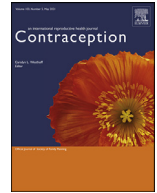




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Original Research Article

Impact of contraceptive counseling on Texans who can and cannot receive no-cost post-abortion contraception

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ARTICLE INFO

Article history:

Received 23 January 2021

Received in revised form 10 May 2021

Accepted 23 May 2021

Keywords:

Abortion

Induced abortion

Contraception

Long-acting reversible contraception

Counseling

Health communication

Economics

Legislation

Texas

United States

ABSTRACT

Objective: To assess optimal timing, patient satisfaction, and 1-year contraceptive continuation associated with contraceptive counseling among Texans who could and could not receive no-cost long-acting reversible contraception (LARC) via a specialized funding program.

Study Design: In this prospective study conducted between October 2014 and March 2016, we evaluated participants' desire for contraceptive counseling during abortion visits, impact of counseling on change in contraceptive preference, satisfaction with counseling, and 1-year postabortion contraceptive continuation. We stratified participants into 3 groups by income, insurance status, and eligibility for no-cost LARC: (1) low-income eligible, (2) low-income ineligible, and (3) higher-income and/or insured ineligible. We examined the association between contraceptive counseling rating and 1-year method continuation by program eligibility and post-abortion contraceptive type.

Results: Among 428 abortion patients, 68% wanted to receive contraceptive counseling at their first abortion visit. Counseling led to a contraceptive preference change for 34%. Of these, 21% low-income eligible participants received a more effective method than initially desired, 10% received a less effective method, and 69% received the method they initially desired. No low-income ineligible participants received a more effective method than they initially desired, 55% received a less effective method, and 45% received the method they initially desired. Five percent of higher-income eligible participants received a more effective method than they initially desired, 48% received a less effective method, and 47% received the method they initially desired. Highest counseling rating was reported by 51%. Compared to those providing a lower rating in each group, highest counseling rating was significantly associated with lower 1-year contraceptive discontinuation for low-income eligible participants (aHR 0.34, 95% CI 0.14, 0.81), but not for low-income ineligible (aHR 1.56, 95% CI 0.83, 2.91) and higher-income (aHR 0.73, 95% CI 0.47, 1.13) participants. Additionally, 1-year contraceptive continuation was associated with highest counseling rating (OR 1.72, 95% CI 1.09, 2.72) and post-abortion LARC use (OR 11.70, 95% CI 6.37, 21.48) in unadjusted models, but only postabortion LARC in adjusted models (aOR 1.55, 95% CI 0.90, 2.66 for highest counseling rating vs. aOR 11.83, 95% CI 6.29, 22.25 for postabortion LARC use).

Conclusions: In Texas, where access to affordable postabortion contraception is limited, high quality contraceptive counseling is associated with 1-year contraceptive continuation only among those eligible for no-cost methods.

Implications: State policies which restrict access to affordable post-abortion contraception limit the beneficial impact of patient-centered counseling and impede patients' ability to obtain their preferred method.

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1. Introduction

Providing contraception is recognized as a critical component of postabortion care that allows patients to have control over their own reproductive health [1–4]. Access to affordable post-

abortion contraception is associated with increased use, quicker initiation, higher satisfaction, higher continuation rates, decreased subsequent abortions, and greater spacing between pregnancies [5–11]. Yet, restrictive state laws, like those in Texas, prohibit abortion providers and affiliated organizations from participating in publicly-funded state family planning programs placing significant barriers on abortion clinics from providing the most effective contraceptive methods [12,13]. Even insured patients have difficulty obtaining immediate post-abortion contraception. In Texas,

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insurance companies are prevented from covering abortion making many clinics out-of-network [12].

Despite these legislative restrictions, abortion providers want to offer high-quality, patient-centered care including comprehensive contraceptive services [13]. One proposed strategy to optimize contraceptive provision is to enhance contraceptive counseling [13]. However, research regarding the optimal timing of contraceptive counseling within the abortion context, patient satisfaction with counseling, and the influence of contraceptive counseling on uptake and continuation is conflicting and often does not take into account a patient's ability to receive affordable or no-cost postabortion contraception.

In a survey of patients taken prior to their abortion, 62% of patients did not want to discuss contraception during their abortion visit [14]. Yet, this study did not evaluate if desire for contraceptive counseling was related to ability to receive affordable post-abortion contraception [14]. In contrast, an earlier survey of abortion patients found 69% wanted to receive contraceptive counseling in the abortion setting [15]. While having Medicaid was predictive of wanting to leave the abortion appointment with a contraceptive method, the association between desire for counseling and Medicaid coverage was not evaluated [15].

Recent evidence has demonstrated that abortion patients want patient-centered contraceptive counseling that respects their desire for information and allows them to participate in their own health care decisions [16–19]. Similarly, in a non-abortion setting, patients who reported receiving high interpersonal quality of family planning (IQFP) care were more likely to continue their chosen highly or moderately effective methods at 6 months [19]. Yet these studies did not compare counseling satisfaction among patients who could and could not receive affordable contraception.

Results from another study suggest that increased access to affordable contraception may supersede any counseling benefit [20]. A recent randomized trial demonstrated no association between counseling and contraceptive initiation, however, post-abortion LARC use was strongly associated with funding support among patients who had public health insurance, lived in states providing Medicaid coverage for abortion, or lived in states which mandated private health insurance coverage for contraception [20]. However, the differential impact of contraceptive counseling on those with and without funding support was not assessed.

In our Texas-based study, all participants received contraceptive counseling but not all were eligible for no-cost post-abortion contraception. Our objectives were to assess the optimal timing for contraceptive counseling, patient satisfaction with counseling, and the association between patient-reported quality of counseling and 1-year contraceptive continuation among those who could and could not receive no-cost contraception.

2. Materials and methods

Between October 2014 and March 2016, we conducted a prospective study. We recruited patients who obtained an abortion from Planned Parenthood of Greater Texas in Austin (in Travis county), were 18 to 44 years old, desired to use contraception after their abortion, did not intend to become pregnant within the following year, and spoke English or Spanish. In a specialized county-based funding program, uninsured Travis county residents with household incomes less than 200% of the federal poverty level (FPL) were eligible for no-cost LARC methods, whereas participants living below 200% FPL who were uninsured but did not live in Travis county and those with higher incomes or insurance were ineligible for no-cost LARC. We stratified participants into three groups by income, insurance status, and eligibility for no-cost LARC: (1) low-income eligible, (2) low-income ineligible, and (3) higher-income and/or insured ineligible. We previously re-

ported preabortion contraceptive preferences, postabortion method use, and 1-year continuation rates among these three groups [11]. In this analysis, we evaluated the impact of contraceptive counseling on method continuation by no-cost LARC program eligibility (hereafter simplified to program eligibility) and by postabortion contraceptive type.

Study participants received standardized, comprehensive contraceptive counseling using a tiered-effectiveness model in a private room by trained clinic staff during their initial ultrasound and state-mandated counseling visit, which is required to occur at least 24 hours before abortion for most Texas patients [11,21,22]. Participants could also discuss contraception with the physician. Cost was discussed after a method was chosen or sooner if brought up by the participant. Low-income eligible participants were notified of the availability of immediate postabortion no-cost LARC. Otherwise, participants could use their health insurance or pay out of pocket (\$952 for the levonorgestrel intrauterine device, \$636 for the copper intrauterine device, or \$985 for the etonogestrel implant). Participants requesting other methods could receive the 3-month contraceptive injection (\$87), a 1-month supply (no-cost) and prescription for oral contraceptive pills (\$10–50 per cycle), patch (\$150 per cycle) or vaginal ring (\$200 per cycle), emergency contraception (\$40–50 each), and/or male condoms (<\$1 each). The median monthly household income for Texans in 2016 was \$4713.75 [23].

Each study participant completed a baseline survey, which for many occurred after receiving contraceptive counseling but before their abortion, assessing demographic characteristics, reproductive history, and desired post-abortion contraceptive method during the initial visit. Study personnel recorded the contraceptive method provided to each participant immediately post-abortion or at the 2-week follow-up visit. Follow-up telephone surveys were scheduled to occur at 4, 8, and 12 months after the baseline interview to assess preferred timing for and quality of contraceptive counseling at the first follow-up and continuation of the post-abortion contraceptive method at all follow-ups. Variability in participant availability to complete follow-up interviews resulted in intervals that we grouped as 3 to 6, 7 to 10, and 11 to 14 months after baseline survey.

We assessed preferred timing for contraceptive counseling: (1) via telephone before or after clinic visits; (2) initial (ultrasound/state-mandated counseling) visit; (3) abortion visit; (4) follow-up visit; and (5) no desire to discuss contraception during abortion appointments.

We categorized participants who stated a preference for postabortion LARC use, but actually received short-acting hormonal contraception (oral contraceptive pills, injection, patch, vaginal ring), emergency contraception, or condoms as receiving a less effective method than desired. Conversely, those who initially stated a desire for a less effective method, but then wanted and received LARC were categorized as receiving a more effective method. We asked if counseling led to a change in desired postabortion contraceptive method and for those participants who endorsed this change, we determined if they received a more or less effective method than initially preferred.

To elicit participants' perceptions of contraceptive counseling quality, we used 4 items of the 11-item validated IQFP contraceptive counseling scale which included all 3 domains; interpersonal connection with the health care provider, decision support, and adequate information [19]. We asked participants, (1) how well did the counselor or physician do at letting you say what mattered to you about your birth control method?; (2) how well did the counselor or physician do at taking your preference about which birth control method you wanted to use seriously?; (3) how well did the counselor or physician do at giving you enough information for you to make the best decision about your birth control

method?; (4) how well did the counselor or physician do at giving you an opportunity to ask questions? We recorded responses on a 5-point Likert scale from excellent to poor and categorized participant counseling rating as “highest” if participants provided an excellent score for all four items and “lower” for those who responded less than excellent to any one item.

We evaluated timing preference for contraceptive counseling, effect of counseling on change in preference to more or less effective methods, and counseling rating overall and by program eligibility. We used *t* tests for age and chi-squared tests for race or ethnicity, relationship status, education, parity, prior abortion, postabortion LARC use, and program eligibility to examine differences in participant characteristics associated with counseling rating and post-abortion contraceptive continuation. We calculated life tables to depict the proportion of contraceptive continuation by program eligibility and counseling rating over the study period. We also used Cox proportional hazard models to evaluate the interaction between program eligibility and counseling rating before and after adjusting for variables associated with contraceptive discontinuation during two or more follow-up intervals at a *p* value of < 0.05. We additionally created multivariable logistic regression models to evaluate contraceptive continuation adjusted for counseling rating, postabortion LARC use, and other variables associated with continuation. We performed all statistical analyses using Stata version 14. The University of Texas at Austin Institutional Review Board approved this study.

3. Results

Among 518 participants who completed the baseline survey, 428 (83%) completed at least one follow-up survey. Participant characteristics are presented in Table 1. There were no significant differences between participants who did and did not complete a follow-up survey, except that those who completed a follow-up were less likely to have a prior abortion (36% vs 49%, *p* < 0.05). Among study participants who completed a follow-up interview, 229 (54%) obtained a short-acting hormonal method, 134 (31%) obtained LARC, and the remainder received male condoms and/or a prescription for emergency contraception. Continuation of short-acting hormonal methods steadily decreased over the follow-up period (38% at 3–6 months, 32% at 7–10 months, 23% at 11–14 months). Continuation of LARC methods remained consistent over the follow-up period (86% at 3–6 months, 84% at 7–10 months, 78% at 11–14 months). Low-income eligible participants were more likely to receive postabortion LARC (65%) compared to low-income ineligible (6%) and higher-income (25%) participants (*p* < 0.05). Low-income eligible participants were also more likely to continue their baseline contraceptive method at each follow-up interval (84% at 3–6 months, 81% at 7–10 months, 76% at 11–14 months vs 53% to 44% to 34% for low-income ineligible and 70% to 61% to 52% for higher-income, *p* < 0.05).

Most participants (*n* = 292, 68%) stated they preferred to receive contraceptive counseling at the initial visit. Far fewer reported a different preferred time: 18 (4%) via telephone before or after clinic visits, 28 (7%) during the abortion visit, 34 (8%) at the follow-up visit, 5 (1%) did not want to discuss contraception during any abortion-related visit, 14 (5%) reported any time or multiple visits were best to discuss contraception, and 32 (7%) did not respond. There was no significant difference between program eligibility groups in preference for timing of contraceptive counseling (64% low-income eligible, 66% low-income ineligible, and 70% higher-income participants preferred contraceptive counseling at the initial visit, *p* = 0.4).

Overall, 34% of participants stated that contraceptive counseling changed their preference for which method to use and this did not differ by eligibility groups (41% low-income eligible, 34% low-

income ineligible, 31% higher-income, *p* = 0.2). Yet among those influenced by counseling, low-income ineligible and higher-income groups received less effective contraceptive methods than initially desired compared to the low-income eligible group (55% and 48%, respectively vs 10%, *p* < 0.05) and were less likely to receive more effective methods (0 and 5% vs 21%, respectively, *p* < 0.05) or the method they initially desired (45% and 47% vs. 69%, respectively, *p* < 0.05). Receipt of less effective methods was largely attributable to unmet desire for LARC; 94% of low-income ineligible and 89% of higher-income participants did not get their desired LARC method.

Most participants reported an excellent or very good rating for each of the four counseling items (Table 2). Over half (*n* = 220, 51%) reported excellent for all 4 measures. Counseling rating was not associated with program eligibility, age, parity, relationship status, education, or prior abortion (data not shown), nor with change in preference for post-abortion contraceptive method (37% highest counseling rating vs 32% lower rating, *p* = 0.28). The proportion of participants providing the highest rather than lower counseling rating was 56% among Whites, 58% among Blacks, 50% among Hispanic, and 33% among Others, *p* = 0.02.

Highest counseling rating, program eligibility, and postabortion LARC use were associated with postabortion contraceptive continuation at each of the 3 follow-up intervals. Older age and race and/or ethnicity were associated with contraceptive continuation in 2 of 3 follow-up intervals (Table 1). In unadjusted models, both counseling rating and postabortion LARC use were significantly associated with contraceptive continuation at each of the three follow-up intervals. After adjusting for age, counseling rating, race or ethnicity, and post-abortion LARC use, only the latter variable was significantly associated with contraceptive continuation across each follow-up interval (Table 3). Life table analyses demonstrate differences in contraceptive continuation by counseling rating were greatest for low-income eligible participants, less pronounced for higher-income ineligible participants at 1 year, and no different for low-income ineligible participants (Fig. 1). In hazard models adjusted for age and race or ethnicity, highest counseling rating was significantly associated with lower 1-year contraceptive discontinuation for low-income eligible participants (aHR 0.34, 95% CI 0.14, 0.81), but not for low-income ineligible (aHR 1.56, 95% CI 0.83, 2.91) and higher-income (aHR 0.73, 95% CI 0.47, 1.13) participants.

4. Discussion

In our study, most participants wanted to receive contraceptive counseling during their initial abortion visit. For many, counseling led to a change in preferred postabortion contraceptive method. Yet, program ineligible participants were less likely to receive their preferred method and ended up with less effective methods. High-quality contraceptive counseling rating and eligibility for and use of no-cost post-abortion LARC were each independently associated with 1-year contraceptive continuation. Yet, a high contraceptive counseling rating was only associated with 1-year postabortion contraceptive continuation for participants eligible for no-cost LARC. Our results suggest that in states such as Texas, the beneficial effect of counseling may be limited to those with access to affordable and effective contraceptive options.

Our results are consistent with other studies showing that the majority of abortion patients wanted contraceptive counseling and many are satisfied with the quality of counseling they received [15,19,24]. One-third of our study participants stated that counseling led them to change their preference for which post-abortion contraceptive method to use. This shift in preferences is similar to that reported among Texas postpartum patients [25]. Yet, compared to previous studies, we did not find high counseling satisfaction to be associated with contraceptive continuation among all participants [19,24,26]. Our results extend the current literature

Table 1
Baseline characteristics of participants who continued and discontinued post-abortion contraceptive method at each follow-up interval in Texas, 2014-2016*

	Baseline (n = 428)	3-6 month (n = 428)			7-10 month (n = 408)			11-14 month (n = 391)		
		Continue (n = 232)	Discon-tinue (n = 96)	p value	Continue (n = 202)	Discon-tinue (n = 117)	p-value	Continue (n = 169)	Discon-tinue (n = 133)	p-value
Age, mean ± sd	26.4 ± 5.5	26.6 ± 5.6	25.3 ± 4.4	p < 0.05	26.8 ± 5.7	25.3 ± 4.6	p < 0.05	26.5 ± 5.8	26.1 ± 5.1	p= 0.13
Race/Ethnicity, n (%)										
White	176 (41)	97 (42)	39 (41)		85 (42)	51 (44)		74 (44)	54 (41)	
Hispanic	141 (33)	86 (37)	32 (33)		78 (39)	34 (29)		61 (36)	42 (32)	
Black	57 (13)	29 (13)	10 (10)		26 (13)	12 (10)		24 (14)	14 (10)	
Other	53 (13)	20 (9)	15 (16)	p= 0.30	13 (6)	20 (17)	p = 0.02	10 (6)	23 (17)	p = 0.02
Relationship status, n (%)										
Single	103 (25)	49 (21)	29 (31)		39 (20)	34 (30)		33 (20)	40 (30)	
Relationship, not cohabiting	136 (32)	79 (35)	34 (37)		68 (35)	42 (37)		57 (35)	44 (33)	
Cohabiting	99 (24)	61 (27)	16 (17)		57 (29)	20 (18)		48 (29)	25 (19)	
Married	52 (12)	20 (9)	9 (10)		18 (9)	12 (10)		13 (8)	17 (13)	
Formerly married	29 (7)	18 (8)	5 (5)	p= 0.22	15 (8)	6 (5)	p= 0.10	14 (8)	6 (5)	p= 0.04
Education, n (%)										
<HS	33 (8)	20 (9)	6 (6)		17 (8)	6 (5)		15 (9)	5 (4)	
HS	114 (27)	64 (28)	31 (32)		54 (27)	36 (31)		43 (25)	37 (28)	
Some college	185 (43)	95 (41)	45 (47)		81 (40)	58 (50)		72 (43)	65 (49)	
College/Postgrad	96 (22)	53 (23)	14 (15)	p= 0.28	50 (25)	17 (14)	p= 0.08	39 (23)	26 (19)	p= 0.24
Parity, n (%)										
None	232 (54)	128 (55)	52 (54)		111 (55)	64 (55)		97 (57)	73 (55)	
One	85 (20)	42 (18)	23 (24)		39 (19)	28 (24)		31 (18)	32 (24)	
Two	67 (16)	39 (17)	10 (10)		33 (16)	13 (11)		25 (15)	16 (12)	
3+	44 (10)	23 (10)	11 (11)	p = 0.36	19 (9)	12 (10)	p = 0.53	16 (9)	12 (9)	p = 0.64
Prior abortion, n (%)										
None	154 (36)	86 (37)	31 (32)	p = 0.41	75 (37)	34 (29)	p = 0.14	61 (36)	46 (35)	p = 0.79
Program eligibility, n (%)										
Eligible	112 (26)	79 (34)	15(16)		74 (37)	17 (15)		68 (40)	21 (16)	
Ineligible	89 (21)	36 (16)	32 (33)		28 (14)	36 (31)		18 (11)	35 (26)	
Higher-income	227 (53)	117 (50)	49 (51)	p < 0.05	100 (50)	64 (55)	p < 0.05	83 (49)	77 (58)	p < 0.05
Postabortion LARC, n (%)										
Yes	134 (31)	120 (52)	11(11)		114 (56)	15 (13)		104 (62)	16 (12)	
No	294 (69)	112 (48)	85 (89)	p < 0.05	88 (44)	102 (87)	p < 0.05	65 (38)	117 (88)	p<0.05
Contraceptive counseling rating, n (%)										
Highest	-	132 (57)	43 (45)		116 (57)	51 (44)		99 (59)	60 (45)	
Lower	-	100 (43)	53 (55)	p = 0.05	86 (43)	66 (56)	p = 0.02	70 (41)	73 (55)	p=0.02

FPL: federal poverty level; HS: High School

* *3-6 months: 100 participants did not respond to item regarding continuation of contraceptive method provided after abortion; 7-10 months: 89 did not respond; 11-14 months: 89 did not respond p-values represent comparison of continuation vs. discontinuation for each category Program eligibility: Eligible: uninsured Travis County resident living ≤200% federal poverty level and eligible for no-cost LARC; Ineligible: uninsured and living ≤200% federal poverty level, but not a Travis County resident and ineligible for no-cost LARC; Higher-income: insured or living >200% federal poverty level and ineligible for no-cost LARC.

Table 2
Participant responses to four Interpersonal Quality of Family Planning (IQFP) measures

	Excellent	Very good	Good	Fair	Poor
How well did the counselor or physician do at:					
Letting you say what mattered to you about your birth control method					
	302 (71)	79 (18)	37 (9)	7 (2)	3 (1)
Giving you an opportunity to ask questions^a					
	305 (72)	76 (18)	33 (8)	5 (1)	4 (1)
Taking your preferences about birth control seriously^b					
	287 (67)	91 (21)	34 (8)	10 (2)	5 (1)
Giving enough information to make the best decision about your birth control method					
	278 (65)	97 (23)	42 (10)	6 (1)	5 (1)

All results reported are n, (%)

^a 5 missing responses;

^b 1 missing response.

Table 3
Odds of contraceptive continuation at each follow-up interval by highest counseling rating and post-abortion LARC use in Texas, 2014–106

Contraceptive continuation	Contraceptive counseling rating		Postabortion LARC use	
	Unadjusted OR (95% CI)	Adjusted OR ^a (95% CI)	Unadjusted OR (95% CI)	Adjusted OR ^a (95% CI)
3–6 months	1.63 (1.01, 2.62)	1.55 (0.92, 2.64)	8.28 (4.20, 16.32)	9.20 (4.54, 18.65)
7–10 months	1.75 (1.10, 2.76)	1.60 (0.95, 2.71)	8.81 (4.79, 16.20)	9.56 (5.02, 18.22)
11–14 months	1.72 (1.09, 2.72)	1.55 (0.90, 2.66)	11.70 (6.37, 21.48)	11.83 (6.29, 22.25)

^a Multivariable model includes age, race or ethnicity, contraceptive counseling rating, and post-abortion LARC use.

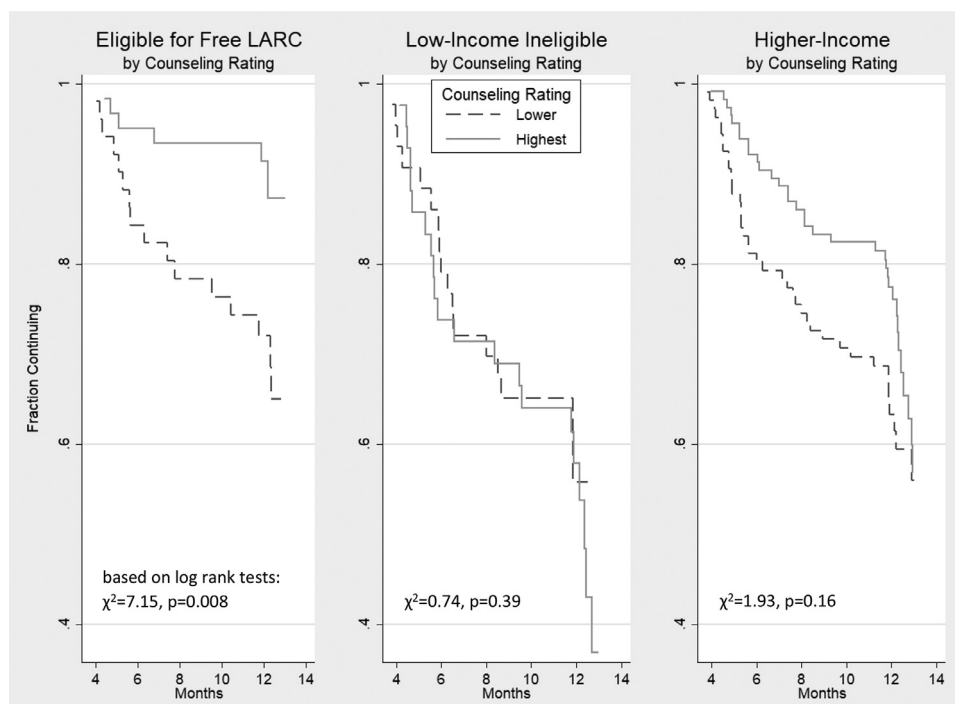


Fig. 1. Proportion of participants continuing post-abortion contraceptive method by program eligibility and contraceptive counseling rating. Program eligibility: Eligible for Free LARC: uninsured Travis County resident living $\leq 200\%$ federal poverty level and eligible for no-cost LARC; Low-Income Ineligible: uninsured and living $\leq 200\%$ federal poverty level, but not a Travis County resident and ineligible for no-cost LARC; Higher-income: insured or living $> 200\%$ federal poverty level and ineligible for no-cost LARC.

by demonstrating that counseling can have an impact if affordable contraception is available.

Strengths of our study include the prospective design with 1-year postabortion follow-up and a high retention rate. Our study adds to the limited and conflicting literature on desire for and optimal timing of contraceptive counseling among abortion patients [14,15]. Additionally, we were able to isolate the effect of accessibility to no-cost LARC from counseling which previous studies have not [19,20,24,27].

Our results may be limited by acceptability bias because all participants wanted contraception which may have overestimated desire for counseling. Additionally, the majority of participants may have stated a preference for contraceptive counseling at the initial visit because that is when they received it, but in states without a mandated waiting period a more convenient time may be identified. We may have assessed baseline contraceptive preferences for some participants prior to contraceptive counseling, so for those in whom counseling led to a preference change, our categorization for use of more or less effective methods than stated

at baseline may be inaccurate. Our study may be a limited comparison to the original study using the 11-item IQFP scale and a newer 4-item short form since not all measures were assessed in this study, but the items we included had the greatest correlation with patient-reported quality measures, assessed all 3 domains of patient-centered contraceptive counseling, and included 3 of the 4 items in the short form IQFP [19,28]. Interestingly, we found that Hispanic patients and those classified as Other were less likely to report the highest counseling rating suggesting the IQFP scale, or, alternatively the contraceptive counseling they received, may not adequately address their needs [29]. Lastly, we did not assess satisfaction with the contraceptive method used leading to the possibility that some LARC users selected this method because it was free and only continued use because of difficulty getting the device removed. Yet, contraceptive continuation in our study is similar to that reported in previous studies [24,27].

Our findings reinforce that access to affordable contraception may be the most important factor determining contraceptive continuation among those who do not want to become pregnant. The current political climate in Texas places barriers on access to affordable postabortion contraception. These restrictions mitigate the beneficial impact of patient-centered contraceptive counseling and have resulted in missed opportunities to provide Texas patients with the standard of care in providing immediate post-abortion contraception. As a result, Texas patients are prevented from exercising the ability to choose their desired method and to control their own reproductive health outcomes.

Declaration of Competing Interest

The authors declare no conflict of interest.

Funding

This work was supported by the Society of Family Planning Research Fund (grant number SFPRF7-6) and by grant, P2CHD042849, awarded to the Population Research Center at The University of Texas at Austin by the Eunice Kennedy Shriver National Institute of Child Health and Human Development. The findings and conclusions in this article are those of the authors and do not necessarily reflect the views of Planned Parenthood Federation of America, Inc.

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