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Factors related to delays in obtaining contraception among pregnancy-capable adults in New York state during the COVID-19 pandemic: The CAP study

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ARTICLE INFO	A B S T R A C T
Keywords: Contraception Birth control Telemedicine COVID-19 Access Barriers	Objectives: To investigate factors associated with delays to obtaining contraception during the COVID-19 pandemic among pregnancy-capable adults in New York State. Study Design: We administered a cross-sectional survey in June-July 2020 to female/transgender male New York State residents aged 18–44 years (n = 1,525). This analysis focused on respondents who were not pregnant and sought contraception (n = 953). We conducted bivariate and multinomial logistic regression analyses to assess sociodemographic, social, and health characteristics, by the outcome of delays to obtaining birth control (delayed due to COVID-19, delayed due to other reasons, no delay). We also analyzed a sub-sample who reported COVID-19 as a reason for delays (n = 317) and report the frequencies of type of contraceptive methods/procedures delayed and availability of telemedicine visits. <i>Results</i> : Half of respondents had no contraceptive delays, 39% reported delays due to COVID-19, and 11% reported delays due to reasons other than COVID-19. In adjusted analyses, those who missed a rent/mortgage payment during the pandemic (aOR: 2.23; CI: 1.55, 3.22), participated in a supplemental government program in 2019 (aOR: 1.88; CI: 1.36, 2.60), and themselves/household member had COVID-19 (aOR: 1.48; CI: 1.04, 2.12) were more likely to report delays to contraceptive visits, 28% unavailable, and 9% not sure. The most frequently (42%) reported delays were new prescriptions for the pill, patch, or ring. <i>Conclusions</i> : Reducing financial barriers that help individuals maintain their housing and living necessities, and promoting telemedicine visits, may help increase access to contraception.

Introduction

During the height of the first wave of the COVID-19 pandemic, from March through June 2020, over 40% of adults in the United States (U.S.) delayed or missed medical care [1]. Delays to medical care were likely the result of patient concerns of contracting COVID-19, quarantining practices, increased caregiving responsibilities, financial barriers, and reduced appointment availability [1]. Preliminary work suggests that during this time there were increased barriers to obtaining sexual and reproductive health (SRH) services, prompting concerns over patients' ability to access contraception and maintain control over their reproductive lives [2-5]. Adult primary care and obstetrics/gynecology providers, those who are the most likely to offer contraceptive counseling and provision, endured a 10% cumulative decline in visits during the pandemic [6].

One study investigated shifts in fertility preferences using a national, non-probability sample among cisgender pregnancy-capable adults aged 18-49 from late April/early May 2020 and found that over a third of the sample wanted to delay childbearing or have fewer children because of the pandemic [5]. This shift in desires for pregnancy highlights the importance of access to contraception during this time, when people prefer to delay childbearing. In addition, a third of respondents reported that they had to delay SRH care or had trouble obtaining birth control, due to the pandemic. This was more likely to be reported among respondents of low income, compared to those of high income. Another study among reproductive-aged women in the U.S. found that those with

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indicators of financial insecurity during the pandemic also had difficulty accessing contraception [7]. However, these studies did not investigate how factors such as social and financial support, stress, health, substance use, COVID status, and essential worker status may be associated with barriers to contraceptive care.

Because of the pandemic's disruption to the delivery of routine health care services, many clinics pivoted to telemedicine visits where possible [6,8,9]. By the end of 2020, 12% percent of adult primary care and 3% of obstetrics/gynecology patient visits were conducted virtually (as a percentage of the baseline pre-pandemic visits) [6]. Planned Parenthood, and some publicly-funded Title X clinics with the capacity, expanded their telehealth services to accommodate the need for continued SRH care during the pandemic [10]. Understanding how telemedicine visits for SRH care can facilitate contraceptive provision has implications for the pandemic and beyond.

Given the increase in people who desire to delay pregnancy during the pandemic, assessing barriers to contraceptive care is imperative. Examining nuanced factors associated with delays to contraceptive access and provision, such as indicators of patients' social and financial support, compared to those who did not experience delays, can help us better identify and serve groups at risk of unmet need for contraception. In the U.S., New York City (NYC) was the initial epicenter of the COVID-19 pandemic, comprising roughly 50% of U.S. cases by the end of March 2020 [11]. Our study investigates if and how the COVID-19 pandemic affected pregnancy-capable adults' ability to obtain contraception in New York State, and identifies factors associated with delays to obtaining contraception. We hypothesized that indicators of social and financial insecurity would be significantly positively associated with delays to accessing contraception due to COVID-19. Such data can inform interventions to improve contraceptive provision during the pandemic and future disruptions to care.

Materials and methods

Study design

For the primary study, we conducted a cross-sectional, web-based survey fielded from June 9 – July 21, 2020 through a third-party online recruiting firm (Qualtrics®, Provo, UT). Qualtrics® monitored enrollment and issued payment dependent upon how each respondent joined their recruiting service panel. Eligible respondents included New York State (NYS) residents aged 18-44 years old who identified as female or transgender male (herein referred to as 'pregnancy-capable adults'). We recruited NYS residents proportionate to the approximate population distribution of women aged 18 to 45 years, by race/ethnicity and geographic region, according to the Census [12]. To participate, the COVID-19 and Pregnancy (CAP) study respondents needed to have been pregnant or given birth from March 7th to the time of the survey; pregnant between May 1, 2018 and April 30, 2019; or able to become pregnant and at the end of 2019 considering pregnancy in 2020. Of the 5,106 respondents who started the survey, 1,525 completed it and were included in the study (response rate: 30%). The primary analysis examined experiences with pregnancy during the pandemic, compared to those who were pregnant prior to the pandemic [13]. For the current study, we conducted a sub-group analysis restricting the sample to all those not pregnant at the time of the survey (including those who had been pregnant prior to the pandemic) and who reported seeking contraception (n = 953).

The study was approved by the City University of New York Institutional Review Board (Protocol #2020–0339).

Statistical analysis

We sought to assess factors associated with delays to obtaining contraception during the pandemic and further investigate the type of methods delayed and availability of virtual contraceptive appointments.

To achieve the first aim, the main outcome of interest was delays to obtaining birth control, based on the question "Since around March 7th, 2020 have you experienced delays getting birth control?" Response options were "Yes, due to COVID-19; Yes, due to COVID-19 and other reasons; Yes, due to reasons other than COVID-19; No; and I have not tried to get birth control." (Those who did not try to get birth control were excluded.) We collapsed responses of "Yes, due to COVID-19" and "Yes, due to COVID-19 and other reasons," as both responses cite the pandemic as at least one reason for the delay. Thus, our three-category outcome included delays to contraception due to COVID-19, delays due to other reasons, and no delays. We conducted chi-square and Fisher's exact tests to assess significant differences in sociodemographic characteristics, social and financial support, health, stress level, and substance use, by the outcome of delays to obtaining birth control (delayed due to COVID-19, delayed due to other reasons, no delay), given their potential association with access to and use of contraception [5,7,14–17]. We then applied multinomial logistic regression to jointly evaluate the influence of predictor variables that were significant individually in the bivariate analysis (p < 0.05). The first multinomial regression used "no delays" as the reference and the second used "delays due to reasons other than COVID" as the reference, to analyze all pairs.

To examine further how the pandemic may have delayed contraceptive services, we analyzed a sub-sample of those who reported COVID-19 as at least one reason for delays in obtaining birth control and who reported having postponed or canceled a method/procedure due to concerns about COVID-19 (n = 317). The item asked "Which, if any, of the following birth control services have you postponed or canceled due to concerns about COVID-19?" with a list of seven options and an "other" category; this was a multi-response item where respondents could select all that applied. We calculated descriptive statistics and report the frequencies of the type of contraceptive methods or procedures that were delayed by the availability of virtual birth control visits (only asked among those who reported delays).

Results

Our sample included 953 pregnancy-capable individuals (n = 2identified as transgender male and the remainder as female). In our sample, 43% were aged 25-34, 33% aged 18-24, and 24% aged 35-44 (Table 1). Over half of our sample (54%) identified as white, 23% as Hispanic/Latina, 17% as Black, and 6% as mixed or of another race. Over half (56%) resided in New York City, 20% in rural areas of upstate NY, 15% in urban areas of upstate NY and 9% in the Hudson Valley/ Long Island areas (directly outside of NYC). Many had a bachelor's degree or higher (45%) and were married (69%). Half had participated in a government program (Supplemental Nutrition Assistance Program, Temporary Assistance to Needy Families, and/or Supplemental Security Assistance) in 2019. Nearly half (47%) were on Medicaid and 11% had reduced or lost their insurance during the pandemic. Approximately 29% missed paying their rent or mortgage during COVID-19 and one third of respondents had (or member of their household had) been diagnosed with COVID-19.

Half of respondents had no delays in obtaining birth control, 39% reported delays due to COVID-19, and 11% reported delays due to reasons other than COVID-19. Significant predictors of delaying birth control, while controlling for all other covariables listed in Table 2, include those who missed a rent/mortgage payment during the pandemic (adjusted odds ratio (aOR): 2.23; 95% Confidence Interval (CI): 1.55, 3.22), participated in a supplemental government program prior to the pandemic (aOR: 1.88; CI: 1.36, 2.60), and themselves/ household member had COVID-19 (aOR: 1.48; CI: 1.04, 2.12); they were more likely to report delays to contraception due to COVID-19, compared to those with no delays. Those who were less likely to report such delays included respondents who identified as Hispanic/Latina, compared to white (aOR: 0.62; CI: 0.41, 0.93) or lived upstate in an urban (aOR: 0.61; CI: 0.40, 0.95) or rural area (aOR: 0.48; CI: 0.31,

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able 1			a			Table 1 (continued)					
ample characteristics l Variable	Total	Delays to b	elays to birth control		p-value	Variable	Total $(N = 052)$	Delays to birth control n (%)		p-value	
(N = 953)		n (%) Delay due to COVID- 19^{a} n = 372	Delay due to other reasons n = 102	No delays n = 479 (50)			953)	Delay due to COVID- 19^{a} n = 372 (39)	Delay due to other reasons n = 102 (11)	No delays n = 479 (50)	
		(39)	(11)				579			345	
Age 18–24	210	120 (41)	49 (1E)	140	0.0022	Don't know/don't pay	(61) 94	34 (36)	6 (6)	(60) 54	
10-24	318 (33)	130 (41)	48 (15)	(44)		rent or mortgage	(10)	01(00)	0(0)	(57)	
25–34	410	145 (35)	39 (10)	226		Able to borrow					< 0.0001
05.44	(43)	07 (10)	15 (7)	(55)		money when					
35–44	225 (24)	97 (43)	15 (7)	113 (50)		needed (vs. last year) ^b					
Race/ethnicity	(21)			(00)	0.0088	Same/easier	542	217 (40)	84 (16)	241	
White, non-Hispanic	511	205 (40)	38 (7)	268		TT	(57)	154 (00)	10 (4)	(44)	
Black, non-Hispanic	(54) 167	68 (41)	29 (17)	(53) 70		Harder	409 (43)	154 (38)	18 (4)	237 (58)	
black, non-mspanic	(17)	00 (41)	29(17)	(42)		Participation in	(13)			(00)	< 0.0001
Hispanic/Latina	218	80 (37)	27 (12)	111		government					
	(23)	10 (00)		(51)		program (2019) ^c	401	227 (47)	90 (17)	174	
All other/Mixed race	57 (6)	19 (33)	8 (14)	30 (53)		Yes	481 (50)	227 (47)	80 (17)	174 (36)	
Geographic region				(00)	< 0.0001	No	472	145 (31)	22 (5)	305	
New York City	532	235 (44)	65 (12)	232			(50)			(65)	
Long Island /Hudson	(56) 84 (9)	30 (36)	6 (7)	(44) 48		Able to find transportation to					< 0.0001
Long Island/Hudson Valley	84 (9)	30 (30)	6(7)	48 (57)		the doctor (vs. last					
Upstate (urban)	142	48 (34)	6 (4)	88		year) ^d					
	(15)			(62)		Same/easier	593	227 (38)	84 (14)	282	
Upstate (rural)	195 (20)	59 (30)	25 (13)	111 (57)		Harder	(62) 356	144 (40)	17 (5)	(48) 195	
Education	(20)			(37)	0.6311	Harder	(38)	144 (40)	17 (3)	(55)	
<high school<="" td=""><td>53 (6)</td><td>18 (34)</td><td>7 (13)</td><td>28</td><td></td><td>General health (vs.</td><td></td><td></td><td></td><td></td><td>0.0147</td></high>	53 (6)	18 (34)	7 (13)	28		General health (vs.					0.0147
				(53)		last year)	741	201 (20)	00 (12)	270	
High school graduate or GED	187 (20)	67 (36)	19 (10)	101 (54)		Same/better	741 (78)	281 (38)	90 (12)	370 (50)	
Some college/	279	102 (37)	32 (11)	145		Worse	208	90 (43)	11 (5)	107	
Associates	(29)			(52)			(22)			(51)	
degree Bashalar's dagree or	400	101 (40)	44 (10)	204		Stress (vs. last year) ^e Same/lower	388	136 (35)	50 (13)	202	0.0432
Bachelor's degree or higher	429 (45)	181 (42)	44 (10)	204 (48)		Salile/10wei	(41)	130 (33)	50 (15)	(52)	
Health insurance	(10)			()	0.5846 [‡]	Higher	551	231 (42)	50 (9)	270	
(2019)			- (10)			• f	(59)			(49)	.0.0001
Medicaid/Temporary Medicaid	444 (47)	182 (41)	54 (12)	208 (47)		Anxiety ^f Yes	437	183 (42)	63 (14)	191	< 0.0001
Employer-provided/	432	159 (37)	42 (10)	231			(46)			(44)	
health exchange/	(45)			(53)		No	514	189 (37)	38 (7)	287	
Private	20 (4)	14 (27)	2 (0)	01		Depression ^f	(54)			(56)	< 0.0001
Other	38 (4)	14 (37)	3 (8)	21 (55)		Yes	420	190 (45)	60 (14)	170	<0.0001
No insurance	36 (4)	15 (42)	3 (8)	18			(44)			(41)	
Doduced (1+1 1-1				(50)	-0.001	No	525 (56)	177 (34)	40 (8)	308 (59)	
Reduced/lost health insurance since					<0.001	Substance use (vs.	(30)			(39)	0.0003
March 7th, 2020						last year) ^g					
Yes	104	54 (52)	19 (18)	31		Same/decreased/	520	189 (36)	42 (8)	289	
No	(11) 849	318 (37)	83 (10)	(30) 448		never used Increased	(55) 433	183 (42)	60 (14)	(56) 190	
	(89)	515 (57)	00 (10)	(53)			(45)	(12)	(1))	(44)	
Relationship					0.1098	COVID-19 status					< 0.0001
Married	657	262 (40)	60 (9)	335		(respondent or member of					
in relationship (non–	(69) 90	38 (42)	11 (12)	(51) 41		household; since					
co-habitating)	(10)		()	(46)		March 7th, 2020)					
Single/other	203	70 (35)	31 (15)	102		Had COVID-19	312	148 (47)	71 (23)	93 (20)	
Missed rent/	(21)			(50)	<0.0001	Did not have COVID-	(33) 641	224 (35)	31 (5)	(30) 386	
mortgage payment					~0.0001	19	(67)	(33)	01 (0)	(60)	
since beginning of						Essential worker	-				< 0.0001
March (2020)	000	154 (54)	11.00	00		(respondent and/					
Yes	280 (29)	156 (56)	44 (16)	80 (29)		or member of household)					
No	(12)	182 (31)	52 (9)	(2)		Yes		269 (41)	88 (13)		
		~>								(continued o	on next page)

(continued on next page)

Table 1 (continued)

Variable	Total (N =	Delays to l n (%)	p-value		
	953)	Delay due to COVID- 19^{a} n = 372 (39)	due todue toCOVID-other 19^{a} reasons $n = 372$ $n = 102$		
No/Don't know	660 (70) 289 (30)	101 (35)	14 (5)	303 (46) 174 (60)	

^a includes reports of delays due to COVID-19 plus those who reported delays due to COVID-19 *and* other reasons.

^b Item asked: Compared to *this time last year*, if you needed an emergency loan of \$500 today, finding someone to get it from would be....

^c indicated through participating in Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance to Needy Family (TANF), and/or Supplemental Security Assistance (SSI).

^d Item asked: Compared to *this time last year*, if you were sick and needed to go to the doctor <u>today</u>, *finding a friend or relative* to take you would be....

[‡] Fisher's exact test.

^e Item asked: "Compared to this time last year, would you say your overall level of stress is generally higher, about the same, or lower today?"

^f Assessed using the PHQ-4 from: Kroenke K, Spitzer R, Williams J, Lowe B. An ultra-brief screening scale for anxiety and depression: The PHQ-4. Psychosomatics. 2009; 50(6): 613–621.

^g Item asked: "Compared to this time last year, would you say your overall use of the following has increased, decreased, or stayed the same?" for each of: Alcohol, marijuana, smoking cigarettes, vaping, prescription drugs not prescribed for you, and illegal drugs. Response options: increased, decreased, stayed the same, never used. Reports of increased use of any substance were coded as "increased."

0.74), compared to NYC. Age, reduced/lost health insurance, indicators of social support, health, stress, anxiety, depression, substance use, and household essential worker status were not associated with delays to obtaining contraception due to COVID-19, compared to no delays or delays due to other reasons. Of note, those who (or someone in their household) had COVID-19 were more likely to report contraceptive delays due to reasons *other than* COVID-19, compared to no delays (aOR: 4.49; CI: 2.55, 7.90).

Of those who reported contraceptive delays due to COVID-19 and the method/procedure being delayed (n = 317), 63% (n = 199) reported that virtual contraceptive visits were available, 28% (n = 89) unavailable, and 9% (n = 29) not sure (Fig. 1). The most frequently reported contraceptive methods delayed were new prescriptions (pill/patch/ring; 42%, n = 132), followed by prescription refills (28%, n = 88). About two thirds of those experiencing delays to a new prescription (67%, n = 89) or refill (68%, n = 60) for oral contraception, patch, or ring, reported that virtual birth control visits were available. Thirty-two percent in each of those two groups reported virtual visits being unavailable or not knowing of their availability.

Discussion

In our sample, half of respondents reported no delays to obtaining contraception and over a third reported delays due to COVID-19. Of those who experienced contraceptive delays due to COVID-19 and reported a method/procedure delayed, about a third had providers who did not have virtual appointments available for contraception or were not aware of such. Surprisingly, we found high rates of delays among contraceptive methods most conducive to being addressed in virtual visits (new or refilled prescriptions for oral contraceptives, the patch, or the ring). Our findings indicate that there are potential missed opportunities to offer more virtual contraceptive appointments, to better promote their availability to patients, and to address refills/new

Table 2

Multinomial Regression: Predictors of Delays to Birth Control.

Variable	Delays to birth control aOR (95% CI)				
	Delay due to COVID-19* vs. no delay	Delay due to COVID-19* vs. other	Delay due to other vs. no delay		
Age 18–24	1.17 (0.76, 1.79)	0.54 (0.25, 1.17)	2.18 (0.98,		
25–34	0.75 (0.51, 1.11)	0.59 (0.28, 1.23)	4.85) 1.29 (0.60,		
			2.75)		
35–44 Race/ethnicity	ref	ref	ref		
White, non-Hispanic Black, non-Hispanic	ref 0.98 (0.63, 1.52)	ref 0.54 (0.28, 1.05)	ref 1.81 (0.91,		
Hispanic/Latina	0.62 (0.41, 0.93)	0.58 (0.29, 1.12)	3.60) 1.07 (0.54,		
All other/Mixed race	0.78 (0.40, 1.50)	0.39 (0.14, 1.06)	2.12) 2.01 (0.74,		
		,,	5.46)		
Geographic region New York City	ref	ref	ref		
Long Island/Hudson Valley	0.79 (0.46, 1.35)	1.43 (0.49, 4.15)	0.55 (0.19, 1.62)		
Upstate (urban)	0.61 (0.40, 0.95)	1.96 (0.75, 5.11)	0.31 (0.12, 0.81)		
Upstate (rural)	0.48 (0.31, 0.74)	0.46 (0.25,	1.04 (0.56,		
Reduced/lost health	insurance since Marci	0.86) h 7th 2020	1.94)		
Yes	1.61 (0.97, 2.69)	0.97 (0.50, 1.90)	1.66 (0.80,		
No	ref	ref	3.46) ref		
Missed rent/mortgag					
Yes	2.23 (1.55, 3.22)	1.52 (0.88, 2.62)	1.47 (0.83, 2.60)		
No	ref	Ref	ref		
Don't know/don't pay rent or mortgage	1.00 (0.60, 1.66)	1.90 (0.70, 5.12)	0.53 (0.20, 1.42)		
Able to borrow mone	-	ast year)			
Same/easier	ref	ref	ref		
Harder	0.70 (0.49, 1.00)	1.59 (0.80, 3.16)	0.44 (0.22, 0.88)		
Participation in gove			0.07 (1.00		
Yes	1.88 (1.36, 2.60)	0.80 (0.43, 1.46)	2.37 (1.29, 4.32)		
No Able to find transport	ref	ref	ref		
Same/easier	ref	ref	ref		
Harder	1.17 (0.82, 1.67)	1.63 (0.82, 3.25)	0.72 (0.36, 1.43)		
General health (vs. la					
Same/better	ref	ref	ref		
Worse	1.16 (0.79, 1.71)	1.33 (0.62, 2.88)	0.87 (0.40, 1.90)		
Stress (vs. last year) Same/lower	ref	ref	ref		
Higher	1.24 (0.89, 1.73)	1.67 (0.99, 2.81)	0.74 (0.44,		
-	1.21 (0.05, 1.75)	1.07 (0.99, 2.01)	1.27)		
Anxiety Yes	1.03 (0.73, 1.46)	0.61 (0.35, 1.06)	1.70 (0.96,		
No	ref	ref	2.98) ref		
Depression					
Yes	1.34 (0.94, 1.90)	0.84 (0.48, 1.45)	1.59 (0.91,		
No	ref	ref	2.80) ref		
Substance use (vs. las		101	101		
Same/decreased	ref	ref	ref		
Increased	1.12 (0.82, 1.54)	0.67 (0.40, 1.12)	1.67 (0.99,		
COVID-19 status (resj Had COVID-19	ondent or member o 1.48 (1.04, 2.12)	f household; since 1 0.33 (0.19,	2.82) March 7th, 2020) 4.49 (2.55,		
-ind GO VID-17	2110 (1107, 2112)	0.58)	4.49 (2.33, 7.90)		
Did not have COVID- 19	ref	ref	ref		

(continued on next page)

Table 2 (continued)

Variable	Delays to birth control aOR (95% CI)						
	Delay due to COVID-19* vs. no delay	Delay due to COVID-19* vs. other	Delay due to other vs. no delay				
Essential worker (respondent and/or member of household)							
Yes	1.09 (0.78, 1.52)	1.03 (0.51, 2.08)	1.05 (0.53, 2.10)				
No/Don't know	ref	ref	ref				

*includes reports of delays due to COVID-19 plus those who reported delays due to COVID-19 *and* other reasons.

prescriptions in those visits. Clinics could promote telehealth options through broadcast emails, texts, and robocalls. For patients with concerns about safety or privacy related to telehealth visits, reassuring patients of office protocols to protect them against the spread of COVID-19 may help increase their comfort in seeking in-person visits and prevent delays to care. Preliminary research has found that family planning providers and patients are supportive of contraceptive telemedicine visits, and would be even after the pandemic [18,19].

However, telemedicine may not be a panacea for delayed contraception, as evidenced by the majority of those who reported delays also reporting availability of virtual birth control appointments. Patients may be unsure of how to navigate telemedicine visits or lack a private place to speak candidly about their SRH needs. Alternatives to virtual appointments that can prevent a lapse in needed contraception include insurance policies that allow for prescription refills for a full year, dispensing of several months' supply, and allowing for the provision of contraception from pharmacies or online companies.

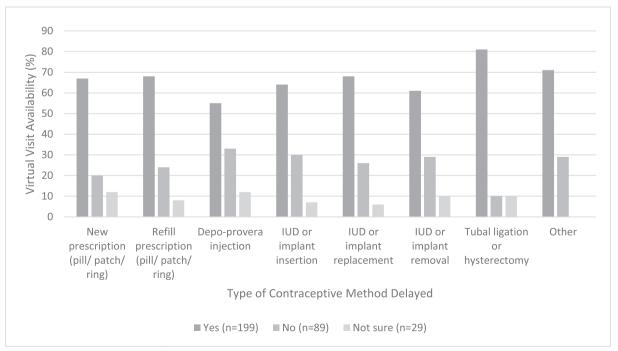
We found that those with indicators of economic insecurity were more likely to report delays, highlighting the prominence of financial barriers to accessing contraception. Such barriers may prohibit pregnancy-capable adults from seeking appointments- telemedicine or in person- to obtain contraception. Such findings parallel those from other studies, where women who had financial difficulties were more likely to report delays to contraception or other SRH care [5,7]. Affordability has been a persistent barrier to contraception. Our results demonstrate that COVID-19 merely exacerbated such issues. Extension of financial safety-net supports such as the COVID-19 rent relief program [20] and temporary halt to residential evictions [21,22] could trickle down to help New Yorkers' ability to afford contraception and maintain control over their reproductive lives.

A substantial proportion of pregnancy-capable adults in our sample experienced delays to contraception due to the pandemic. However, those living in upstate NY were less likely to report contraceptive delays, compared to those living in NYC, suggesting that those living in less populated areas may have had less concern about contracting COVID-19 or had less reliance on public transportation that was disrupted during the pandemic and thus able to attend clinic appointments; this requires further investigation. Additional exploration is also needed to understand the finding that Hispanic/Latina respondents were less likely to report delays due to COVID-19.

This study is limited in that the analysis focused on a subsample of those who were recruited based on the primary research question, which pertained to pregnancy-related experiences before or after COVID-19. As such, there were fewer questions on contraception-related issues (such as alternatives used or adverse clinical outcomes); however, the sample size appeared adequate to identify significant differences in factors related to delays in accessing contraceptive care. We did not perform cognitive interviewing to better understand how respondents interpreted the meaning of the outcome item of interest. We also did not capture contraceptive use or telehealth availability among those without contraceptive delays and thus cannot compare results between groups. There was insufficient power to analyze differences in barriers to contraceptive care for transgender males.

Conclusions

Health care and public health institutions should prioritize ensuring access to contraception during pandemics and other possible domestic and global crises that can potentially disrupt such care. This is essential



*response categories not mutually exclusive

Fig. 1. Type of Contraceptive Method Delayed* by Virtual Visit Availability (among those who reported COVID-19 as reason for delay; N = 317). *response categories not mutually exclusive.

for individuals to control their fertility, particularly in light of challenges terminating undesired pregnancies [4,23,24]. Offering and promoting telemedicine visits is one method to increase accessibility, along with reducing financial barriers that help individuals maintain their housing and living necessities. Given the considerable changes in pregnancy desires during the pandemic, access to contraception is vital [5].

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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