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Original Research Article

Telemedicine for contraceptive counseling: Patient experiences during the early phase of the COVID-19 pandemic in New York City

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ABSTRACT

Objective: During theCOVID-19 pandemic, many clinicians increased provision of telemedicine services. This study describes patient experiences with telemedicine for contraceptive counseling during the COVID-19 pandemic in New York City.

Study design: This is a mixed-methods study which includes a web-based or phone survey and in-depth phone interviews with patients who had telemedicine visits for contraception.

Results: A total of 169 patients had eligible telemedicine visits between April 1 and June 30, 2020. Of these, 86 (51%) responded to the survey, and 23 (14%) participated in the interviews. We found that 86% of survey respondents were very satisfied with the telemedicine visit, and 63% said it completely met their needs. A majority (73%) strongly agreed that these visits should be maintained after the COVID-19 pandemic, and half (51%) would be very likely to choose them over in-person visits. In-depth interviews highlighted the convenience of telemedicine, especially for those with work or parenting responsibilities. Although some patients had in-person visits after telehealth, many appreciated the counseling they received remotely, and found the subsequent in-person visits more efficient. Patients identified visits that do not require physical exams as ideal visits for telehealth, and some hoped that all or most of their future visits would be telehealth visits. Many patients (43%) expressed a preference for phone over video visits.

Conclusions: Patients reported an overall positive experience with telemedicine visits for contraceptive counseling during the COVID-19 pandemic. They appreciated the convenience of telemedicine visits and valued the virtual counseling experience.

Implications: Health care providers who initiated or expanded telemedicine services for contraceptive counseling during the COVID-19 pandemic should consider continuing to offer them after the pandemic. At the policy level, these findings favor expanding access to telemedicine and providing reimbursement for virtual visits, including telephone visits.

1. Introduction

Telemedicine refers to using information and communication technology, including phone or video platforms, to increase access to care and medical information [1]. In the field of reproductive health, telemedicine has been established as a safe way to provide medication abortion, with similar outcomes to in-person care [2,3], and with both patients and providers reporting positive experiences [4,5]. This technology can also increase access in locations where abortion care would otherwise be limited [6–8]. Remote visits have also been use to enhance prenatal care [3,9].

In the context of contraception, several studies have examined the use of text messages to improve uptake, adherence, and continuation of contraceptives [10]. However, few studies describe virtual visits focused on contraceptive counseling. One study found that women who chose to receive contraceptive counseling via phone prior to their abortion, rather than in-person at the time of abortion, were more likely to have experienced difficulty in obtaining contraception in the past, and more likely to choose a highly effective method [11]. Other efforts to use technology to provide contraception have focused on low-resource settings. These have included digital counseling platforms as a means to provide high quality services where access to providers is limited [12], and interactive voice-response based digital tools as an alternative to live provider-based counseling [13]. Two studies described telecontraception, or the provision of contraception prescriptions through a

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website or smartphone application, as a safe alternative to clinic visits, with high rates of adherence to the Centers for Disease Control and Prevention's Medical Eligibility Criteria for contraceptive use [14,15]. However, long-acting reversible contraception (LARC) options are not typically included and may sometimes not be mentioned as alternatives [14].

Prior to the COVID-19 pandemic, telemedicine and other digital health platforms were considered to be promising solutions yielding high patient satisfaction rates and equivalent clinical outcomes [3,16,17]. A February 2020 Committee Opinion by the American College of Obstetrics and Gynecology describes telemedicine as a way to enhance reproductive health care, but also highlights some of the remaining barriers (legal and logistical) to its widespread implementation [18].

With the COVID-19 pandemic, many health care providers in the US and around the world were forced to rapidly expand telemedicine services in order to continue providing clinical care while limiting viral exposure for themselves and their patients [19,20]. During this time, family planning providers across the United States rapidly increased the use of telemedicine for abortion and contraception care [21].

In light of the rapid expansion of telemedicine for many reproductive health services, this study describes the experiences of patients who received contraceptive counseling via telemedicine during the early phase of the COVID-19 pandemic in New York City.

2. Materials and methods

We conducted a mixed-methods study to describe the experience of patients who had telemedicine visits for contraceptive counseling. We chose a mixed-method approach because we thought the rich narrative of in-depth interviews would enhance the significance of our quantitative findings and help explain some of those findings. The study included chart reviews, initial patient surveys, in-depth interviews, and 6-month follow-up surveys. Here, we present the results of the initial patient surveys and in-depth interviews according to Leech & Oneugbuzie's guidelines for reporting mixed research [22]. For the qualitative portion of the study, we adhere to the Consolidated criteria for Reporting Qualitative research (COREQ) checklist [23].

2.1. Study participants and setting

In our practice, the Family Planning Division of a large academic medical center located in New York City, we started offering telemedicine visits during the early phase of the COVID-19 pandemic (April-June 2020). Our hospital is located in the city's poorest borough (the Bronx), which was the most heavily affected by the pandemic [24]. In-person clinical services remained available at our center, including LARC insertions and removals, as well as abortion care. However, during this period, all patients had a telehealth visit first – to ensure that an in-person visit was necessary, and to decrease the length of in-person visits. We also used telemedicine visits to screen for medication abortion eligibility and provide counseling for both medication and surgical abortion. Of note, our hospital did not have an established video platform for telemedicine prior to the pandemic. We started routinely offering video visits 1 month into the 3-month study period. During the study period, we used a video platform developed specifically for our hospital system (Montefiore F1RST). When patients scheduled a video visit the schedulers instructed them to access the platform website or download the smartphone or tablet app. Either way patients were required to register for the platform and create a password. Once they logged in, they could view their upcoming visits and click to enter the visits. The instructions for patients were to log into the platform 10 minutes prior to the visit start time and wait for the provider (who was using the same platform), to join.

For this study, we screened all patients who had a telehealth visit through our Division between April and June 2020. We identified the visits through the clinic's Epic schedule and reviewed all visit notes to determine whether or not the visits met inclusion criteria for the study. We included patients 18 years or older, English or Spanish speaking, who had visits primarily focused on contraceptive counseling or other issues related to contraception (such as problems with their current method or desire to change or discontinue methods).

Starting in July of 2020, COVID-19 case numbers decreased enough that our clinic policy changed, and patients were allowed to self-triage between telemedicine and in-person visits. Given the change in circumstances we ended the study, which aimed to capture patient experiences during a particularly challenging time where telemedicine visits were a required initial step for all patients.

2.2. Participant recruitment and incentives

We used a sequential-nested sampling design [22]. We contacted all patients who met the inclusion criteria within 1 month of the telehealth visit and invited them to participate in the survey component of the study. We contacted patients via phone, e-mail, or text message, and gave them the option to complete the survey via phone or web (using a link embedded in an e-mail or text message). The last survey question asked whether patients would be willing to participate in in-depth interviews. We contacted the respondents who answered yes and invited them to participate in such interviews. However, we did not interview all of the respondents who initially expressed interest in being interviewed because we reached thematic saturation prior to contacting them all.

Patients received a $5 Amazon gift card for completing the survey. For in-depth interviews, patients received an additional $15 Amazon gift card. We sent all gift cards via e-mail.

2.3. Data collection

We designed the quantitative survey to elicit patients' demographic characteristics, satisfaction and experience with the telemedicine visit, and preferences regarding telehealth visits in general. We also asked patients about the future role of telemedicine and their likelihood of using it in the future (see Supplemental File 1 for the survey instrument). As telemedicine for contraceptive counseling is a relatively new topic, we did not find any validated surveys and designed the questionnaire based on our experience as telemedicine providers. We piloted the survey with 5 participants whom we interviewed via phone. We made minor edits to the survey instrument to enhance wording and clarity in response to the pilot experience. The survey took approximately 5 minutes to complete. We used the REDCap software to administer the survey. Patients entered their responses directly into REDCAP if they chose to complete it online, while interviewers entered their responses if patients chose to complete the survey via telephone. KA and BS, who are fluent in Spanish, worked on a Spanish version of the survey. BS translated the survey into Spanish and KA back-translated it to English to verify accuracy of the translation.

For the qualitative interviews, we designed a guide that explored the domains of ease of access and scheduling; comfort and quality of communication; use of technology; and ideal future roles of telemedicine (see Appendix 2). We tested the interview guide with members of the research team prior to initiating the interviews and revised it after the first 5 participant interviews to include additional probes. The interviews took approximately 20 to 30 minutes to complete. Trained interviewers (BS, AS) conducted

in-depth interviews via phone, in English (AS) or Spanish (BS). BS is an obstetrician gynecologist with formal training and extensive experience in qualitative data collection methods who is fluent in Spanish. AS is a medical student who received training for this project from experienced qualitative researchers (EB, BS). Her training included conducting observed practice interviews prior to interviewing real study participants. Neither BS nor AS participated in any of the telemedicine visits and their interaction with interviewees was solely in their role as researchers. We did not provide detailed information about the interviewers to the study participants; however, we explained the goals of the study and participation procedures in detail. We audio recorded all interviews with participants' permission and also took handwritten notes. A professional transcription service transcribed the English-language interviews, while BS transcribed the Spanish ones. We did not conduct any repeat or follow up interviews and did not return transcripts to participants for comment or correction.

2.4. Data analysis

Using Stata SE (version 16), we conducted descriptive statistical analyses. We also compared the characteristics of in-depth-interview respondents, survey respondents, and nonrespondents using the χ^2 or Fisher's exact test for categorical variables and the *T* test for continuous variables. We set the level of significance at 5%.

For the qualitative data, we used Atlas TI Cloud. Our analysis process followed the principles of thematic analysis, which is a descriptive strategy that allows researchers to search for patterns of experience and overarching themes within a qualitative data set [25,26]. Two researchers (AS and BS) initially read 3 interviews and met to discuss key themes, which they transformed into codes and aggregated in a codebook. They then independently coded all in-depth interviews conducted in English. KA and BS coded the Spanish transcripts in the original language. As new findings arose the coders met to revise the original codebook as needed. Knowing that researcher subjectivity can impact the trustworthiness of research findings, we acknowledged and discussed our positionalities at each coding meeting. To increase the dependability and confirmability of our findings, 2 researchers independently read and coded all of the interviews [27,28]. After coding all the interviews, the coding team (BS, AS, KA) met to compare results and discuss any disagreements. If the 2 initial coders disagreed on the application of a code the third coder resolved the disagreement. Finally, the coding team met to articulate the key themes that emerged from the interviews and identify the main findings of the project. We discussed and revised these themes with all the authors and arrived at the final results which are presented here.

We began the coding process after conducting the first 10 interviews so that we could monitor for thematic saturation, which we initially thought might be after 15 to 20 interviews. Once all 3 coders agreed that no new themes were arising from the interviews, we stopped recruiting additional participants.

The Albert Einstein College of Medicine's Institutional Review Board approved this study, which did not receive any external funding.

3. Results

3.1. Participant characteristics

From April 1 to June 30, 2020, 169 patients had telehealth visits for contraceptive counseling or other issues related to contraception through the Family Planning Division of our academic institution. During May and June, we routinely offered the option of video versus phone visits. Of all study participants, 104 (62%) had phone or video visits during this period and were offered both phone and video options. Of the 169 telehealth patients, 86 (51%) responded to the patient experience survey. There were no significant differences in terms of demographics or visit characteristics between survey respondents and nonrespondents, except that there were more nonrespondents with missing data in terms of racial and ethnic background (see Table 1 Supplemental). Of the 86 survey respondents, 23 (27%) completed in-depth interviews. Of note, 65 (76%) initially expressed interest in being interviewed, but we stopped attempting to contact patients once we had reached thematic saturation. The interviewees had similar demographic and visit characteristics, satisfaction, opinions, and preferences compared to the larger group (Tables 1–4). Table 1 shows the demographic characteristics of survey and interview respondents. Most were either Hispanic/other (55%) or non-Hispanic Black (33%), and 59% were publicly insured. Most respondents (76%) never had difficulty accessing contraception in the last 5 years, and more than half (56%) were already using LARC prior to the telehealth visit.

3.2. Patient enthusiasm for telemedicine visits

A majority of respondents (86%) were very satisfied with the telemedicine visit, and 63% said the visit completely met their needs (Table 2). In-depth interview respondents were similarly enthusiastic about telemedicine and highlighted the convenience of these visits. As one patient explained: "[I appreciated] the convenience. […] Not having to get up, get dressed, catch a bus, catch a train, walk somewhere." Patients generally reported that telehealth visits save time compared to having to travel to the clinic and wait to see a provider. One respondent explained that she works in one borough but lives in another, and this makes it difficult sometimes to attend in-person medical appointment on workdays: "[telemedicine] helps people who don't work near their doctor's office, just because of the fact that like I work in Manhattan but live in the Bronx, but I'd rather have my doctors up here in the Bronx." This patient also appreciated not having to wait in the clinic to see the doctor: "It's not like I had to stay in a doctor's office and wait to get seen, so it was like one, two, three […] I just spoke to her, she told me everything she needed to say, and then that's it."

Patients also reported that telemedicine visits are easier to schedule around childcare commitments. One patient was relieved not to have to find childcare for her toddler: "Having a toddler running around it was kind of nice to just do this by phone […] At least you don't have to figure out where to put him, and during COVID-19 there weren't very many places to put anyone." Some patients were recently postpartum and highlighted the convenience of telehealth visits in this particular situation. One patient said: "Now that I have a newborn baby, it is much easier not to leave home, and I got the same results as if I had gone all the way to the clinic."

Patients also described specific advantages of telemedicine in the context of contraceptive counseling. These included having the opportunity receive counseling and then take the time to reflect on the information. For example, a patient explained:

> "[If they're going to just explain to you what different methods of birth control are available, I think it's better to do a video call or a phone call, that way you have time to make the choice, you're not rushed. And then you can go in and get whatever you need."

Although the patient quoted above made an in-person appointment after the telehealth visit, she valued having received counseling ahead of the in-person visit. Another respondent also explained that the telemedicine visit improved her in-person visit experience:

Table 1
Characteristics of 86 patients who had telehealth visits for contraception during the Covid-19 pandemic in New York City and who responded to a survey, and a subset of 23 patients who participated in interviews.

	Survey respondents ($n = 86$)		In-depth interview respondents ($n = 23$)	
	n	%	*n*	%
Age				
18–25	23	27	5	22
26–35	42	49	12	52
36–45	16	19	5	22
46 or older	5	6	1	4
Race				
Black	28	33	9	39
White	10	12	2	9
Other	47	55	11	48
Asian	0	0	0	0
Missing	1	1	1	4
Ethnicity				
Hispanic	48	56	13	57
Not Hispanic	37	43	10	44
Missing	1	1	0	0
Insurance status				
Public insurance	51	59	13	57
Private insurance	35	41	10	44
Parity[a]				
0	26	30	4	17
1 or 2	41	48	13	57
3 or more	18	22	6	26
Missing	1	1	0	0
Education				
High school or less	28	33	6	26
Some college	28	33	9	39
Bachelor's degree	18	21	5	22
Graduate degree	10	12	3	13
Other	2	2	0	0
Marital status				
Single/never married	42	49	13	57
Married/domestic partnership	37	43	9	39
Divorced or separated	6	7	1	4
Missing	1	1	0	0
Employment status				
Employed full time	35	41	11	48
Employed part time	14	16	3	13
Out of work looking for work	11	13	4	17
Stay at home parent	9	11	3	13
Other	17	20	2	9
Contraceptive method used prior to visit				
No method	24	27	5	22
IUD	29	34	8	35
Implant	19	22	8	35
Pill, patch, or ring	9	11	1	4
DMPA	3	4	0	0
Condoms	2	2	1	4
Difficulty accessing contraception in the last 5 years				
Never	64	76	16	70
Sometimes	16	17	4	17
Often	3	3	1	4
All the time	3	3	2	9

DMPA, depot medroxyprogesterone acetate; IUD, intrauterine device.
We conducted statistical analyses to compare groups, using the χ^2, Fisher's exact or *T* test according to variable type and cell numbers. We did not find any statistically significant differences and do not show nonsignificant *p* values in this table.
[a]Refers to live children only.

> "I think for where I—the point that I was at, I'm happy I had the phone visit because I was in the middle of the water, in the middle of what choice I was trying to make. So, I think having that phone call allowed me to really think it out. And then be more certain in my appointment."

When asked about the quality of communication achieved during telehealth visits, most patients felt that it was comparable to in-person visits. Some even felt that telemedicine visits were less rushed than in-person visits and allowed them to ask more questions. Being at home added an extra layer of comfort. One respondent felt that she could be more "in control [doing the visit] from a place of [her] choosing." Below are 2 examples of how respondents described the advantages of being at home for the telemedicine visits:

> "I feel like [the communication] was the same. The only thing was I wasn't seeing her face , but the communication level was the same. […] I think you have more time to actually, you know, sit down and talk with the doctor versus actually going into the clinic and having a discussion that might not be so long and the doctor might have to rush because they have three other patients."

Table 2
Satisfaction with telemedicine visits for contraceptive counseling during the Covid-19 pandemic, among 86 patients who responded to a survey and 23 who participated in interviews.

	Survey respondents ($n = 86$)		In-depth interview respondents ($n = 23$)	
	n	%	*n*	%
Satisfaction with telemedicine visit				
Very satisfied	74	86	20	87
Somewhat satisfied	10	12	3	13
Somewhat dissatisfied	-	-	-	-
Very dissatisfied	2	2	-	-
Telemedicine visit met needs				
Needs were completely met	54	63	13	57
Met for the moment but will need in-person visit later	21	24	8	35
Met some needs but still needed in person visit soon after	9	11	2	9
Did not meet any needs and needed in-person visit	2	2	-	-

Table 3
Visit and follow-up characteristics among 86 patients who had telehealth visits during the Covid-19 pandemic and who responded to a survey about their experience, and a subset of 23 patients who participated in in-depth interviews.

	Survey respondents ($n = 86$)		In-depth interview respondents ($n = 23$)	
	n	%	*n*	%
Visit characteristics				
Visit duration, minutes (mean, SD)	17	8	18	8
Visit type				
Phone	80	93	21	91
Video	6	7	2	9
Visit language				
English	79	92	21	91
Spanish with no interpreter	4	5	1	4
Spanish with interpreter	3	4	1	4
Device used				
Smartphone	81	94	22	96
Regular phone	2	2	0	0
Computer	1	1	1	4
Tablet	2	2	0	0
Patient location at time of visit				
Home	70	81	19	83
Work	13	15	4	17
Public place	2	2	0	0
Other	1	1	0	0
Concern about privacy during visit				
Not at all concerned	58	67	17	74
A little concerned	7	8	2	9
Somewhat concerned	11	13	3	13
Very concerned	10	12	1	4
Follow-up characteristics				
Attended in-person visit within 30 days of telehealth				
Yes	42	49	12	52
No	44	51	11	48
Reason for in-person visit				
LARC insertion	14	16	3	13
LARC removal	24	28	8	35
Other	4	5	1	4

Table 4
Ideal telemedicine visit type and devices among 86 patients who had telemedicine visits for contraceptive counseling during the Covid-19 pandemic and who responded to a survey, and a subset of 23 patients who had in-depth interviews.

	Survey respondents ($n = 86$)		In-depth interview respondents ($n = 23$)	
	n	%	*n*	%
Ideal device for telehealth visits				
Smartphone	78	91	22	96
Regular phone	3	4	-	-
Computer	-	-	-	-
Tablet	3	4	1	4
Ideal telehealth visit type				
Phone	37	43	12	52
Video	20	23	2	9
No strong preference	29	34	9	39

> "[Being at home is] just better because you get everything off your mind. You are able to talk about everything that's on your mind without feeling judged […] I don't think that the doctors actually judge. It just feels like being in that environment, being vulnerable to somebody, you can't help but feeling like they're judging."

Only one patient in this study used an interpreter during the telehealth visit and reported no difference in the quality of communication or translation despite the "three-way" conversation. She appreciated that an interpreter was already on the line when she received the phone call for the visit, and said this particular fact made her feel "important."

3.3. Visit type and privacy concerns

Almost all survey respondents (94%) used a smartphone for the visit and almost all the visits (93%) were phone rather than video visits (Table 3). Most (81%) of patients were located at home during the visit, and 25% were somewhat or very concerned about their privacy during the visit. When asked about ideal devices for telemedicine, almost all patients (93%) selected smartphones. Patients were split on ideal visit types: 43% chose phone-only, 23% chose video, and 34% had no strong preference (Table 4).

In-depth interview respondents provided additional insight on the issue of phone versus video visits, particularly as this relates to concerns about privacy. Patients who preferred phone visits described feeling "uncomfortable" with video visits, particularly if the provider was new to them. Some even mentioned feeling "embarrassed" with the video. One patient, for example, explained: "I didn't feel comfortable with a video call […] I don't know why, it's personal, it's like, I've never seen [this doctor] before, I don't know her." Another added that perhaps if she could see the same provider over and over again and they were more of a "partner in [her] health" she would like to see them on video, but without knowing the provider she did not see any advantage to having video. Yet another described feeling "awkward" on video because she could not "figure out if [she] wanted to look at [her own face] or at the camera, or at the other person's face." Some respondents felt that video visits are less private, especially if the visits are conducted from work environments; one said:

> "I like that it was by phone because I mean I was home at that time, but had I been at work, I could still have done it by phone. But in an office per se, it would be awkward to have that on the computer screen or something. Whereas on the phone it's still kind of private who you're talking to and what you're talking about."

Another reason for preferring phone over video was wanting to "multi-task" during the visit, as one respondent mentioned.

Several patients highlighted the issue of whether video "adds value" to the visit. One patient who had a video visit reported that the video "did not add much" to the visit, and that the same objectives could have been accomplished via phone. Several of those who had phone visits similarly said that unless they had something specific to show to their provider, they did not feel the need to have the video on. On the other hand, the few who preferred video said it felt "more personable" and allowed for a more thorough medical evaluation in certain circumstances. One patient explained that if "there was something down there that [she] needed for the doctor to see, the video would help."

Patients who had video visits sometimes reported difficulties logging into the video application, whereas those who had phone visits did not report technical challenges. A few patients tried the video app and said they had "trouble logging on" or it was "a little hassle trying to get onto the site." One patient said that when she logged on to the platform it took "forever" for the doctor to connect. Another chose a phone visit to avoid any potential technical challenges with the video platform: "If I could understand how to use the video [call], I would do the video," she said.

A few patients discussed their privacy concerns during the telemedicine visits. The main reason cited for being concerned about privacy was because being at home meant that children and family members were around. For one patient, this meant anyone could "walk into in and out of [her] room" at any time, and this would certainly be less private than "being in the doctor's office with the door closed." Another respondent was concerned about the fact that her 8-year-old son was in the room during her visit, but found a way to modify her way of speaking with the provider and had an overall positive experience:

> "Um, I would say [I did have a privacy concern], only because the subject was birth control and my 8-year-old understands, like I was trying to tell her something a little private. But again, it wasn't a big deal, I kind of worded it different and she got it. It was fine. […] I just had to, you know, modify it."

Several patients mentioned that telemedicine visits would be easiest for people who live alone rather than in "overcrowded" apartments. A few mentioned that getting privacy can be hard if patients were conducting visits from work, but they felt that most people would be able to find a "little bit of privacy" even in that circumstance. One patient, for example, did the telehealth visit while on her lunch break, sitting "in the cafeteria in the corner," where she felt like she was "basically by [her]self."

3.4. The future of telemedicine for contraceptive counseling

When asked if we should continue offering telemedicine for contraceptive counseling after Covid-19, almost 3 quarters (72%) of respondents strongly agreed, and half (50%) said they would be very likely to choose telehealth over in-person visits for their contraceptive visits (Table 5). In-depth interview respondents generally agreed that the role of telemedicine for contraceptive counseling should be expanded. As one patient put it: "I think [telehealth for contraception] is definitely something that should stay. […] A hundred percent, to the highest extent, because, you know, some things need a conversation first […]."

A small minority of respondents disagreed and voiced a strong preference for in-person visits. Reasons for this preference included better communication in-person, more attention from the provider, and the ability to resolve issues that require a physical exam. For example, one patient said:

> "[With an in-person visit] I am actually in front of the doctor. And if something should occur in that moment where I could actually get something done, it could be done, compared to the phone. Because even if I do the phone visit and there is something else I have to do, I still have to go into the office."

Even patients who preferred in-person visits recognized that telemedicine has a role to play in health care provision, and that some visit types are well served by a telemedicine platform. Counseling visits or any visit that does not necessarily require a physical exam fit in this category. In terms of visits for contraception, visits that do not involve LARC insertions or removals were considered ideal for telemedicine:

> "I used to be on the ring, that would be something where I could have a conversation, the person could just put the prescription in for me instead of me having to go to the office and have the same conversation. Like those types of birth controls

Table 5
The future of telemedicine according to 86 patients who had telemedicine visits for contraceptive counseling during the Covid-19 pandemic and who responded to a survey, and a subset of 23 patients who participated in in-depth interviews.

	Survey respondents (n = 86)		In-depth interview respondents (n = 22)	
	n	%	n	%
Should keep telemedicine for contraception after Covid-19				
Strongly agree	62	72	15	65
Somewhat agree	14	16	5	22
Somewhat disagree	6	7	1	4
Strongly disagree	2	2	2	9
Don't know	1	1	-	-
Likelihood of choosing telemedicine over in-person visit				
Very likely	43	50	9	39
Somewhat likely	29	34	12	52
Somewhat unlikely	8	9	1	4
Very unlikely	5	6	1	4

would be nice to just be able to like talk it through and then get it."

More generally, respondents described issues that do not require complex diagnostic procedures as ideal for telehealth, and most felt they would be able to decide which of their visits needed to be in-person and which could be done remotely. Some patients reported they would choose to do all visits via telemedicine first if this were an option. For example, one patient said:

"I will, I think I will always do a phone visit, right. Unless this is something that's not going away, and then when I speak to the doctor and I said I spoke to such and such last week and the following week I'm still having the same symptoms, I think it's time to come in. Other than that, I would rather do phone visits, unless they want to see me."

4. Discussion

In this study, we found that most patients who had telemedicine visits for contraception during the early phase of the COVID-19 pandemic were satisfied with their visits, and more than half said the visit completely met their needs. These findings are new to the literature because, to our knowledge, no other studies have examined patients' experiences and satisfaction with telemedicine visits for contraceptive counseling or issues related to contraception. Our study highlights some of the reasons why patient satisfaction with telemedicine seems to be high. First and foremost, patients appreciate the convenience of telemedicine visits, which can be more easily scheduled around work and childcare commitments, including caring for a newborn among postpartum women. Patients also emphasized that telemedicine is particularly well suited for discussing contraceptive options.

Previous studies that examined patient experiences with telemedicine in other fields have also generally found that patients are satisfied with the virtual provision of medical care [29,30]. Within reproductive health, studies of women's experiences with telemedicine for medication abortion have reported mostly positive experiences [4,31]. A study evaluating a hybrid model including virtual prenatal visits also reported high patient satisfaction rates, and found that parous women were most likely to appreciate the telemedicine model [17].

One concern that some have raised about telemedicine is whether it may exacerbate health disparities for those who have limited access to technology. In our study of provider perspectives on telemedicine, some respondents raised this concern, while others stated telemedicine increased access for geographically isolated patients [21]. Results from the present study provide some encouraging data in this regard. Our patients made it clear that overall, telemedicine, or at least telephone visits, increased and facilitated their access to care. It is also encouraging that most of our patients, who are likely to live in small and perhaps crowded apartments, did not have concerns about privacy during the visits. Thus, even in an urban, low-income population, concerns about lack of privacy should not be a barrier to expanding telemedicine services.

Most of the patients who participated in our study had telephone visits rather than video visits. This was initially out of necessity, as we did not offer a video platform when we started the study. However, even after the video platform was established, most patients selected phone over video visits, and 43% said they would select phone visits in the future (versus 23% who would select video). This is an important finding that has policy implications, because telephone, unlike video visits, are not reimbursed at the same rates as "face-to-face" visits. Our patients, who are an example of a low-income, mostly minority and publicly insured patient population, reported real concerns and discomfort with video visits, which they viewed as less private than phone visits.

Our patients also cited technological challenges in accessing video visits, which may have been due to our video platform being new or not particularly easy to use (a new platform has since been introduced), or to the devices that patients were using. This, in addition to the delayed initiation of video visits, may explain why only 7% had video visits while 23% think video visits are ideal for telehealth. Another potential barrier to video visit uptake could be limited data plans, although unfortunately we did not ask patients about this factor. Almost all our patients used smartphones for their telehealth visits and think that smartphones are the ideal device for these visits. These preferences and concerns should be taken into consideration in any effort to expand telemedicine services, particularly among disadvantaged populations. Both phone and video visits should remain as options, and visits should be easily accessible using smartphones.

This study has several limitations. First, we only reached patients who actually accessed telemedicine services. It is possible that some even more disadvantaged patients than our respondents may have been unable to access telemedicine services at all. However, data from the Pew Research Center show that almost all adults in the United States (96%) own a cellphone. Even among those in the lowest income bracket, 95% own some cell phone and 71% own a smartphone [32]. These data suggest that even the most disadvantaged would be able to access telemedicine care via phone.

Another limitation of our study is that only 51% of eligible patients responded to our survey, and that survey responses are notoriously subject to selection bias. However, we compared the demographic and visit characteristics of survey respondents and nonrespondents and did not find any significant difference between

the 2 groups, which decreases the concern for selection bias. Additionally, we did not use validated patient satisfaction measures and did not explore access to technology in detail, since our main objective was to more generally describe patient experiences with telemedicine for contraceptive counseling and keeping the survey short was imperative. Finally, we conducted the study in the midst of the COVID-19 pandemic, which may make our findings less generalizable. For example, patients' satisfaction with telemedicine may have been influenced by their reluctance to come to the office and be exposed to the virus.

The qualitative component of our study is subject to the issues of credibility, transferability, dependability and confirmability that are typical of qualitative research. Our own subjectivity and positionality may have impacted the interpretation of the interview findings. However, we took several steps to increase the trustworthiness of our findings, including engaging with our subjectivity at all stages of the research process, double coding all of the interviews, and triangulating our findings with those of the quantitative surveys [27,28].

Further studies could determine whether telemedicine for contraceptive counseling can meet patients' needs after the pandemic. Researchers should also examine specifically how vulnerable groups, such as postpartum women, adolescents, low English proficiency patients, and those with limited access to technology use telemedicine. More research is also needed to further understand patients' preferences and comfort levels with video versus phone visits, including to elucidate whether the concerns about video visits are unique to underserved populations or more generalizable.

Despite our limitations, this study adds new and important findings to the literature. That our study was conducted during a critical phase of the COVID-19 pandemic is also a strength. The pandemic has been tragic, but it has forced us to seek out new, modern strategies of health care delivery and to test which of these would be valuable in a postpandemic future. Our patients have spoken clearly: telemedicine for contraceptive counseling is valuable, and it should stay even after the pandemic.

Declaration of Competing Interest

We confirm that none of the authors have any conflicts of interest to disclose.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.contraception.2021.04.006.

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