

Telehealth as a potential tool for outreach among women in Puerto Rico



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BACKGROUND: Access to the full spectrum of healthcare should be available to all individuals. After the revocation of the constitutional right to abortion, women have fewer alternatives to unplanned pregnancy. Telehealth provides an additional option for such pregnancies through its remote provision of services. This could benefit women of all social strata. However, data regarding telehealth among underserved populations are limited.

OBJECTIVE: This study aimed to evaluate the use of contraception, awareness of abortion services, and receptiveness to telehealth among women in Puerto Rico, a Spanish-speaking minority population.

STUDY DESIGN: This was a cross-sectional study of women living in Puerto Rico aged between 21 and 65 years. Data were collected with a self-administered survey via SurveyMonkey from March to December of 2021. Recruitment was done through social media and at the gynecology clinics of the University of Puerto Rico, Medical Sciences Campus and San Juan City Hospital. Analysis was done with Stata, version 14.2. Chi-square and Cochran–Armitage tests were used to evaluate the unadjusted relationship between variables. A P value $\leq .05$ was considered statistically significant.

RESULTS: A total of 286 women were recruited. Of these, 73.3% (189/258) were sexually active, 89.1% (229/257) were heterosexual, and 62.7% (163/260) were not using contraception. In addition, 63.3% (157/248) knew about emergency contraception, yet 42.4% (103/243) were unaware of any sources of access to it; 76.6% (197/257) were unaware of nearby abortion services. A higher education level was associated with knowing about emergency contraception ($P < .05$) and awareness of sources of access to it ($P < .05$). However, no significant association was found between a higher education level and awareness of nearby abortion services ($P = .799$). Regarding telehealth, 65.2% (176/270) were willing to use the service for future gynecologic visits, yet only 18.9% (51/269) were offered telehealth services. No association was found between previous telehealth experiences and willingness to use telehealth for future gynecologic visits ($P = .325$).

CONCLUSION: The lack of contraceptive use and unawareness of nearby abortion services place women at increased risk of unplanned pregnancy and unsafe practices. The gap between knowledge about and access to emergency contraception also calls for action. Telehealth may be of benefit given that most women showed interest in using it, and could be used for educating and providing women in Puerto Rico with contraception and medical abortions, further increasing their access to reproductive healthcare. Clarifying misconceptions and instructing women about safe practices is essential to our role as physicians. Ensuring women's access to adequate services is also vital for upholding their rights to healthcare.

Key words: abortion, access, awareness, contraception, emergency contraception, healthcare, sexual practices, telehealth, telemedicine, women

Introduction

Recent policies in the United States have challenged access to healthcare. On the overturning of *Roe vs Wade* by the Supreme Court of the United States, the constitutional right to abortion was revoked and access to safe, legal

abortions now depends on state laws rather than personal autonomy.¹ Women living in restricting states will have fewer alternatives for unplanned pregnancies, and their socioeconomic status will further limit options. Thus, laws banning access to abortions are

most likely to affect a greater percentage of women living in poverty and/or medically underserved areas.^{2–4}

Limiting the access to safe abortions is a critical public health and human rights issue,⁵ and evidence has shown that it does not reduce the overall

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Why was this study conducted?

Policies in the United States have challenged access to reproductive care by revoking the right to abortion. Although stigmatized, abortion in Puerto Rico (PR) continues to be legal. The extent of women's awareness of abortion services in PR is unknown. Telehealth could aid in expanding access to reproductive services.

Key findings

Most sampled women were at increased risk for unwanted pregnancy given their sexual practices. Most were also unaware of sources of access to emergency contraception and/or the availability of abortion services. Telehealth could be a tool for outreach to women in PR given that most were interested in using telehealth services.

What does this add to what is known?

Our study explored the potential use of telehealth for reproductive healthcare among women in PR. Our findings also increase the limited data available about sexual practices, contraception, and abortion in PR.

number of abortions, but increases the number of unsafe procedures.^{6,7} This is of concern because unsafe abortions involve higher risks for mortality depending on the methods used, the provider's skill, and the quality of post-abortion care.⁸ According to the World Health Organization, unsafe abortions are a leading, yet preventable, cause of maternal deaths.⁴ Educating women about safe practices and providing accessible terminations of pregnancy are vital for reducing such mortality.⁸

Access to the full spectrum of services is essential for all reproductive individuals. During the COVID-19 pandemic, telehealth surged because it allowed remote and direct transmission of patients' clinical measurements to their physicians.⁹ Gynecologists have progressively incorporated this modality into their practice. The American College of Obstetricians and Gynecologists (ACOG) upholds the use of telehealth because it provides comparable health outcomes relative to traditional methods, without affecting the patient-physician relationship.¹⁰ ACOG also supports the telehealth provision of medical abortions because its safety and effectiveness have been proven through research.¹⁰⁻¹⁴

Using telehealth for providing reproductive healthcare in underserved areas could provide increased access and quality of service.^{15,16} However, only a

few studies have been published.¹⁷ Ahsan et al¹⁸ found that underserved women using telehealth for outpatient gynecologic visits reported largely positive experiences. They also reported that ethnicity, income, education, and previous experience with telehealth had no effect on women's responses.¹⁸ Nevertheless, additional factors such as language barriers and/or cultural discrepancies are of consideration because these could also interfere with the services provided via telehealth.¹⁹ This could particularly be the case for women within non-English-speaking and/or minority populations.

Implementing telehealth in regions with inaccessible healthcare could facilitate the provision of contraception and/or abortions. Women in Puerto Rico (PR), a Spanish-speaking minority population, could benefit from such an alternative given that approximately 65% of pregnancies in PR are unplanned.²⁰ Like telehealth, research regarding contraception and/or abortions among women in PR is extremely limited. Thus, our study aims to evaluate the use of contraception, awareness of abortion services, and receptiveness to telehealth among women in PR.

Materials and Methods

This cross-sectional study was performed via SurveyMonkey (Momentive

Inc, San Mateo, CA) from March 2021 to December 2021, after obtaining approval from the institutional review boards of the University of Puerto Rico, Medical Sciences Campus (UPR-MS) and San Juan City Hospital (SJCH). Eligible participants included nonpregnant women aged between 21 and 65 years who were living in PR and were able to consent.

Recruitment was done through social media, including Facebook and Instagram, and at the gynecology clinics of the UPR-MS and SJCH. A flyer with the survey's barcode and weblink was used to facilitate the process. Before enrolling in the study, participants were required to read the informed consent form and provide an electronic signature. The informed consent form explicitly contained information about the researchers, the purpose of our study, the participant's role, and a risk assessment. Once the signature was provided, women were screened with 5 questions to ensure that our inclusion criteria were met. Only eligible participants were able to access the survey.

An instrument was created and used for addressing women's sociodemographic profile, sexual history, use of contraception, knowledge about and access to emergency contraception (EC), awareness of abortion services, and receptiveness to telehealth. All items were multiple-choice, but a blank space was provided for additional answers. Questions were not mandatory, and non-response options were also offered.

Validation of our instrument was done by 10 participants, who evaluated the survey preliminarily and were asked to provide recommendations for improving the clarity of questions, if necessary. The survey's weblink was available for recruitment once the validation was completed.

Analysis of participants' sociodemographic characteristics was completed to evaluate the heterogeneity and representativeness of our sample. Participants' average age was described using the mean and standard deviation (SD). Women's educational level, use of contraception, knowledge about and access to EC, awareness of abortion services,

TABLE 1
Sociodemographic characteristics and sexual activity of participating women, Puerto Rico, 2002

Characteristic	Measure
	(mean±SD)
Age in years (n=286)	38±12.7
	n (%)
Place of birth (n=285)	
Puerto Rico	259 (90.9)
United States	14 (4.9)
Dominican Republic	6 (2.1)
Other	6 (2.1)
Education (n=284)	
High school graduate or less	24 (8.5)
Vocational school	10 (3.5)
Some college, college, or professional degree	250 (88.0)
Medical insurance (yes) (n=284)	275 (96.8)
Marital status (n=285)	
Married or consensual union	128 (44.9)
Single, divorced, separated, widowed, or other	157 (55.1)
Sexual orientation (n=257)	
Heterosexual	229 (89.1)
Homosexual	8 (3.1)
Bisexual	14 (5.5)
Pansexual	1 (0.8)
Refused to answer	5 (1.9)

SD, standard deviation.

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rated experiences with previous use of telehealth, and receptiveness to using telehealth for gynecologic visits were identified as our categorical variables of interest. These were evaluated and described using frequency and percentage. Likewise, the unadjusted relationships between categorical variables were assessed through chi-square and Cochran–Armitage tests. A *P* value of $\leq .05$ was considered statistically significant. Analysis was performed using Stata, version 14.2 (StataCorp LLC, College Station, TX).²¹

Results

During the first phase of our study, 10 participants evaluated the nonvalidated

instrument and provided no recommendations, identifying all questions as clear and coherent. During the second phase, 307 women accessed the validated survey, of whom 286 (93%) met our inclusion criteria (Table 1).

The mean age of women was 38 years (SD±12.7); 88.0% (250/284) had a degree beyond high school education or vocational school, and 96.8% had medical insurance (275/284). Regarding sexual orientation, 89.1% (229/257) identified as heterosexual, 5.5% (14/257) as bisexual, 3.1% (8/257) as homosexual, 0.4% (1/257) as pansexual, and 1.9% (5/257) refused to answer. When questioned about sexual practices, 73.3% (189/258) reported being sexually

active and 62.7% (163/260) denied using contraception. Among those who did report using contraception (37.3%; 97/260), the most common methods were intrauterine devices (IUDs) (37.5%; 36/96), oral contraceptive pills (OCPs) (32.3%; 31/96), and male condoms (17.7%; 17/96) (Table 2). An association was found between higher education level and use of contraception ($P<.05$) (Table 3).

Of the participants, 63.3% (157/248) knew about EC, yet 42.4% (103/243) were unaware of any sources of access to EC. Moreover, 76.6% (197/257) were unaware of abortion services within their area. A higher education level was associated with knowledge about EC ($P<.05$) and awareness of sources of access to EC ($P<.05$). Nevertheless, no association was found between a higher education level and awareness of access to abortion services ($P=.799$) (Table 3).

Concerning telehealth, 18.9% (51/269) of women reported being offered such services for their gynecologic visits during the COVID-19 pandemic, yet only 7.4% (20/270) had used it. In addition, 65.2% (176/270) were willing to use telehealth for future gynecologic visits. Women who had previous experience with telehealth for other services rated these experiences as excellent (23.6%; 34/144), good (28.5%; 41/144), average (17.4%; 25/144), and poor (30.6%; 44/144). No statistically significant association was observed between previous telehealth experiences and interest in using telehealth for future gynecologic visits ($P=.325$).

Discussion

Principal findings

Most women in our sample were literate, sexually active, and not using contraception. Among those who did report using contraceptives (37.3%), IUDs were the most common method, followed by OCPs and male condoms. An association was found between a higher education level and using contraceptives.

A gap between women's knowledge about and access to EC was identified. Most reported knowing about EC, yet nearly a half were unaware of any

TABLE 2**Sexual practices, type of contraceptive use, and knowledge about access to reproductive services of participating women, Puerto Rico, 2022**

Variable	n (%)
Sexual practices	
Sexually active (yes) (n=258)	189 (73.3)
Use of contraceptives (no) (n=260)	96 (36.9)
Type of contraceptive (n=96)	
Intrauterine device	36 (37.5)
Oral contraceptive pill	31 (32.3)
Male condoms	17 (17.7)
Vaginal ring	5 (5.2)
Hormonal patch	1 (1.1)
Female condoms	1 (1.1)
Other	4 (4.7)
Knowledge about access to reproductive services	
Know about EC (yes) (n=243)	157 (63.3)
Know where to get EC (no) (n=243)	103 (42.4)
Aware of abortion services nearby (no) (n=257)	197 (76.6)

EC, emergency contraception.

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sources of access to EC. In addition, most denied knowing about abortion services located nearby. An association was found between a higher education level and knowledge about and awareness of access to EC. Nevertheless, no significant association was found between education level and awareness

of access to nearby abortion services. Unidentified factors could be limiting women's awareness of such services.

Regarding telehealth, most women were willing to use it for future gynecologic visits, although only a low percentage of these had been offered the service and had used it. This identifies

telehealth as a potential area of opportunity for patients in PR.

Clinical and research implications

More than half of pregnancies in PR are unplanned.²⁰ Sexual practices and the use of contraception play a key role in preventing such pregnancies. Studies have shown that more than half of unintended pregnancies are owing to lack of contraception,²² and that more than half of patients who decide to have an elective abortion were lacking contraception at conception.²³ In our study, most women reported being sexually active but not using contraception. Such practices place them at high risk for unplanned pregnancies. Moreover, the mean age in our sample was 38 years. Hence, at least half of the women in our study were at high risk of pregnancies at an "advanced maternal age," as defined by ACOG. Unplanned pregnancies among women aged >35 years involve additional maternal, fetal, and neonatal complications,²⁴ which consequently increase their likelihood of seeking abortion care.

The gap between knowledge about and access to EC among women in our sample and their unawareness of nearby abortion services are also of concern. These further increase their risk of unplanned pregnancy given their reported sexual activity and lack of contraception. Despite the overturning of *Roe vs Wade*, abortion continues to be legal in PR because the right is protected by the Constitution of the Commonwealth of Puerto Rico. However, abortion continues to be stigmatized, affecting women's receptiveness to learning or educating themselves about the topic. Furthermore, there are only 4 abortion clinics available in PR, which could also account for our reported finding. Nevertheless, unawareness of access to EC and abortion services calls for action because it increases women's risk of resorting to unsafe practices. Delayed abortion care because of women's unawareness of abortion services also increases the risks of complications of second-trimester abortion.¹⁴

Telehealth could be a potential tool for outreach to women in PR. Most

TABLE 3**Associations between categorical values in our sample, Puerto Rico, 2022**

Variables	P value
A higher education level and use of contraception	.008 ^{a,b}
A higher education level and knowledge of EC	.003 ^{a,b}
A higher education level and awareness of access to EC	.012 ^{a,b}
A higher education level and awareness of access to nearby abortion services	.799 ^{a,b}
Rated experiences with previous telehealth consults and willingness to use telehealth in future gynecologic visits	.325 ^c

EC, emergency contraception.

^a A higher education level was defined as a degree beyond high school or vocational school; ^b Chi-square test; ^c Cochran-Armitage test.

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reported interest in the alternative for future visits, yet only a few had been offered the service. Moreover, no association was found between their previous experience with telehealth and willingness to use it in future gynecologic visits. Various modes of telehealth delivery have been used in studies and reported in the literature, including interactive web-based programs, video teleconferences, and online or telephone consultations.²⁵ All modalities were reported as effective for advising, providing services, and monitoring patients.²⁵

Regardless of modality, telehealth could also be used for educating women. Given the association of higher education level with contraceptive use and women's knowledge and awareness of ECs, telehealth could be an effective intervention. In the United States, sex education has been focused on avoiding unintended pregnancies and sexually transmitted diseases, neglecting critical topics such as healthy partnerships and sexual pleasure.²⁶ Lack of knowledge regarding these subjects could be affecting the use of contraception among women in PR. For instance, women could be avoiding contraception to increase sexual pleasure during coitus, instead of attempting safer alternatives. Providing education through telehealth could aid in clarifying women's doubts and misconceptions about reproductive health and other stigmatized topics.

Family planning services could also be provided through telehealth, along with monthly OCPs and/or EC prescriptions, reducing the barriers to healthcare access. Medical abortions could also be offered via telehealth, depending on the case and the preferences of the gynecologist and the patient. Multiple studies have demonstrated this modality's safety, effectiveness, and clinical feasibility.^{27–29} For instance, Grossman and Grindlay³⁰ evidenced that telehealth provision of medical abortion within the first trimester is as safe as in-person care. By comparing 8765 telehealth and 10,405 in-person medical abortions, comparable rates of clinically significant adverse events were found among groups.^{28,30} Such adverse events included hospital admission,

surgery, blood transfusion, emergency department treatment, and death. Grossman and Grindlay³⁰ also argue that medical abortions via telehealth reduce the risks involved in second-trimester procedures by increasing access to abortion at an early gestational age. Thus, using telehealth to provide family planning services could be favorable to women in PR by preventing unwanted pregnancies and providing accessible abortion care.

As discussed, telehealth could be used to provide a wide spectrum of services, especially for women with evident barriers to healthcare. For both gynecologists and patients in PR, telehealth services are of utmost consideration. These could be beneficial for providing education, reducing social stigma surrounding reproductive health topics, promoting safe sexual practices, and increasing access to contraception and abortion services. In addition, the presence of shared cultural background between gynecologists and their patients can vastly increase the quality of telehealth services, and reduce potential barriers related to language and/or cultural discrepancies. Nevertheless, this study only investigated women's receptiveness to telehealth and proposed various alternatives to increase its use for upholding reproductive health among women in PR. Thus, further research is needed to evaluate the provision and effectiveness of the proposed use of telehealth in PR.

Strengths and limitations

Our study explored the potential use of telemedicine for reproductive healthcare among women in PR. Our findings also increase the available data on sexual practices, EC, and awareness of abortion services in PR.

Limitations of our study include sampling bias and a relatively small sample size. Women aged <21 years were excluded given their inability to provide consent. Likewise, women aged >65 years, surpassing the established range of reproductive age, were excluded. Results could also be skewed because surveys were completed online and self-administered.

Conclusions

Our findings evidence the increased risk of unplanned pregnancy among women in PR given their unsafe sexual practices. The identified gap between knowledge about and access to EC further increases this risk. Moreover, women's unawareness of nearby abortion services increases also their risk of resorting to unsafe practices.

Telehealth is a potential tool for outreach to women in PR. Most reported interest in the alternative for future visits, yet only a few had been offered the service. Telehealth could be used for routine visits, educating women on stigmatized topics, and providing contraceptives and medical abortions, thus further increasing access to reproductive healthcare. Educating women about safe practices is essential to our role as physicians. Ensuring access to reproductive services is also vital for upholding women's rights to healthcare. ■

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