy are therefore factors that may be limiting for some patients and hinder the provision of teleconsultation services. In order to determine the best consultation mode, the French Haute Autorité de la santé[47] mentions that the professionals must ensure the patient's eligibility for such a teleconsultation mode by considering several factors, such as the clinical situation, the ability to communicate at a distance, individual factors (physical, psychological, socio-professional, family), confidentiality at a distance, and the nature of the care (e.g., physical contact necessary). However, we believe that this analysis must be done in partnership with the patient. The latter has a unique experiential knowledge acquired over time through daily experience with the health condition. The benefits and limitations of teleconsultation should be known to the patient. This is part of a collaborative care approach with the patient which is designed to ensure that decisions are made with the patient's needs and preferences in mind.

Some patients reported a lack of communication between healthcare professionals during teleconsultation. Patients had to repeat their needs and health history to each healthcare professional involved so that everyone was aware of their situation. This negatively impacts the patient's experience of care[38]. According to the literature review by Graves and Doucet (2016)[48], there are several barriers to interprofessional collaboration to consider in teleconsultation. These include technical issues caused by technology, as well as coordination and organizational challenges, such as ambiguous responsibilities or increased workload caused by teleconsultation. Similarly, difficult relationships between professionals, marked by a lack of trust and tension, have a negative impact on teleconsultation collaboration within the team[49]. In addition, the technology used can have a mono-disciplinary silo effect if it promotes solo (clinician-patient) meetings that replace formal and informal consultation between clinicians[16 50]. If teleconsultation meetings are to be maintained over time, it seems appropriate to equip professionals with the skills needed for interprofessional collaboration at a distance[51].

Some patients reported feeling less comfortable expressing their needs in teleconsultation. As a result, encounters are quicker, colder, more informal, or even incomplete. The partnership approach to care with the patient must remain central even in the teleconsultation context. In this regard, the family member can also be consulted for decision-making purposes, if the patient so wishes[3]. One study has shown that teleconsultation encounters are more likely to reproduce a paternalistic approach to care, where the professional speaks more and controls the dialogue, while the patient has a more passive role[52]. Schaller & al.[44] mention that the patient must be the conductor of his or her care pathway, even in teleconsultation. This implies access to quality, useful and understandable information from healthcare professionals.

Based on data collected in this study, we believe that the rapid adoption of teleconsultation in response to the healthcare measures imposed by pandemic crisis may have hindered the implementation of the patient centered approach. Indeed, professionals had to adapt quickly, adding the additional burden of the health crisis, which may have had an impact on their well-being and mental health[10 53]. In addition, technologies used were not always mature enough to support intelligent teleconsultation, such as appointment scheduling, clinical record information and teleconsultation itself. The telephone often served as the teleconsultation technology, which fell far short of the capabilities of the best available technology devices[54]. A post-pandemic routinization will therefore need to go beyond the telephone mode and rely on technological development commensurate with scientific and patient recommendations. We assume that the technological delay has had an impact on the adoption of good practices. It is therefore recommended to ensure that the patient has full access to information as well as the required technology supplies.

Patients named several professional qualities and attitudes associated with a positive teleconsultation care experience. Many patients reported that a first encounter with a professional remotely makes them more uncomfortable. To this end, according to the literature review by Graves and Doucet (2016)[48], the importance of creating a

relationship of trust between the professional and the patient is emphasized. This is created through quality communication and the experience of mutual understanding. The first visit with the patient should be face-to-face, to help build trust.

This study has some limitations that need to be discussed. The patients' satisfaction high rate of with the teleconsultation could have been influenced by acquiescence and desirability emotional bias. Although questions were non-directional and neutrally framed, measuring patient satisfaction can be challenging[55 56] and some patient may have reported being more satisfaction than they actually got.Patients' recommendations for continuing teleconsultation services perennity after COVID-19 were not differentiated by health condition, which should be taken into consideration when interpreting the results. These must also be adapted and tailored to other contexts or patients with other health condition. The results obtained are related to the Quebec teleconsultation reality, so projection to other contexts may be limited. Several factors such as teleconsulting tools, the type of technologies,[57] and their integration to electronic medical records, as well as their shared costs, may influence the patients' satisfaction.[58 59] Given the patients were already part of a research study, they were not recruited based on their teleconsultation experiences. Therefore, although they may have had teleconsultation experiences during the study period, that could have been melt other health care experiences leading to a lower robustness of our data.

CONCLUSION

The strict resumption of face-to-face clinical activities in primary care services, including the primary care clinics, would contribute to slowing down the modernization of services while risking a negative impact on the patient's experience of care. Indeed, patients perceive several benefits associated with teleconsultation and believe that it should be maintained in the post-pandemic period. However, teleconsultation should always be a win-win situation for both the patient and the clinician, ensuring that the patient is comfortable with it, and for each consultation. It is essential to take the time needed to effectively implement teleconsultation in primary care, particularly by highlighting the

good practices of professionals to keep this encounter mode in line with patients' needs. We must emphasize the importance of documenting the adverse effects of imperfect teleconsultation to correct them quickly before it becomes routinized and bad behaviors crystallize. Finally, healthcare systems have gone through a technological advancement precipitated by the pandemic crisis and the integration of the patient experience has often been sidelined. The experiential knowledge of patients makes them credible and indispensable actors in the improvement of health care and services. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Conflict of interest statements

The authors declare having no potential conflicts of interest with respect to the research, authorship and/or publication of this article. Also, no financial interest or benefit arisen from the direct application of this study.

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Author contributions

MEP, YC, MDP, GG, and SM contributed to the conception and design of the study. CC, GG, MDP, AG, MO, AM, PB and AB collected the data and conducted interviews. CC, MDP, MEP, YC and VTV performed the coding and thematic analysis and interpretation of the results. VTV and CC wrote the draft of the manuscript and all authors commented on previous versions of the manuscript. All authors red and approved the final manuscript.

Ethics approval

The study (project #2019-037) obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du Saguenay Lac-St-Jean and all participants provided consent to participate.

Data Sharing Statement

Unpublished data can be accessed by contacting the corresponding author.

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Continuity of teleconsultation in primary care after the COVID-19 pandemic : The perspective of patients living with chronic diseases

Running heading: Perspective of patients living with chronic diseases on teleconsultation

The Patient

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Electronic Supplementary Material

Appendices

Appendix 1: Interview guide for patients of FMGs, participating in the F2PL project, on their perception of an ideal remote consultation in COVID-19 times

INTRODUCTION

Hello MR. or MS. (NAME OF PARTICIPANT), how are you?

My name is (YOUR NAME), I am a (research agent, student or patient-researcher) on the F2PL project team.

I am part of the F2PL research project in which you are participating, which aims to better understand how professionals in FMGs respond to patient needs. You met or spoke with members of our team in the fall of 2019 or winter of 2020. Our team did a phone interview with you this summer, do you remember?

MR. or MS. (NAME OF PARTICIPANT) is this a good time to talk to you?

1. NO: Can we schedule an appointment at a time that is more convenient for you? (Schedule an appointment and let him/her know we will contact him/her then, thank him/her and hang up)
2. YES: Continue

I am calling you today to hear from you and to ask you a few questions about your perception of the care and services you have received through remote consultations since the beginning of the pandemic in your FMG (medical clinic). A remote consultation is any follow-up by a healthcare professional that did not take place face-to-face.

Our call should last about 30 minutes.

May I ask you a few questions?

May I record our call?

1. PATIENT REFUSED: No problem, thank you. Our team will contact you again when it is time for the next F2PL interview.
2. PATIENT ACCEPTS: Great, thank you very much. If you agree, I will now record the interview.

INTERVIEW QUESTIONS

1. First of all, I would like to know how you're doing in this particular Covid-19 pandemic period?
2. Since our last call this summer, have you consulted a healthcare professional (or assisted a loved one in a meeting) in your FMG?

** Note, if patients talk about their doctor, let them talk, then specify for nurses or SW's.*
If yes: question 3
If no: would you have needed a consultation? If yes or no, why? If the meeting had been possible, how would you have liked this? question 4

3. Can you tell me about your experience from the beginning?

Sub-questions:

- *a. What professional(s) did you meet with?*
  - *i. What professionals other than the physician did you meet with?*
  - *ii. Was this the first time you met with this professional? How long have you been followed?*
  - *iii. Did you repeat any information that was already known by this professional?*
- *b. How was the meeting conducted (or by what means)? (e.g. video conference, call, email, texting) ...*
  - *i. Where were you during this meeting?*
  - *ii. What were your concerns about confidentiality?*
  - *iii. Who accompanied you to your meeting?*
- *c. If it was not by video, do you wish it had been?*
- *d. How did this meeting meet your needs or reason for consultation?*
- *e. How did the remote encounter help or hinder your comfort in talking with the healthcare professional?*
- *f. What would it take for you to be comfortable? (help with using the platforms)*
- *g. Why do you think some encounters are better suited for in-person than remote consultation?*
- *h. How do you see teamwork among healthcare professionals?*
  - *i. How do you observe them sharing information?*
  - *ii. Have you had any conflicting discussions with them?*
- *i. Why was the teleconsultation equivalent or not in terms of quality?*
  - *i. What were the differences in the professional's approach?*
  - *ii. What issues would you have liked to discuss with your professional, but did not dare to address?*

j. *How did you feel called upon as an expert on your health condition during your teleconsultation meeting?*

i. *How did you express your perception of the situation?*

ii. *How did you have time to think about the different options?*

iii. *How did you explore the benefits and advantages of each option?*

iv. *How were you able to express your personal values about managing your health and the choices (treatments, etc.) available?*

v. *How did they give importance to what was a priority for you?*

vi. *How was the involvement of your loved ones in your care addressed?*

vii. *Do you have a follow-up care plan that addresses your health and wellness needs? Has your healthcare provider reviewed your medication in the past year? Did the md inquire if it was appropriate for you (cost, side effects, etc.)*

(Expected answers: I spoke with the secretary; she was helpful, she guided me with the use of the web platform. They offered me if I wanted an in-person, phone or virtual meeting. I met X professional(s), by phone, because I don't have access to the internet).

4. Would you have any advice for the healthcare professionals in your FMG to make the remote consultation ideal?

(Suggested probes to rephrase the question if needed):
- How might healthcare professionals ensure that patients' needs have been met during a remote consultation?
o How were you asked the question?
- What's important to you in a remote encounter?
- What are your needs and expectations during a remote encounter?
- How would you like the teleconsultation meetings to continue over time?

(Expected responses: the doctor didn't move, I felt like the screen stopped working... I wish he had nodded... I found it harder to feel the empathy of the professional through the screen, he didn't tell me he would be taking notes during our encounter, I felt like he was disinterested... I would have liked him to ask me how I found the meeting or to make sure that my understanding was good, I have hearing difficulties, it was difficult for me to do the meeting by phone)

ACKNOWLEDGEMENTS

Thank you very much, MR. or MS. (NAME OF PARTICIPANT).

If you agree, we may get back to you in a few months to chat again.

Goodbye.

Appendix 2: The perspective of patients with chronic diseases - Recommendations for continuity of teleconsultation after the pandemic

The perspective of patients with chronic diseases

Recommendations for continuity of teleconsultation after the pandemic

As a patient, I would like

1. To continue receiving teleconsultation services even after the pandemic, but not make it mandatory if it is not beneficial to me.
2. To know the advantages and disadvantages of teleconsultation and face-to-face meetings, so that I can form an opinion that suits my needs.
3. That my preferences are considered when choosing the consultation mode. I don't want to feel that the choice is imposed on me. I want to express myself for each meeting, because my needs evolve with time and my condition.
4. That the professional team considers both my personal characteristics and the determinants of my health as this may influence my ability to have teleconsultation meetings.
5. To have a meeting by phone for certain reasons for consultation, in particular during follow-ups when my condition is stable or for medication renewals, for example. This allows me to save time.
6. That in the event that the reason for my consultation requires a physical examination or visual observation by the healthcare professional, to be able to benefit from a face-to-face appointment from the outset, while avoiding a remote meeting, as this duplicates the appointments.
7. That even if I receive services in teleconsultation, my interprofessional team collaborates. I realize the lack of collaboration even if I am not physically present.
8. That my professional team exhibits the following attitudes for a positive care experience: punctuality, listening, empathy, trust, consideration, knowledge of their profession, availability, involvement, communication and active listening. I capture the professionalism even in teleconsultation.
9. That certain topics are avoided over the phone, especially when it comes to my mental health, weight gain, or other topics that make me uncomfortable.
10. To be able to invite a loved one to join the discussion if I wish. They should be able to hear and watch the consultation like me. I can also consult with him or her to make a decision if I feel the need.

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CHAIRE DE RECHERCHE SUR LES PRATIQUES PROFESSIONNELLES OPTIMALES EN SOINS PRIMAIRES

UNIVERSITÉ DE SHERBROOKE

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COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the inter view or focus group?	
Duration	21	What was the duration of the inter views or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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Chronic conditions patient's perception on post-COVID19 pandemic teleconsulting continuation in primary care clinics: A qualitative descriptive study

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Chronic conditions patient's perception on post-COVID19 pandemic teleconsulting continuation in primary care clinics: A qualitative descriptive study

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Abstract

Objectives The COVID-19 pandemic has led to the prioritization of teleconsultation instead of face-to-face encounters. However, teleconsultation revealed some shortcomings and undesirable effects that may counterbalance benefits. This study aims to explore the perspective of patients with chronic diseases on teleconsultation in primary care. This article also proposes recommendations to provide patient-oriented and appropriate teleconsultations.

Design We conducted a qualitative descriptive study that explored the patients' perception regarding teleconsultation services and the following themes: access, perceived benefits and disadvantages, interprofessional collaboration, patient-centered approach, specific competencies of professionals, and patient's global needs and preferences.

Setting Six primary care clinics in three regions of Quebec

Participants 39 patients were interviewed by telephone through semi-structured qualitative interviews.

Results Patients want to maintain teleconsultation for the post-pandemic period as long as their recommendations are followed: be able to choose to come to the clinic if they wish to, feel that their individual and environmental characteristics are considered, feel involved in the choice of the modality of each consultation, feel that interprofessional collaboration and patient-centered approach are promoted, and to maintain the professionalism, which must not be lessened despite the remote context.

Conclusion Patients mainly expressed high satisfaction with teleconsultation. However, several issues must be addressed. Patients do and should contribute to the implementation of teleconsultation in primary care. They wish to be frequently consulted about their preferred consultation modality, which may change over time. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Keywords Primary care, telehealth or teleconsultation, chronic disease patients, patient-centered care.

Strengths and limitations of this study

- This article presents field data that reports patients' experiences and perceptions of teleconsultation in primary care.
- Our partnership and patient-oriented research approach ensures that the data presented emerge from patients' concerns.
- The patients' satisfaction high rate with teleconsultation could have been influenced by acquiescence and desirability emotional bias
- Patients' recommendations for continuing teleconsultation services perennity after COVID-19 were not differentiated by health condition, which should be considered when interpreting the results.

INTRODUCTION

Since March 2020, public health measures adopted in several countries in response to the COVID-19 pandemic have led to the prioritization of teleconsultation over face-to-face services in primary care health organizations. Teleconsultation is any interaction between a patient and a health care professional that takes place at a distance and uses some form of information technology (e.g., virtual approaches via videoconferencing through Zoom, Teams, and Reacts) or communication (e.g., telephone, email, SMS).[1] Although teleconsultation had been used sporadically worldwide, the COVID-19 health crisis led to major advances in the deployment and use of this mode of intervention in several primary care clinics.[2 3] These primary care clinics propose health and social services provided by general practitioners working closely with other health and social services professionals, such as nurses and social workers[4]. Innovations' spreading requires time sensitive key elements, and it can typically take up to a decade to cross, successfully or not, the adoptions' classic five steps in real life.[5] Yet under the pandemic time shortage, the teleconsultations broadcast was hastened, and their *promotion-to-adoption* journey most likely did not get the time to fulfill that theoretical framework. Given so, In the post-pandemic period[6] [7] [8], the use of teleconsultation faced some shortcomings and undesirable effects.[9-14] As such, the number of inappropriate visits to Emergency departments has reportedly increased in the province of Québec, given that some teleconsultation-users patients got to have a physical exam (e.g. auscultation), ending up in the emergency room. In reality, the majority of emergency rooms' visits were related to minor problems that could have been treated by a family physician or primary care teams.[15] This mode of care restricts access to services for people with limited mobility, limited access to the Internet or teleconsultation tools, or low levels of digital literacy.[12 16] These undesirable effects may counterbalance the positive effects of teleconsultation demonstrated in the scientific literature.[17] Given that teleconsulting will remain, at least in part, a regular practice of healthcare professionals and patients after the COVID-19 pandemic.[1 18-20] Considering the patients' perception, regarding this fast overview, the

teleconsultation allows for a better trade-off between the high potential for the patient experience or health improved and the adverse effects of this technical innovation.

In the past year, various recommendations have been published to support good practice in teleconsultation.[2 21 22] These recommendations are highly useful in supporting healthcare professionals towards proper implementation of teleconsultation in healthcare settings between a patient and a clinician from an intraprofessional and clinician-centred perspective. However, they may be incomplete as they need to consider the needs, preferences, and general representation of patients living with chronic diseases concerning teleconsultation. Furthermore, the tools supporting teleconsultation are built from a clinician's perspective without integrating the patient's perspective.

Some authors explored the factors related to a positive experience (or not) of care in teleconsultation from the perspective of patients[23-28], but very few focused on patients with chronic diseases in primary care.[29 30] In addition, patient-led studies incorporating the concept of patient-oriented research are rare. Since few scientific recommendations have been identified on teleconsultation for professionals working in primary care clinics and considering that patients with chronic illnesses are those who consult family medicine practices most frequently[31], we propose that they are in the best position to testify to the experience of teleconsultation in primary care. As the desire to sustain teleconsultation in primary care takes hold, it seems essential to incorporate the patient perspective during this rapidly accelerating phase of innovation about teleconsultation. To do so, our study, co-led by two patient-partners, has the following two objectives: 1) to explore the perspective of patients with chronic diseases on the teleconsultation offered in primary care clinics; and 2) to make general recommendations regarding the post-pandemic adequacy between the teleconsultation offer and the needs and expectations of patients with chronic diseases.

METHODS

We conducted[32] a longitudinal qualitative descriptive study[33] with two data collection periods [34] in six primary care clinics located in three regions (metropolitan, urban and semi-urban) of Quebec, Canada. These primary care clinics are funded by public funds[35] being defined as family physicians group working together and in close collaboration with other health and social services professionals (e.g., registered nurses, social workers, nurse practitioners)[4]. Teleconsultation is offered here in various modalities, including email, chat, telephone, and video, through various applications (FaceTime, Zoom, Microsoft Teams, etc.). Modalities can be used alone or in combination. Some clinics got these features belt into an electronic medical record. We have used the COREQ self-assessment grid for qualitative studies to report on this project's accuracy and methodology. [36]

Patient and public involvement

The research was co-led by two patient partners, two researchers, and one decision-maker. The patient and clinical co-leaders supported the researchers in carrying out the project according to the partnership methodologies guided by the Canadian Institutes of Health Research[37] and our team's previous work.[38] One of the patient co-leaders had concerns about teleconsultation in primary care, and the original research idea emerged from there. Both patient co-leaders collaborated on each step of this study, and their contribution is detailed in further sections. As co-authors, they have also revised the manuscript and provided feedback to enhance it.

Sample

We built a convenient sample of 49 registered patients from the Training of Trainers in Primary care (F2PL) study[39], who were assessed by phone by the patient co-leaders or by a research agent. These patients are persons living with chronic diseases, followed by family physicians in a primary care clinic and, sometimes, in collaboration with a clinical nurse and/or a social worker. The project #2019-037 obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du Saguenay Lac-St-Jean and all participants provided consent to participate in the interview.

Data collection

A research team member first contacted patients during the first wave of the COVID-19 pandemic, between March and August 2020, to ask them about their experience with teleconsultation. This initial data collection highlighted patients' needs for teleconsultation services, and results were published elsewhere.[34] Between February and March 2021, we further explored this question by examining, among other things, patients' representations of pursuing teleconsultation, reasons for consultations conducive to teleconsultation, the impact of teleconsultation on interprofessional collaboration, as well as the use of patient partnered care approach. We conducted semi-structured qualitative telephone interviews (Appendix 1: Interview guide) lasting approximately 30 minutes in February 2021 by three research professionals (X), three graduate nursing students (X), as well as one patient co-leader (X) after a training provided by both principal co-investigators, X (junior) and X (senior). We audio recorded the interviews with the consent of the study participants. We have taken field notes during each interview to enrich data analysis.

Analysis

We performed qualitative analysis according to three concurrent streams: data condensation (e.g., selection, the transformation of raw data), data display (e.g., narrative text, table, matrix), and verification of conclusions (e.g., go back to field notes for each patient, discussion with the research team).[33] We conducted a deductive thematic analysis[33] of the interview data based on the themes explored by the interview guide, which are, in relation to teleconsultation: satisfaction with the services received, interprofessional collaboration, the inclusion of significant relatives in care, digital literacy of patients, soft skills and attitudes of professionals, valuing experiential knowledge in shared decision making. Then, we, including a patient co-leader, determined the themes related to the teleconsultation context. We explored the following seven themes: 1) access to primary care clinics services during a pandemic; 2) advantages and disadvantages of teleconsultation compared with face-to-face encounters; 3) interprofessional

collaboration; 4) healthcare professionals' competencies specific to teleconsultation; 5) the patient partnered approach to care; 6) avenues for improving measures of patients' perceptions of their care experience[40]; and 7) patients' needs and preferences during a teleconsultation. All research team members collaborated on the coding identification and created a Microsoft Word template to display the data and organize the text for the next step of the analysis. We performed a live encoding that allows for simultaneous manual coding while listening to the audio recording. This method is beneficial to preserve the participants' voice, thus empowering the process to sense the intent, context, and meaning of their words.[41] Patients co-leaders in this project favored this method over the transcript coding because they felt they understood more of what the participants wanted to express. The interviews' encoding was made by at least two research team members, using Microsoft Word software. The principal investigators (X) and patient co-leader (X) validated all the encodings one by one. We had all data analyzed, and the conclusions were discussed in a meeting with all research team members, leading to the extraction of proposals and recommendations reported in the present article.

RESULTS

Participants

Of the 49 participants initially recruited for the F2PL study, 39 agreed to participate in the present study, six were unreachable, and four declined to participate. Table 1 presents the participants' sociodemographic characteristics and table 2 their medical and psychosocial conditions.

Table 1: Sociodemographic characteristics of the study participants

Characteristics	Patients (N=39) n (%)
Sex	
Male	16 (41)
Female	23 (59)
Age (mean=60.5)	

< 30	0 (0)
31-40	5 (13)
41-50	3 (8)
51-64	17 (43)
65 +	14 (36)
Marital status[a]	
Married/Common-law partner	31 (80)
Single	3 (8)
Separated/Divorced	4 (10)
Highest level of education[a]	
Primary/High school	10 (25)
Professional/College	18 (46)
University	10 (25)
Employment status[a]	
Working	14 (36)
Work interruption	7 (18)
Retired	15 (38)
Other	2 (5)
Income (CAN$)[b]	
[0 – 29 999]	7 (17)
[30 000 – 59 999]	14 (36)
[60 000 – 99 999]	9 (23)
≥100 000	5 (13)
Location	
Metropole	10 (26)
Rural	15 (38)
Urban	14 (36)
Healthcare provider before COVID-19	

Family physician	6 (15)
Family physician and nurse	16 (41)
Family physician and social worker	12 (31)
Family physician, nurse, and social worker	5 (13)

[a] Data missing for 1 patient; [b] Data missing for 4 patients

Table 2: Medical and psychosocial conditions of the study participants

Medical and psychosocial conditions	Patients (N=39) n (%)
Type [a]	
Diabetes	13 (33)
Arterial hypertension	11 (28)
Personal issues	6 (15)
Difficulties adapting to situations	5 (13)
Mental health issues	6 (15)
Coronary artery disease (CAD)	5 (13)
Cancer	4 (10)
Asthma	3 (7.5)
Relationship issues	4 (10)
Suicidal thoughts	1 (2.5)
Bereavement	1 (2.5)
Chronic obstructive pulmonary disease	1 (2.5)
Professional issues	5 (13)
Other	15 (38)

Number of conditions	
1	18 (46)
2-3	14 (36)
4-5≤	7 (18)

[a] *Not mutually exclusive*

Analysis of the interview data allowed us to develop recommendations based on the participants' perspective. Additional verbatims to support each of the findings are presented in Table 3.

Table 3 Recommendations of patients living with chronic diseases regarding the continuity of teleconsultation after the COVID-19 pandemic

Recommendations	Verbatims	Participants identification
Considering its many advantages, the end of the pandemic must allow the continuity of teleconsultation services	*"I don't have a driver's license; I don't have a car. So, I don't have to travel* *"It suits my needs [teleconsultation], because I don't have to spend"*	101-5-001
Face-to-face consultation must take precedence over teleconsultation when a physical examination is required	*"I had sores on my face, on the phone, it was more difficult"*	302-5-003

Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation	*"Anything that has to do with social relations, when there's a lot of explaining or emotional issues...I think face-to-face would be much easier"* *"My husband is deaf. The telephone consultation is not ideal. I absolutely have to make time to accompany my husband during phone meetings because he is not able to do it alone"* *" I don't have internet...computers, internet, I don't know that..."*	202-5-001 102-5-004 101-5-010
Involve the patient in choosing the consultation mode for each encounter	*"In my case, I don't have a relationship with my family doctor, I don't need to have one either. I'm not looking for that. If I needed a consultation with a social worker, I'd like it to be face to face because I'm looking more for the relationship"*	202-5-001
Explain to the patient how the interprofessional dimension will be addressed	*"I don't know what the difference is between the nurse and the nutritionist"* *"They [social worker, doctor, and nutritionist] write to each other every time I have a meeting. They know everything"*	301-5-001 302-5-003
Intervene according to the care approach in partnership with the patient in teleconsultation	*"My healthcare professional asks questions and is interested in my problem, I don't perceive any change in his or her approach virtually compared to when I come to the office"* *"He [the healthcare professional] asked me for my opinion, we decided to pursue this [in teleconsultation, regarding treatment choice]"*	202-5-007 301-5-006
The positive attitudes expressed by healthcare	*"I had the impression that there was more time to listen to me. The first question was, «How are you»? It was in a calm way. On the phone, it's*	202-5-005 201-5-001

professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting	*even more important, I find, because you don't see the person "* *"Five to ten minutes late is acceptable to me. If it's longer than that, I would like to be notified. My doctor was about 30, 40 minutes late. I was at my office, doing paperwork while waiting for my teleconsultation, so it wasn't a problem, but for people who do not have a desk job it can be a problem"*

Findings

Through this unique perspective of experiential knowledge, we aim to promote the continuity and adequacy of teleconsultation services offered in primary care clinics following the pandemic (Appendix 2: Patients' 10 recommendations for continued teleconsultation after the pandemic).

1- Considering its many advantages, the end of the pandemic must allow the improved continuity of teleconsultation services

According to the participants, teleconsultation brings its own set of benefits. As expressed by the patients interviewed, the savings in time and money are significant for routine clinical follow-up needs. In addition to the financial aspect, teleconsultation is also advantageous from an organizational point of view since it saves time. One patient mentioned that a teleconsultation lasting approximately fifteen minutes, saves him quadruple and more the time. This patient explained that the absence of travel allowed him to spend less time on his consultation in a primary care clinic. In addition, many patients reported not having to ask their employer to be released from work, not having to deal with unexpected road conditions (traffic jams, winter driving), losing time to find a parking space and waiting several minutes in a waiting room. For patients with young children or other family responsibilities, teleconsultation facilitates family logistics.

However, this desired continuity must be accompanied by a review of the adverse effects of consultation. For example, teleconsultation must not delay the consultation process to emergency services or minimize the importance of interprofessional collaboration.

2- Face-to-face consultation must take precedence over teleconsultation when a physical examination is required

During the pandemic period, some patients received teleconsultation services for which they would have preferred to be seen in person and for which certain concerns persisted after the meeting: "By telephone, it wasn't easy, I would have liked the doctor to look at my knee, she asked me if it was swollen. I couldn't see if it was swollen" (pt # 202-5-007). If a patient has a health condition that requires visual examination or auscultation by the clinician, an in-person consultation should be encouraged.

3- Consider the reasons for consultations and the individual and environmental characteristics of the patient to decide on the appropriateness of a face-to-face consultation or teleconsultation

The patient's reason for consultation must be considered when making the decision to offer a face-to-face or remote encounter. Indeed, certain reasons for consultation make patients uncomfortable when they must discuss them during a teleconsultation, such as consulting for a mental health-related reason or for one that has emotional components. For example, addressing weight gain over the phone can be difficult for some patients: "I gained weight, but I don't want to talk about my weight. I gained weight but she the doctor didn't see me. It's something that affects me too much to talk about on the phone" (Pt # 202-5-007). When dealing with potentially sensitive issues for patients, a face-to-face meeting should be preferred. The reasons for consultation reported by the patients and which lend themselves well to teleconsultation include: the follow-up of stable chronic conditions, the transmission of test results when they announce good news, or the renewal of prescriptions. These verbatims capture the possible motives: "When the

results are nothing serious, give them to me by phone..." (Pt # 302-5-005). "It can be done in teleconsultation if it's just to renew, there's no problem" (Pt # 301-5-002).

Individual characteristics must also be considered when deciding on the best consultation mode. In some situations, individual characteristics such as deafness make it impossible to offer teleconsultation services. Similarly, there are environmental characteristics that hinder patients' teleconsultation experience. Some patients have limited access to communication services such as the Internet and telephone. This is the case for the following participant: "My mother lives in a seniors' residence. The phones are connected to the Internet, if the power is down, the phone is not available" (Pt # 102-5-004).

4- Involve the patient in choosing the consultation mode for each encounter

The patient expresses personal preferences regarding the choice of teleconsultation or face-to-face mode. The patient expresses preferences depending on the type of professional services needed and their preferences change over time. For example, one patient expressed her needs as follows: "My needs have changed since the beginning of the pandemic last year. Before, I would have preferred to have a video-conference meeting, now the telephone meets my needs ... we just got used to the telephone and it's okay" (Pt # 302-5-003).

5- Explain to the patient how the interprofessional dimension will be addressed

Communication between professionals is associated with a positive care experience for patients: "I feel that there is a whole multidisciplinary team and that they don't hesitate to talk to each other, that they know each other's strengths" (Pt # 201-5-005). Patients appreciate when the collaboration between professionals is carried out in the same way as during a face-to-face meeting: "I had the impression that they were more available [with the use of technology]. When my doctor isn't available, the super nurse meets with me. That works for me" (Pt # 202-5-005).

6- Intervene according to the care approach in partnership with the patient in teleconsultation

In the patient partnered approach to care, the patient is an active participant in the meetings and must feel being listened by the healthcare professional to express their needs[42]. However, some patients felt that the teleconsultation did not allow them to express all their needs: "It's hard to talk on the phone, I have less chit-chat than face to face" (Pt # 302-5-005). Yet participants emphasized the value of their experiential knowledge, which they have acquired over time. This specific knowledge must be considered by the professional, including in the context of teleconsultation. The following example about the pain felt by a patient is telling: "If I have problems because of chemotherapy, I am the one who has the pain, I am the pain specialist. If it's not strong enough, I'll tell my doctor, but they know how far I can go, I don't know that..." (Pt # 301-5-003).

7- The positive attitudes expressed by healthcare professionals in a face-to-face setting must be maintained and perceived by patients in a teleconsultation setting

Despite the distance, the patient feels an eventual lack of professionalism in teleconsultation. Patients interviewed found important to feel the availability and attentiveness of the professional in teleconsultation. Similarly, punctuality is a professional attitude that is important to the care experience: "I find it important that the professional is on time for the teleconsultation meeting" (Pt # 201-5-001).

Patients named other important professional attitudes to be maintained by professionals during teleconsultation, namely: empathy, trust, consideration, the feeling that the professional has knowledge related to his or her field of practice, communication (especially for follow-up information) and the preparation of the professional before an encounter. This verbatim excerpt supports the importance of professional attitudes: "I find it important to know that the professional knows my case. There are doctors who ask why did you come?... Look in my medical record" (Pt # 102-5-006).

Patients underlined the risk that technological mediation may be the gateway to fewer professional attitudes: "Sometimes I would hear him cleaning his house at the same time as his consultation, doing his dishes and then going to make himself a little supper... I even heard a toilet flush during my appointment [...]" (Pt # 101-5-003).

DISCUSSION

The data collected at two points in time during phases 1 (February to July 2020) and 3 (March to July 2021)[43] of the pandemic allowed us to identify the expectations of patients with chronic diseases regarding the teleconsultation services offered in primary care clinics. First, patients mentioned several advantages related to teleconsultation. They state the relevance of maintaining teleconsultation after the health crisis caused by COVID-19. However, patients' characteristics must be known and considered to decide on the best meeting mode for them. Despite the distance imposed by the change in service provision related to COVID-19, patients must be able to express their preferences and maintain their ability to participate in healthcare decisions that affect them. Interprofessional collaboration and a partnership approach to care with the patient must remain at the heart of professional teleconsultation practices. Moreover, they must be explicit despite the teleconsultation. Finally, certain attitudes expressed by healthcare professionals must be felt and perceived by the patient during the consultation. These results have allowed us to identify general recommendations from the patients' perspective, which are explained below.

We found patients' overall positive assessment of teleconsultation. This observation is consistent with the literature.[44] Our results corroborate what Ramaswamy & al (2020)[45] reported from a cohort study of 40,000 patients that teleconsultation is associated with higher patient satisfaction compared with face-to-face visits. Our study adds to these data and demonstrates that this principled adherence is conditional on meeting key conditions recognized by patients. Patient satisfaction is partly explained by the pragmatic efficiency of teleconsultation, such as time saving, money saving and the impact on daily life of a short consultation for the professional. In addition, the perception

of faster access to healthcare professionals is highly valued. These efficiency indicators from the users' point of view are often cited by patients and associated with a positive experience of care for them.[40] Similarly, as mentioned by Schaller et al. (2021)[46], the digitization of practices, as accelerated by the pandemic, is a modality that will endure in the post-pandemic period. We believe, however, that this potential for sustainability has conditions for improvement and success, and that the patient's perspective in identifying these is very useful.

From the patient's perspective, teleconsultation should not be used systematically, despite its great potential. Certain reasons of consultation and individual and environmental characteristics make teleconsultation inappropriate and must, therefore, be considered when choosing the best consultation mode. The patient must be considered as a key partner in the analysis of these reasons for each situation where teleconsultation is potentially useful[47], as corroborated by the data in this study.

According to an evaluation report of an healthcare organization[17] and in accordance with the recommendations of a medical association[47], the need to perform a physical or psychological examination is a reason for consultation that is not compatible with teleconsultation, due to the possible risks for patients. Some health conditions, co-morbidities or multiple chronic diseases may also affect the patient's ability to benefit from teleconsultation services.[21] This is the case for patients with advanced age, cognitive impairments, and severe mental health problems.[6 17 47]Issues related to mental health and teleconsultation have been raised by primary care nurses who have expressed unease in using technology with clients with mental or psychosocial problems.[7]

Teleconsultation can also be a source of health inequity. A study by Khoong et al (2021)[48] found that the most significant barrier to teleconsultation is limited access to the Internet and mobile data. Internet costs and digital literacy are therefore factors that may be limiting for some patients and hinder the provision of teleconsultation services. In order to determine the best consultation mode, the French Haute Autorité de la santé[49]

mentions that the professionals must ensure the patient's eligibility for such a teleconsultation mode by considering several factors, such as the clinical situation, the ability to communicate at a distance, individual factors (physical, psychological, socio-professional, family), confidentiality at a distance, and the nature of the care (e.g., physical contact necessary). However, we believe that this analysis must be done in partnership with the patient. The latter has a unique experiential knowledge acquired over time through daily experience with the health condition. The benefits and limitations of teleconsultation should be known to the patient. This is part of a collaborative care approach with the patient which is designed to ensure that decisions are made with the patient's needs and preferences in mind.

Some patients reported a lack of communication between healthcare professionals during teleconsultation. Patients had to repeat their needs and health history to each healthcare professional involved so that everyone was aware of their situation. This negatively impacts the patient's experience of care.[40] According to the literature review by Graves and Doucet (2016)[50], there are several barriers to interprofessional collaboration to consider in teleconsultation. These include technical issues caused by technology, as well as coordination and organizational challenges, such as ambiguous responsibilities or increased workload caused by teleconsultation. Similarly, difficult relationships between professionals, marked by a lack of trust and tension, have a negative impact on teleconsultation collaboration within the team.[51] In addition, the technology used can have a mono-disciplinary silo effect if it promotes solo (clinician-patient) meetings that replace formal and informal consultation between clinicians.[13 52] If teleconsultation meetings are to be maintained over time, it seems appropriate to equip professionals with the skills needed for interprofessional collaboration at a distance.[53]

Some patients reported feeling less comfortable expressing their needs in teleconsultation. As a result, encounters are quicker, colder, more informal, or even incomplete. The partnership approach to care with the patient must remain central even in the teleconsultation context. In this regard, the family member can also be consulted

for decision-making purposes, if the patient so wishes.[3] One study has shown that teleconsultation encounters are more likely to reproduce a paternalistic approach to care, where the professional speaks more and controls the dialogue, while the patient has a more passive role.[54] Schaller & al.[46] mention that the patient must be the conductor of his or her care pathway, even in teleconsultation. This implies access to quality, useful and understandable information from healthcare professionals.

Based on data collected in this study, we believe that the rapid adoption of teleconsultation in response to the healthcare measures imposed by pandemic crisis may have hindered the implementation of the patient centered approach. Indeed, professionals had to adapt quickly, adding the additional burden of the health crisis, which may have had an impact on their well-being and mental health.[7 55] In addition, technologies used were not always mature enough to support intelligent teleconsultation, such as appointment scheduling, clinical record information and teleconsultation itself. The telephone often served as the teleconsultation technology, which fell far short of the capabilities of the best available technology devices.[56] A post-pandemic routinization will therefore need to go beyond the telephone mode and rely on technological development commensurate with scientific and patient recommendations. We assume that the technological delay has had an impact on the adoption of good practices. It is therefore recommended to ensure that the patient has full access to information as well as the required technology supplies.

Patients named several professional qualities and attitudes associated with a positive teleconsultation care experience. Many patients reported that a first encounter with a professional remotely makes them more uncomfortable. To this end, according to the literature review by Graves and Doucet (2016)[50], the importance of creating a relationship of trust between the professional and the patient is emphasized. This is created through quality communication and the experience of mutual understanding. The first visit with the patient should be face-to-face, to help build trust.

This study has some limitations that need to be discussed. The patients' satisfaction high rate of with the teleconsultation could have been influenced by acquiescence and desirability emotional bias. Although questions were non-directional and neutrally framed, measuring patient satisfaction can be challenging[57 58] and some patient may have reported being more satisfaction than they actually got. Patients' recommendations for continuing teleconsultation services perennity after COVID-19 were not differentiated by health condition, which should be taken into consideration when interpreting the results. These must also be adapted and tailored to other contexts or patients with other health condition. The results obtained are related to the Quebec teleconsultation reality, so projection to other contexts may be limited. Several factors such as teleconsulting tools, the type of technologies,[59] and their integration to electronic medical records, as well as their shared costs, may influence the patients' satisfaction.[60 61] Given the patients were already part of a research study, they were not recruited based on their teleconsultation experiences. Therefore, although they may have had teleconsultation experiences during the study period, that could have been melt other health care experiences leading to a lower robustness of our data.

CONCLUSION

The strict resumption of face-to-face clinical activities in primary care services, including the primary care clinics, would contribute to slowing down the modernization of services while risking a negative impact on the patient's experience of care. Indeed, patients perceive several benefits associated with teleconsultation and believe that it should be maintained in the post-pandemic period. However, teleconsultation should always be a win-win situation for both the patient and the clinician, ensuring that the patient is comfortable with it, and for each consultation. It is essential to take the time needed to effectively implement teleconsultation in primary care, particularly by highlighting the good practices of professionals to keep this encounter mode in line with patients' needs. We must emphasize the importance of documenting the adverse effects of imperfect teleconsultation to correct them quickly before it becomes routinized and bad behaviors

crystallize. Finally, healthcare systems have gone through a technological advancement precipitated by the pandemic crisis and the integration of the patient experience has often been sidelined. The experiential knowledge of patients makes them credible and indispensable actors in the improvement of health care and services. The patient perspective must therefore be part of the balanced implementation of optimal teleconsultation that is currently taking place.

Conflict of interest statements

The authors declare having no potential conflicts of interest with respect to the research, authorship and/or publication of this article. Also, no financial interest or benefit arisen from the direct application of this study.

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Author contributions

MEP, YC, MDP, GG, and SM contributed to the conception and design of the study. CC, GG, MDP, AG, MO, AM, PB and AB collected the data and conducted interviews. CC, MDP, MEP, YC and VTV performed the coding and thematic analysis and interpretation of the results. VTV and CC wrote the draft of the manuscript and all authors commented

on previous versions of the manuscript. All authors red and approved the final manuscript.

Ethics approval

The study (project #2019-037) obtained ethical approval from the Centre intégré universitaire de santé et de services sociaux du Saguenay Lac-St-Jean and all participants provided consent to participate.

Data Sharing Statement

Unpublished data can be accessed by contacting the corresponding author.

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Continuity of teleconsultation in primary care after the COVID-19 pandemic : The perspective of patients living with chronic diseases

Running heading: Perspective of patients living with chronic diseases on teleconsultation

The Patient

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Electronic Supplementary Material

Appendices

Appendix 1: Interview guide for patients of FMGs, participating in the F2PL project, on their perception of an ideal remote consultation in COVID-19 times

INTRODUCTION

Hello MR. or MS. (NAME OF PARTICIPANT), how are you?

My name is (YOUR NAME), I am a (research agent, student or patient-researcher) on the F2PL project team.

I am part of the F2PL research project in which you are participating, which aims to better understand how professionals in FMGs respond to patient needs. You met or spoke with members of our team in the fall of 2019 or winter of 2020. Our team did a phone interview with you this summer, do you remember?

MR. or MS. (NAME OF PARTICIPANT) is this a good time to talk to you?

1. NO: Can we schedule an appointment at a time that is more convenient for you? (Schedule an appointment and let him/her know we will contact him/her then, thank him/her and hang up)
2. YES: Continue

I am calling you today to hear from you and to ask you a few questions about your perception of the care and services you have received through remote consultations since the beginning of the pandemic in your FMG (medical clinic). A remote consultation is any follow-up by a healthcare professional that did not take place face-to-face.

Our call should last about 30 minutes.

May I ask you a few questions?

May I record our call?

1. PATIENT REFUSED: No problem, thank you. Our team will contact you again when it is time for the next F2PL interview.
2. PATIENT ACCEPTS: Great, thank you very much. If you agree, I will now record the interview.

INTERVIEW QUESTIONS

1. First of all, I would like to know how you're doing in this particular Covid-19 pandemic period?
2. Since our last call this summer, have you consulted a healthcare professional (or assisted a loved one in a meeting) in your FMG?

** Note, if patients talk about their doctor, let them talk, then specify for nurses or SW's.*
If yes: question 3
If no: would you have needed a consultation? If yes or no, why? If the meeting had been possible, how would you have liked this? question 4

3. Can you tell me about your experience from the beginning?

Sub-questions:

- *a. What professional(s) did you meet with?*
  - *i. What professionals other than the physician did you meet with?*
  - *ii. Was this the first time you met with this professional? How long have you been followed?*
  - *iii. Did you repeat any information that was already known by this professional?*
- *b. How was the meeting conducted (or by what means)? (e.g. video conference, call, email, texting) ...*
  - *i. Where were you during this meeting?*
  - *ii. What were your concerns about confidentiality?*
  - *iii. Who accompanied you to your meeting?*
- *c. If it was not by video, do you wish it had been?*
- *d. How did this meeting meet your needs or reason for consultation?*
- *e. How did the remote encounter help or hinder your comfort in talking with the healthcare professional?*
- *f. What would it take for you to be comfortable? (help with using the platforms)*
- *g. Why do you think some encounters are better suited for in-person than remote consultation?*
- *h. How do you see teamwork among healthcare professionals?*
  - *i. How do you observe them sharing information?*
  - *ii. Have you had any conflicting discussions with them?*
- *i. Why was the teleconsultation equivalent or not in terms of quality?*
  - *i. What were the differences in the professional's approach?*
  - *ii. What issues would you have liked to discuss with your professional, but did not dare to address?*

j. *How did you feel called upon as an expert on your health condition during your teleconsultation meeting?*

i. *How did you express your perception of the situation?*

ii. *How did you have time to think about the different options?*

iii. *How did you explore the benefits and advantages of each option?*

iv. *How were you able to express your personal values about managing your health and the choices (treatments, etc.) available?*

v. *How did they give importance to what was a priority for you?*

vi. *How was the involvement of your loved ones in your care addressed?*

vii. *Do you have a follow-up care plan that addresses your health and wellness needs? Has your healthcare provider reviewed your medication in the past year? Did the md inquire if it was appropriate for you (cost, side effects, etc.)*

(Expected answers: I spoke with the secretary; she was helpful, she guided me with the use of the web platform. They offered me if I wanted an in-person, phone or virtual meeting. I met X professional(s), by phone, because I don't have access to the internet).

4. Would you have any advice for the healthcare professionals in your FMG to make the remote consultation ideal?

(Suggested probes to rephrase the question if needed):

- How might healthcare professionals ensure that patients' needs have been met during a remote consultation?

o How were you asked the question?

- What's important to you in a remote encounter?

- What are your needs and expectations during a remote encounter?

- How would you like the teleconsultation meetings to continue over time?

(Expected responses: the doctor didn't move, I felt like the screen stopped working... I wish he had nodded... I found it harder to feel the empathy of the professional through the screen, he didn't tell me he would be taking notes during our encounter, I felt like he was disinterested... I would have liked him to ask me how I found the meeting or to make sure that my understanding was good, I have hearing difficulties, it was difficult for me to do the meeting by phone)

ACKNOWLEDGEMENTS

Thank you very much, MR. or MS. (NAME OF PARTICIPANT).

If you agree, we may get back to you in a few months to chat again.

Goodbye.

Appendix 2: The perspective of patients with chronic diseases - Recommendations for continuity of teleconsultation after the pandemic

The perspective of patients with chronic diseases

Recommendations for continuity of teleconsultation after the pandemic

As a patient, I would like

1. To continue receiving teleconsultation services even after the pandemic, but not make it mandatory if it is not beneficial to me.
2. To know the advantages and disadvantages of teleconsultation and face-to-face meetings, so that I can form an opinion that suits my needs.
3. That my preferences are considered when choosing the consultation mode. I don't want to feel that the choice is imposed on me. I want to express myself for each meeting, because my needs evolve with time and my condition.
4. That the professional team considers both my personal characteristics and the determinants of my health as this may influence my ability to have teleconsultation meetings.
5. To have a meeting by phone for certain reasons for consultation, in particular during follow-ups when my condition is stable or for medication renewals, for example. This allows me to save time.
6. That in the event that the reason for my consultation requires a physical examination or visual observation by the healthcare professional, to be able to benefit from a face-to-face appointment from the outset, while avoiding a remote meeting, as this duplicates the appointments.
7. That even if I receive services in teleconsultation, my interprofessional team collaborates. I realize the lack of collaboration even if I am not physically present.
8. That my professional team exhibits the following attitudes for a positive care experience: punctuality, listening, empathy, trust, consideration, knowledge of their profession, availability, involvement, communication and active listening. I capture the professionalism even in teleconsultation.
9. That certain topics are avoided over the phone, especially when it comes to my mental health, weight gain, or other topics that make me uncomfortable.
10. To be able to invite a loved one to join the discussion if I wish. They should be able to hear and watch the consultation like me. I can also consult with him or her to make a decision if I feel the need.

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COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the inter view or focus group?	
Duration	21	What was the duration of the inter views or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.