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Article

There's an App for that: Patients and Providers Perspectives Regarding Online Contraception

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Abstract This study aims to explore barriers to obtaining contraception through traditional means and assess patient and provider perspectives on online methods of obtaining contraception. We conducted a single-site cross-sectional survey study to assess the perspectives of reproductive-aged females and contraception providers on web-based sources. Univariate analysis of raw data was performed. Patients identified time off (49.4%), scheduling (33.8%), and childcare (27.3%) as the main barriers toward obtaining contraception through traditional office visits. Many patients knew about web-based contraceptive methods (33.4%), but only 4.4% had ever used them. In comparison, providers similarly believed that the main barriers for patients obtaining birth control through office visits were time off (100.0%), scheduling (88.2%), transportation (82.4%), and childcare (82.4%). Overall, after providing information about online methods of contraceptive access, 49.3% of patients were interested in switching to online-based methods, and 76.5% of providers were willing to counsel patients on using these methods. Patients and providers agree that requiring office visits limits access to contraception. Web-based contraceptive methods, allow for more patient autonomy and access to care. Campaigns that increase knowledge about web-based contraceptive options are likely to increase usage of web-based methods, and by extension, contraception.

Keywords: Contraception, App, Telemedicine, Shared Decision Making, Reproductive Justice, Medical Complexity

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1. Introduction

Contraception care is an extremely important facet of healthcare for reproductive-aged people, signifying a heavy burden on the healthcare system. Initial studies show that patients have difficulty accessing initial prescriptions or refills, particularly due to challenges in obtaining or attending an appointment [1]. Current methods to decrease barriers to contraceptive access include over-the-counter contraception availability, and the development of web-baed services providing online consultations and contraceptive prescriptions. The American College of Obstetricians and Gynecologists (ACOG) supports the expansion of access to hormonal contraception through alternative options like access over the counter [2]. According to one nationally representative survey, two-thirds of reproductive-age people at risk of unintended pregnancy express interest in over-the-counter oral contraceptives [3]. Web-based services can further decrease barriers to care by removing the need for in-person care and allowing for virtual monitoring after initiation of use. Currently, there are several online contraceptive platforms or applications (apps) that help patients access contraception such as Nurx® or Planned Parenthood Online®. These apps screen patients for method preferences and allow healthcare providers to evaluate medical comorbidities and prescribe contraceptives.

Once prescribed, the medication gets shipped to the patient and either insurance is billed or patients pay out of pocket.

Although these platforms are currently being used nationwide, several factors remain that hinder their usage. These factors include limited insurance coverage and concerns about the safety of patients in using online platforms, for example due to a potential lack of medical literacy in marginalized populations. Arguments in favor of the use of online platforms include improved access and bodily autonomy in marginalized communities that has historically been taken away from them [4, 5]. However, there is limited knowledge on patients' and providers' perspectives and concerns about obtaining contraception from web-based methods. This study aims to fill that gap and investigate patients' and providers' viewpoints regarding obtaining contraception from web-based methods. We seek to understand patients' knowledge in common medical contraindications to hormonal contraception and identify common barriers to contraceptive access in a racially and socioeconomically diverse population. In doing so, we aim to bridge patient and provider perspectives to allow for more informed decision making and patient autonomy.

2. Materials and Methods

We conducted a single-site cross-sectional study to assess the perspectives of patients and providers on web-based sources for contraception. A survey for patients was designed to assess patient demographics, attitudes toward birth control access and online methods of obtaining contraception, and knowledge about contraindications to estrogen-containing contraception. A similar but separate survey was designed for providers, consisting of questions investigating perspectives on patient barriers to traditional care, impact of birth control apps on traditional practice, concerns about patient safety, whether patients can identify risk factors for using estrogen-containing birth control methods, and opinions on how to incorporate these web-based methods into traditional practice.

Patients were recruited at the obstetrics and gynecology (OB/GYN) clinic at University Hospital in Newark, NJ between February and September 2021. University Hospital serves an inner-city population, primarily minority patients. Patients were approached during waiting times for OB/GYN clinic visits and asked to voluntarily complete a survey either online via REDCap or through an identical paper copy. Verbal consent was acquired from patients prior to completing the survey. All survey questions were optional, and participants could elect not to answer questions for any reason. Inclusion criteria consisted of reproductive-age females greater than 18 years of age who were able to read English. Patients not able to read English were excluded from the study.

We recruited providers using a convenience sample of primary health care providers in the Rutgers New Jersey Medical School system who provide care in the Newark community. Providers who participated in our study consisted of any type of healthcare provider that prescribes and/or counsels patients on birth control, including in the fields of OB/GYN, Internal Medicine, Pediatrics, or Family Medicine. Surveys were sent via an institutional-based email listserv, and providers completed signed consent prior to filling out a REDCap survey. Survey collection for providers was performed between February and March 2021.

For all study participants, no personal identifiers were linked to the collected data. Participants were not offered incentives or compensation for completion of the surveys. This study was approved by the Rutgers University Institutional Review Board.

The OBGYN clinic of University Hospital serves 13,000 patients annually, 81% (10,530) of which are of reproductive age. With a sample size of 96 patients, we were able to achieve a 95% confidence level with a 10% margin of error. Descriptive statistics were analyzed for all survey items using Statistical Package for the Social Sciences (SPSS) v25.0 for Mac.

3. Results

3.1. Demographics

In total, 96 patients and 18 providers were recruited for participation in this study. Patient demographics are summarized in Table 1. Patients' average age was 27.3 ± 6.9 (mean ± SD). Most patients were employed full-time (36.9%), not in school (69.5%) and were high school graduates/GED earners (42.1%). Most patients had income under $20,000 (30.9%). More than half of patients had insurance through Medicaid (52.6%) and patients identified as mostly non-Hispanic (67.0%) and Black (75.5%).

The demographics of our provider participants are seen in Table 2. Among the 18 providers who completed the survey, providers were mostly female (72.2%), non-Hispanic (94.4%) and white (50.0%). Participants were mostly attending physicians (66.7%) with 4-10 years (38.9%) of clinical practice. Providers' primary field of practice included OB/GYN (50.0%), pediatrics (22.2%), internal medicine (11.1%), family medicine (11.1%), and medicine/pediatrics (5.6%).

Table 1. Patient demographics

Characteristic	n	Responses	%
Age	94		
Mean ± SD		27.3 ± 6.8	
Employment	95		
Full time		35	36.8%
Part time		23	24.2%
Not working		37	38.9%
Current School	95		
Full time		15	15.8%
Part time		14	14.7%
Not in school		66	69.5%
Education Level	95		
Grade school		2	2.1%
11th grade		1	1.1%
12th grade		3	3.2%
High school graduate/GED		40	42.1%
Trade/vocational degree		7	7.4%
Some college		25	26.3%
College graduate		10	10.5%
Graduate/professional school		7	7.4%
Income	81		
<$20,000		25	30.9%
$20,000-$34,999		13	16.0%
$35,000-$49,999		18	22.2%
$50,000-$74,999		6	7.4%
$75,000-$99,999		3	3.7%
$100,000 or more		0	0.0%
Don't know/unsure		16	19.8%
Insurance	95		
Private		18	18.9%
Medicaid		50	52.6%

	Charity Care	10	10.5%
	No Insurance	10	10.5%
	Other	7	7.4%
Hispanic/Latinx	94		
	Yes	31	33.0%
Race	94		
	American Indian/Alaskan Native	4	4.3%
	Asian/Pacific Islander	0	0.0%
	Black	71	75.5%
	White	10	10.6%
	Other	13	13.8%

Table 2. Provider demographics

Characteristic	n	Responses	Percent
Age	18		
Mean ± SD		38.7 ± 10.9	
Sex	18		
Male		4	22.2%
Female		13	72.2%
Other		1	5.6%
Primary Field of Practice	18		
OB/GYN		9	50.0%
Family Medicine		2	11.1%
Internal Medicine		2	11.1%
Pediatrics		4	22.2%
Med/Peds		1	5.6%
Other		0	0.0%
Years of Practice	18		
1-2 years		2	11.1%
2-4 years		3	16.7%
4-10 years		7	38.9%
10-15 years		1	5.6%
15+ years		5	27.8%
Resident/Fellow	18		
Yes		6	33.3%
No		12	66.7%
Hispanic/Latinx	18		
Yes		1	5.6%
No		17	94.4%
Race	18		
American Indian/Alaskan Native		0	0.0%
Asian/Pacific Islander		4	22.2%
Black		4	22.2%

White	9	50.0%
Other	1	5.6%

3.2. Patient perspectives

Patients were questioned regarding their contraception requirements as seen in Table 3. Some patients knew that contraception is available online (34.4%), but only 4.4% have ever used these services. Patients noted the easiest access to contraception was going to a doctor's office (70.8%), followed by online/phone apps (14.6%) and telehealth (9.0%). Of note, telehealth visits were available in this clinic for contraception use. Patients noted that physical in-person appointments were difficult due to time off needed from work/school (49.4%), flexible appointment scheduling (33.8%), finding childcare (27.3%), transportation (20.8%), copay/price/insurance coverage (14.3%) and confidentiality (5.2%). The survey assessed post-COVID related concerns, with many patients stating the pandemic did not actually delay them from receiving contraception in the office.

The survey also addressed needs that are commonly listed as barriers to online methods of contraception. Most patients have the technology required to utilize these resources (88%, Table 3) and felt that it was affordable (64.6%, Table 3). Once patients were educated about the availability of the apps to obtain contraception, most patients agreed that they would use them instead of a physical doctor's office (Table 3). One concern about over-the-counter apps is that patients desire communication with a provider in person, however patients overwhelmingly agreed that they would seek OB/GYN care regardless of usage of the app (85.1%, Table 4).

Patients must consider many factors when choosing a type of birth control method. Among these factors, we asked patients to rank the following factors in order from most to least important to them: cost, doctor/nurse recommendation, ease of use, side effects, and having a regular menses. The factor ranked as the most important consideration when choosing birth control methods was side effects (50.0%, Table 3). Having a regular menses (36.0%) and cost (34.8%) were among the factors ranked as the least important (Table 3).

As web-based methods of obtaining contraception often rely on patient self-reporting health conditions, our patient survey also assessed whether patients are knowledgeable and honest about their medical history. When asked whether patients could answer questions about their medical history in an online survey, most strongly agreed or agreed that they could (70.7%, Table 4). Nearly all the respondents strongly agreed or agreed that they would answer questions truthfully about their medical history (92.0%, Table 4). If needed, 55.2% of patient respondents had a way of measuring blood pressure without going to a doctor's office (Table 2).

Table 3. Patient attitudes toward online birth control

Survey Question	Total Responses (n)	Patient Responses	Patient %
Did you know you can get a prescription for birth control online?	90		
Yes		31	34.4%
No		59	65.6%
Have you ever gotten birth control online?	90		
Yes		4	4.4%
No		86	95.6%
Do you get your birth control online?	90		
Yes		3	3.3%

	No	87	96.7%
What is the easiest way to get birth control?	89		
	Doctor's office	63	70.8%
	Telehealth	8	9.0%
	Online/phone apps	13	14.6%
	Other	5	5.6%
Do you have any barriers that make it difficult to come to the doctor's office?*	77		
	Transportation	16	20.8%
	Time off from work/school	38	49.4%
	Finding childcare	21	27.3%
	Flexible appointment scheduling	26	33.8%
	Confidentiality	4	5.2%
	Copay/price/insurance coverage	11	14.3%
	Other	7	9.1%
Would you delay getting birth control in a doctor's office due to concerns related to COVID-19?	81		
	Yes	21	25.9%
	No	48	59.3%
	Unsure/Neutral	12	14.8%
Do you have a way to measure your blood pressure without coming to a doctor's office?	67		
	Yes	37	55.2%
	No	30	44.8%
Do you have the technology to use to get birth control from online sources?	80		
	Yes	71	88.8%
	No	9	11.3%
Do you think you can afford online methods of birth control ($15/month or free with insurance)	79		
	Yes	51	64.6%
	No	12	15.2%
	Unsure/Neutral	16	20.3%
How many refills at one time would be best for birth control pills, patch, or ring?	66		
	1 month supply	3	4.5%
	3 month supply	27	40.9%
	6 month supply	17	25.8%
	12 month supply	19	28.8%
Now that I know there are apps and online methods of getting some kinds of birth control, I would use them instead of getting birth control from a doctor/nurse's office visit	67		
	Strongly agree	15	22.4%
	Agree	18	26.9%

Unsure/Neutral	22	32.8%
Disagree	8	11.9%
Strongly disagree	4	6.0%

*Respondents could select as many answers as applies to them

Table 4. Factors important to patients when choosing birth control

Factor	n	Rating*				
		1	2	3	4	5
Cost	66	7 (10.6%)	8 (12.1%)	4 (6.1%)	24 (36.4%)	23 (34.8%)
Doctor/nurse recommendation	68	13 (19.1%)	12 (17.6%)	20 (29.4%)	18 (26.5%)	5 (7.4%)
Ease of use	67	9 (13.1%)	22 (32.8%)	24 (35.8%)	5 (7.5%)	7 (10.4%)
Side effects	72	36 (50.0%)	16 (22.2%)	11 (15.3%)	4 (5.6%)	5 (6.9%)
Regular menses	75	7 (9.3%)	13 (17.3%)	10 (13.3%)	18 (24.0%)	27 (36.0%)

**Respondents ranked factors from 1-5, with 1 = most important and 5 = least important*

Table 5. Patient health literacy and healthcare seeking patterns

Survey Question	Total Responses (n)	Patient Responses	Patient %
I can answer questions about my medical history in an online survey	75		
Strongly agree		27	36.0%
Agree		26	34.7%
Unsure/Neutral		13	17.3%
Disagree		7	9.3%
Strongly disagree		2	2.7%
I would answer the questions truthfully about my medical history	75		
Strongly agree		43	57.3%
Agree		26	34.7%
Unsure/Neutral		1	1.3%
Disagree		2	2.7%
Strongly disagree		3	4.0%
Do you have any medical problems that may make birth control with hormones dangerous?	67		
Yes		11	16.4%
No		56	83.6%
I would prefer to talk over my options with my doctor/nurse vs. choosing online alone	81		
Strongly agree		37	45.7%
Agree		26	32.1%
Unsure/Neutral		8	9.9%
Disagree		9	11.1%
Strongly disagree		1	1.2%
I would prefer to talk to my doctor/nurse about other health needs in addition to getting birth control vs. only getting birth control online	81		

Strongly agree		46	56.8%
Agree		23	28.4%
Unsure/Neutral		5	6.2%
Disagree		5	6.2%
Strongly disagree		2	2.5%
I would come back to the doctor for other OB/GYN care if I had access to birth control online or over the counter	67		
Strongly agree		33	49.3%
Agree		24	35.8%
Unsure/Neutral		10	14.9%
Disagree		0	0.0%
Strongly disagree		0	0.0%

3.3. Provider perspectives

We surveyed providers regarding their prescribing practices. Among the 18 providers queried, 88.9% were prescribing hormonal contraception to their patients, with 37.5% of providers prescribing hormonal contraception several times per week (Table 6). Providers most prescribed pills (88.9%), Depo injections (66.7%), patches (55.6%), rings (50.0%) and IUD (50.0%, Table 6), whether it be for referral or placement themselves. All providers believed that contraception should be more accessible to their patient population (Table 6). There was a larger variety in response when asked about whether hormonal contraceptive options should be offered over the counter (OTC), with 38.9% strongly agreeing that OTC methods should be offered (Table 6). When asked about which types of methods should be offered OTC, 76.5% stated progestin-only pills, 35.3% for estrogen-containing pills/patch/ring, 29.4% for subcutaneous injections, and 23.5% believed that all hormonal contraception should not be offered OTC (Table 6).

Slightly more than half of providers were familiar with online methods of obtaining contraception (53.0%, Table 7). Providers agreed that benefits of obtaining contraception online were reducing the barriers that they believed patients face, including in-person appointments (100.0%), transportation issues (94.1%), childcare issues (94.1%), and decreased cost of care (94.1%), while improving faster access (88.2%) and more autonomy in method choice (70.6%, Table 7). Most providers believed most of their patients had the technology needed to use online methods of obtaining contraception (53.0%, Table 7). Using online platforms, 47.1% of providers believed that a 12-month supply for pills, patch, ring, or injection would be optimal for patients (Table 7).

Concerns over safety and disadvantages of online access to birth control were explored. Most providers thought that their patients with contraindications to certain birth control methods understand that some methods are less safe (52.9%, Table 7). All providers agreed that online birth control is okay if patients are seeking methods they had used before or if they had prior counseling by providers (Table 7). Providers were largely not concerned that they would lose business/revenue if their patients used online method of obtaining contraception or that they would lose patients presenting for care for other reasons (Table 8). Half of providers were unsure (53.0%) about whether their patients might mistakenly give misinformation about their medical history, but many disagreed that patients might intentionally provide misinformation to obtain the contraceptive method of their choice that may not be safe (47.1%, Table 7). Overall, most providers agreed that they would provide their patients information about obtaining contraception from online sources (Table 6). However, when asked about whether they would provide

patients with this information even if they had medical comorbidities, the responses were more mixed: 23.5% agreed, 53.0% were unsure, 17.7% disagreed, and 5.9% strongly disagreed (Table 5).

Table 6. Provider perspectives on birth control access

Survey Question	Responses (n)	Provider Responses	Provider %
Do you currently prescribe hormonal contraception to your patients?	18		
Yes		16	88.9%
No		2	11.1%
How often in a typical month do you prescribe hormonal contraception?	16		
1-2x/month		5	31.3%
1x/week		4	25.0%
Several x/week		6	37.5%
1x/day		1	6.3%
What types of hormonal contraception do you prescribe/provide?*	18		
Pills		16	88.9%
Patch		10	55.6%
Ring		9	50.0%
Injection		12	66.7%
Refer for IUD/Implant		7	38.9%
Place IUD/Implant		9	50.0%
I don't prescribe hormonal contraception		2	11.1%
I believe contraception should be more accessible to our patient population	18		
Strongly agree		14	77.8%
Agree		4	22.2%
Unsure/Neutral		0	0.0%
Disagree		0	0.0%
Strongly disagree		0	0.0%
I believe hormonal contraceptive options should be offered over the counter	18		
Strongly agree		7	38.9%
Agree		6	33.3%
Unsure/Neutral		3	16.7%
Disagree		2	11.1%
Strongly disagree		0	0.0%
What types of hormonal contraceptive options should be offered over the counter?*	17		
Progestin-only pills		13	76.5%
Estrogen-containing pills/patch/ring		6	35.3%
Injection (SC at home)		5	29.4%
I don't think hormonal contraception should be OTC		4	23.5%

*Respondents could select as many answers as applies to them

Table 7. Provider perspectives on online birth control

Survey Question	Responses (n)	Provider Responses	Provider %
Are you familiar with online methods of obtaining contraception?	17		
Yes		9	53.0%
No		8	47.1%
What are the benefits of patients obtaining online methods of contraception?*	17		
No transportation issues		16	94.1%
No childcare issues		16	94.1%
No office visits needed		17	100.0%
Decreased cost of care		16	94.1%
More autonomy in method choice		12	70.6%
Faster access		15	88.2%
Other		2	11.8%
Do you think the majority of your patients have access to technology to use online methods of obtaining contraception?	17		
Yes		9	53.0%
No		3	17.7%
Unsure		4	29.4%
What proportion of your patients can afford online methods of birth control ($15/month or free with insurance)?	17		
0% - 25%		1	5.9%
25% - 50%		5	29.4%
50% - 75%		8	47.1%
75% - 100%		3	17.7%
What barriers do you think your patients have to coming to the doctor's office/clinic?*	17		
Transportation		14	82.4%
Time off from work/school		17	100.0%
Childcare		14	82.4%
Scheduling		15	88.2%
Lack of personal support		8	47.1%
Copay/price		8	47.1%
Other		1	5.89%
I would give my patients information about how to access birth control from online sources/apps	17		
Strongly agree		3	17.7%
Agree		10	58.8%
Unsure/neutral		3	17.7%
Disagree		1	5.9%

Strongly disagree		0	0.0%
I would give my patients information about how to access birth control from online sources/apps even if they had medical co-morbidities	17		
Strongly agree		0	0.0%
Agree		4	23.3%
Unsure/neutral		9	53.0%
Disagree		3	17.7%
Strongly disagree		1	5.9%
How many refills at one time would be optimal for birth control pills, patch, ring, or injection using an online platform?	17		
3 month supply		6	35.3%
6 month supply		3	17.7%
12 month supply		8	47.1%
Other		0	0.0%

Table 8. Provider perspectives on safety and disadvantages of online birth control

Survey Question	Total Responses (n)	Provider Responses	Provider %
I think my patients that have contraindications to certain birth control understand that some methods are less safe	17		
Strongly agree		3	17.7%
Agree		6	35.3%
Unsure/neutral		2	11.8%
Disagree		6	35.3%
Strongly disagree		0	0.0%
I think that using online methods of obtaining contraception is okay if my patients are seeking methods they have used prior or if they had prior counseling by me	17		
Strongly agree		3	17.7%
Agree		14	82.4%
Unsure/neutral		0	0.0%
Disagree		0	0.0%
Strongly disagree		0	0.0%
I believe I would lose business/revenue if my patients use online methods of obtaining contraception	17		
Strongly agree		0	0.0%
Agree		4	23.5%
Unsure/neutral		4	23.5%
Disagree		6	35.3%
Strongly disagree		3	17.7%

I believe I would lose patients presenting for care for other reasons if they had access to online methods of obtaining contraception	17		
Strongly agree		0	0.0%
Agree		4	23.5%
Unsure/neutral		4	23.5%
Disagree		7	41.2%
Strongly disagree		2	11.8%
I believe patients might mistakenly give misinformation about their medical history and obtain the contraceptive method of their choice that may not be safe	17		
Strongly agree		0	0.0%
Agree		5	29.4%
Unsure/neutral		9	53.0%
Disagree		3	17.7%
Strongly disagree		0	0.0%
I believe patients might intentionally give misinformation about their medical history in order to obtain the contraceptive method of their choice that may not be safe	17		
Strongly agree		0	0.0%
Agree		3	17.7%
Unsure/neutral		6	35.3%
Disagree		8	47.1%
Strongly disagree		0	0.0%

4. Discussion

4.1. Findings and Interpretations

Contraceptive apps are a way of increasing access for some of the most vulnerable populations. Our study, at a primarily minority underserved hospital, shows that online access to contraception could address patients' barriers to care, both from their perspectives and the providers' perspectives. The use of online services could mitigate the burden of attending in-person appointments, transportation, childcare, and even financial limitations. Surveyed patients did not view technology to be a limiting factor in utilizing these resources. Surveyed providers agree that this population needs more accessible contraception and that a twelve-month supply of contraception provided virtually would be adequate in their eyes.

We address several concerns to utilizing applications for contraception prescriptions. We dispel the thought that if patients utilize these online services they would not present to the physician for routine gynecologic care, as many said they would return to care. Patients and providers alike agree that patient-provided medical history would be accurate. Furthermore, providers themselves are not threatened by the online services to poach business or patients for routine care and state that they would recommend these services to patients. However, it is significant to note that patients mainly preferred to discuss contraceptive counseling with a physician or nurse in person.

4.2. Results in the Context of What is Known

We present the first account of patient and provider perspectives on the usage of online telemedicine applications for contraception and its implications. This is a new and evolving field that particularly arose to popularity after the COVID-19 pandemic. We highlight, similar to one qualitative study done regarding user reviews of these online applications, that usage helps eliminate barriers that accompany having to attend an in-person appointment [6]. We echo previous studies that indicate telemedicine has made healthcare more accessible to patients [7]. Obtaining contraception without a physician appointment is a conversation that has been had for decades now, building on the pharmacy access and OTC models. Previous studies in this realm agree with our results, reproductive-aged people find convenience to be important in obtaining contraception regardless of socioeconomic status [3, 8]. In our study, physicians were more comfortable with patients continuing existing prescriptions utilizing the online resources to obtain refills. This is like previous studies that found the strongest predictor of using an OTC pill was current use of OCPs [3].

Potential naysayers might argue that these applications place too much onus on the patient to provide their history. The results of this study show that patients and physicians alike have confidence in the patient to report accurate past medical history. Earlier studies have concurred this opinion, showing that users of these online services demonstrate equivalent knowledge compared to patients seen in the clinic [9]. While our study did not directly study patient competency to self-evaluate their health and determine eligibility to hormonal contraception, this skill has been well-identified in the existing literature [9, 10]. One large-scale user study has shown requests for hormonal contraception on these applications originates primarily from counties with low rates of uninsured residents, similar to the population that we encounter at our study site [11].

Additionally, it has been said that the online access reduces the incentive to see providers in-person, which would limit preventive care [12]. Providers participating in our study were not concerned about "business" lost from usage of the apps. Patients themselves refuted this popular misconception by largely stating they preferred and valued in-person discussions regarding contraception with their physician and would still return for gynecologic care regardless of receiving their prescription through online services. Worries regarding access to preventive care should not affect physicians' abilities to counsel and support patients to utilize online contraception services. ACOG states that preventive services, such as screening for cervical cancer, are not required to provide hormonal contraception [2].

4.3. Clinical Implications

Telehealth can increase access to contraception by overcoming logistical barriers that are associated with non-use including in-person appointments and insurance issues. It also extends care into areas that might not have direct access to a provider. It allows expansion beyond scheduling, allowing patients to make decisions in their own time and providers a sense of autonomy. Our study shows that both patients and providers are enthusiastic about usage of telehealth for contraception counseling.

4.4. Research Implications

Future directions could investigate focus groups before and after use of online apps to see if it improves access to care and decreases barriers. This could offer insight into practical use of these platforms and their application to compliment traditional care. In addition, implementing these platforms could give insight to the degree of increased access to contraception.

4.5. Strengths and Limitations

The primary strength of our study is innate to its methodology – we extensively surveyed both patients and physicians for their perspective regarding contraceptive online services. This provides nuanced context into the discussion of using telehealth for contraception services and our findings can be used to study user and prescription behavior. However, there are also some limitations to our study. Firstly, the study excludes non-English speaking and illiterate people as it was a self-administered questionnaire. This might ignore a subsect of the population who would have difficulty navigating these applications. Additionally, this is a single site study and may not be generalizable to other sites. Furthermore, surveyed patients were patients who were attending appointments in clinic, and this might not be the optimal patient population to use web-based contraceptive methods. Another potential limitation is nonparticipation bias. The questions of the survey were all optional, and we did not get 100% response rate on most questions. Relatedly, physicians that were surveyed were all from an academic institution and results may not be generalizing to other populations.

5. Conclusions

In this cross-sectional study, barriers to clinic access were the most cited reason by providers and patients to limitation for contraceptive care. Online telemedicine applications eliminate this concern and increases access to our minority and uninsured patients. Common misconceptions, such as access to technology and patients' self-reporting their history inaccurately, were dispelled in our patient and provider surveys. Both patients and providers agree that they would use and recommend these services, respectively. Patients agree they would participate in preventive services regardless, and providers remain unconcerned to loss of business. Online prescribing platforms, albeit newly emerging, provide a service that is filling a large need of the community, particularly in communities of color that are uninsured.

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