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The effects of pre-abortion depressive symptoms on post-abortion contraceptive effectiveness level chosen among women seeking abortions

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Abstract

Objective—We examined whether pre-abortion depressive symptoms were associated with contraceptive method effectiveness level chosen among women seeking abortions.

Study Design—Three-hundred and forty-seven young, low income women 18 years or older who were seeking abortions at 3 community reproductive health clinics in Northern California were recruited to participate in a study on contraceptive decision-making. We classified women into choosing low, moderate, or high effectiveness contraceptive methods based on typical use failure rates. We used the CES-D to assess depressive symptoms as a continuous and dichotomous variable. Using the standard cut-off of 20, women who scored at or above this were considered depressed for the dichotomous measure. We used multinomial logistic regression to examine the association between pre-abortion depressive symptoms and contraceptive effectiveness level chosen to use after an abortion, adjusting for sociodemographics, abortion characteristics, pregnancy history, future pregnancy desires, relationship characteristics, and adverse experiences.

Results—After adjusting for covariates, we found that a one unit increase in depressive symptoms was associated with a higher likelihood of choosing low versus moderate (aOR = 1.05, 95% CI: 1.01 – 1.10, $p < .02$) and high effectiveness methods (aOR = 1.05, 95% CI: 1.002 – 1.10, $p < .05$). Furthermore, women scoring above the cut-off for depression were more likely to choose low versus moderate effectiveness methods (aOR = 4.56, 95% CI: 1.27 – 16.32, $p = .02$).

Conclusions—More pre-abortion depressive symptoms were independently associated with choosing low versus moderate and high effectiveness contraceptives.

Implications—These findings together with other findings show that pre-abortion depressive symptoms do not uniformly influence effectiveness level of contraceptive method selected to use

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after an abortion. Reproductive health care providers should consider the impact of women's psychological symptoms on their contraceptive decision-making.

Keywords

depressive symptoms; contraceptive choice; abortion care; level effectiveness

1. Introduction

Ninety-five percent of abortions are the result of an unintended pregnancy [1]. Women seeking abortions are at a higher risk for experiencing a subsequent unintended pregnancy than women seeking contraceptive services [2]. While 96% of abortion clinics offer contraception services [3], there is still a dearth of research on what factors influence women's contraceptive choices in the abortion care setting. Previous studies have found that factors such as younger age, lower education level, experience of intimate partner violence, having a desire for future pregnancy, and no history of abortion were associated with women's choice of less versus more effective contraceptive methods in abortion care settings [4–6]. Another factor that has been shown to be associated with contraceptive method effectiveness level selected to use after an abortion is pre-abortion depressive symptoms [7].

More than 14% of reproductive-aged women experience a major or minor depressive episode each year [8]. Nevertheless, only a handful of studies have examined the relationship between depression and contraceptive method effectiveness level selected among women seeking reproductive health services [7,9–14]. These studies have not consistently found similar results. Some studies have found that depressive symptoms were associated with choosing less effective contraceptive methods [11,13,14], while others have found that more depressive symptoms were associated with choosing more effective contraceptive methods [7,9,12]. Finally, others have found no association between depressive symptoms and the contraceptive method effectiveness level chosen [10,11]. Only one study has focused on the association between depressive symptoms and the effectiveness of contraceptive method choice in an abortion care setting [7].

Given the inconsistency in findings of these studies, the little research in this area, further examination of the association between women's depressive symptoms and effectiveness level of contraceptive method chosen is warranted. Because depressive symptoms are elevated just before an abortion compared to afterwards [15,16], women having abortions are at higher risk of having a subsequent unintended pregnancy [2], contraception is usually offered in the abortion care setting [3], and existing research suggests that women who have abortions in the US are more likely to have a history of depression than other women [17,18], it is particularly important to understand the association between pre-abortion depressive symptoms and contraceptive effectiveness level women choose to use after an abortion. By more clearly understanding this association, contraceptive counseling could be better tailored to women's individual needs. That is, specific counseling strategies or ways of interacting with patients may be better suited for women experiencing more depressive symptoms. Consequently, we investigated the independent association between pre-abortion depressive symptoms and the contraceptive method effectiveness level women seeking

abortion chose to use at three different community clinics, after considering a range of possible confounding factors including sociodemographics, abortion characteristics, pregnancy history, future pregnancy desires, relationship characteristics, and adverse experiences.

2. Materials and Methods

2.1. Participants

Women 18 years of age or older seeking surgical or medication abortions *not due* to fetal anomaly or a medical condition at three community reproductive health centers in Northern California between July 2012 and February 2013 were recruited to participate in a study on contraceptive decision-making. Women were remunerated \$15 for their participation.

2.2. Procedure

The self-administered questionnaire was answered at two time points during the abortion care visit. Women answered Part 1 of the questionnaire in waiting rooms before contraceptive counseling and the abortion, and then women completed Part 2 of the questionnaire after contraceptive counseling before leaving the clinic. Part 1 of the questionnaire assessed women's socio-demographics, current mental health, pregnancy history, recent and past adverse experiences, relationship characteristics, and future pregnancy desires. The question assessing women's main contraceptive method choice was included in Part 2. IRB approval was obtained for this study.

2.3. Measures

2.3.1. Outcome – Post-abortion Contraceptive Method Choice Effectiveness

Level—Contraceptive effectiveness level women selected to use after their abortion was defined based on responses to the following question in Part 2: “What is the **main** method of pregnancy prevention, if any, you plan to use in the next 6 months to prevent you from getting pregnant? (Please choose only one)”. The response options included the pill, the patch (Ortho Evra), the vaginal ring (Nuva Ring), the shot (Depo-Provera, injectable), implant (Implanon), Mirena (hormone IUD), ParaGard (copper IUD), condom or rubber (for partner), diaphragm, spermicide, emergency contraception (Plan B, Next Choice, Morning After pill), pulling out or withdrawal, rhythm method or natural family planning, abstinence (no heterosexual intercourse), tubal ligation (tying your tubes), I do not plan to use any method, and other, please specify. The effectiveness level of the intended contraceptive method choice post-abortion was categorized into three categories of low, moderate, and high effectiveness contraceptive methods based on typical use failure rates [19]. Methods with typical use failure rates greater than 10% were classified as low effectiveness (no methods, abstinence, and condom), those with failure rates between 1 to 10% were classified as moderate effectiveness (the pill, patch, vaginal ring, and shot), and those with failure rates less than 1% were classified as high effectiveness (implant, IUD, and male and female sterilization).

2.3.2. Main predictor – Depressive symptoms—Participants' depressive symptoms were assessed with the Center for Epidemiologic Studies Depression (CES-D) Scale [20,21]

on Part 1 of the questionnaire. The scale assessed how often (0= not at all, 1= Somewhat, 2= Quite a bit, and 3= extremely) women felt or experienced each of 20 items in the past 2 weeks. We created a continuous measure by summing values on the 20 items (possible range 0 to 60). Higher scores on the CES-D indicate more depressive symptoms or a higher degree of symptoms. We also created a dichotomous measure using the standard cut-off of 20 to categorize women into *elevated vs. not elevated depressive symptoms*. [21].

2.3.3. Covariates—Based on the literature [7,13,14,22,23], we included the following covariates: sociodemographics (age, race/ethnicity, education, and marital status), abortion characteristics (trimester at time of abortion, medication vs. surgical procedure), pregnancy history (prior number of abortions, prior number of childbirths), future pregnancy desires (importance of avoiding pregnancy in next year), relationship context (whether the woman had multiple sexual partners in past 6 months, whether her relationship with her most recent/current sexual partner was at least a year, whether the woman talks to her sexual partner about things that really matter, or whether her relationship with her sexual partner is very serious), and adverse experiences (any intimate partner violence in past 6 months, any reproductive coercion in past 6 months, and number of childhood adversities). A detailed description of how each covariate was measured may be found elsewhere [22].

2.4. Analysis

First, we examined the bivariate associations between (continuous) depressive symptoms and each of the covariates. Correlations were used for continuous variables, Student's t-tests for binary variables, and ANOVA F-tests for categorical variables with more than two categories. We also examined bivariate associations between contraceptive effectiveness level chosen and each of the covariates. We used chi-square tests for categorical variables and ANOVA F-tests for continuous variables. Then we conducted multinomial logistic regression analyses. We ran three models. Model 1 examined the unadjusted association between depressive symptoms and contraceptive effectiveness level chosen. Model 2 added the same covariates as those used in Steinberg et al. [7]—sociodemographics, trimester of abortion, importance of avoiding pregnancy in the next year, and prior pregnancies—in order to be able to directly compare models between studies. Model 3 added the covariates of type of abortion procedure, adverse experiences, whether the woman had multiple sexual partners in the past 6 months, whether the woman talks to her sexual partner about things that matter, and whether the relationship with her sexual partner is very serious to Model 2 because these were significantly related to depressive symptoms or contraceptive effectiveness level chosen at $p < .05$. We repeated the multinomial logistic regression models substituting the dichotomous measure of depressive symptoms for the continuous one. All analyses were conducted in IBM SPSS version 22 or 23.

3. Results

3.1. Sample Characteristics

Of 424 women presenting for abortion due to an unintended pregnancy at the three sites, we excluded 23 women who were missing data on contraceptive effectiveness level chosen ($n = 12$) or depressive symptoms ($n = 11$). Fifty-four women missing data on at least one of the

covariates used in the Model 3 were also excluded, leaving 347 for analysis. Descriptive information of the study sample has already been presented elsewhere (Steinberg et al. 2016). Briefly, the majority of women identified as non-white (73%), were never married (53%), had some education beyond high school (66 %), were having a first trimester (93%) and a surgical (68%) abortion, and strongly agreed that it was very important to avoid pregnancy in the next year (75%), and were 18 to 29 years old (73%). Fifty-three percent of participants were seeking abortion services for the first time and 51% reported having at least one child. The mean depression score was 23.3 (SD = 11.9), with scores ranging from 0 to 57. Fifty-eight percent (n= 203) of women were classified as depressed having depression scores at or above 20, while 42% (n=146) were classified as non-depressed. Thirty-eight percent of women (n = 132) in the sample selected a high effectiveness, 55% (n = 190) chose a moderate effectiveness, and 7% (n = 25) chose a low effectiveness contraceptive method post-abortion. Specific methods selected are presented in Table 1.

3.2. Bivariate association between covariates and depressive symptoms

Bivariate associations between covariates and depressive symptoms are presented in Table 2. The only demographic factor related to depressive symptoms was age. Women with more depressive symptoms were younger at the time of the abortion, $r = -.13$, $p = .02$. Those who experienced intimate partner violence and reproductive coercion had higher pre-abortion depressive symptoms than women who did not experience these adversities respectively, $F_s > 11.4$, p -values $< .001$, and women who experienced more childhood adversities had higher pre-abortion depressive symptoms, $r = .33$, $p < .0005$. Having fewer children was also associated with having more depressive symptoms, $r = -0.15$, $p = 0.007$.

3.3. Bivariate relationship between study variables and contraceptive effectiveness level chosen

Bivariate relationships between contraceptive method effectiveness level chosen and study variables are presented in Table 3. Depressive symptoms varied by contraceptive method level chosen. Women who chose low effectiveness methods had higher depressive symptoms than women who chose moderate or high effectiveness methods, p -values $< .05$.

3.4. Multinomial Regression Analysis

We examined the association between women's depression symptoms, using both a continuous and dichotomous measure, and the contraceptive effectiveness level selected in unadjusted and two adjusted multinomial regression models (Table 3). In the unadjusted model, using the continuous measure, a one-unit increase in depressive symptoms was associated with a higher likelihood of choosing low versus moderate (OR = 1.05, 95% CI: 1.02 – 1.09, $p = 0.004$) and high effectiveness contraceptive methods (OR = 1.05, 95% CI: 1.01 – 1.08, $p = 0.01$). Using the dichotomous measure, women above the cut-off were more likely to choose low versus moderate (OR = 4.63, 95% CI: 1.53 – 13.99, $p = 0.007$) and high effectiveness methods (OR = 3.41, 95% CI: 1.11 – 10.51, $p = 0.03$).

After controlling for covariates used in Steinberg et al. (2013), the associations remained significant and did not decrease (see Model 2 in Table 4). When we added the covariates of abortion type, multiple sexual partners, amount the woman talks to her partner about things

that matter, seriousness of relationship with partner, and adverse experiences (Model 3 in Table 4), we saw little to no change in the odds ratios for the continuous measure: a one unit increase in depressive symptoms was associated with choosing low vs. moderate effectiveness methods (aOR = 1.06, 95% CI: 1.01 – 1.11, $p = 0.01$) and with choosing low vs. high effectiveness methods (aOR = 1.05, 95% CI: 1.002 – 1.10, $p = 0.04$). Using the dichotomous measure (see Model 3 in Table 4), elevated depressive symptoms remained a significant independent predictor of low vs. moderate effectiveness methods (aOR = 4.56, 95% CI: 1.27 – 16.32, $p = 0.02$), and was a marginally significant predictor of low vs. high effectiveness methods (aOR = 3.09, 95% CI: 0.84 – 11.40, $p = 0.09$).

As seen in Table 5, the only other significant predictor of low vs. moderate effectiveness methods was having multiple versus one sexual partners in the past 6 months (aOR = 3.10, 95% CI: 1.09–8.81, $p = 0.03$). Significant predictors of choosing low vs. high effectiveness methods were being older (aOR = 1.14, 95% CI: 1.02–1.28, $p = 0.02$), having any intimate partner violence in the past 6 months (aOR = 3.28, 95% CI: 1.11–9.68, $p = 0.03$), and having multiple vs. one sexual partner in the past 6 months (aOR = 3.78, 95% CI: 1.28–11.22, $p = 0.02$).

4. Discussion

The present study found that more pre-abortion depressive symptoms were independently associated with choosing low versus moderate effectiveness methods and high effectiveness methods, after adjusting for a variety of covariates. While a one unit increase in depressive symptoms was associated with a 5% higher odds of choosing a low vs. high effectiveness method, a 25 unit increase was associated with a 340% higher odds of choosing a low vs. high effectiveness method. This means that a woman with a score of 35 on the CES-D would have 340% higher odds of choosing low vs high effectiveness methods than a woman with a score of 10. These results support some studies that have shown more depressive symptoms are associated with choosing less effective contraceptive methods [13]. However, they are in contrast to other study that also examined women presenting for abortions but found more pre-abortion depressive symptoms were associated with choosing more effective contraceptive methods [7].

These different findings show that depressive symptoms do not have a uniform effect on effectiveness level of contraceptive method chosen, even among women seeking abortions. The discrepant findings in the literature may be due to other factors that interact with depressive symptoms to influence contraceptive effectiveness level chosen but were not assessed. One such factor is the transient versus chronic nature of depressive symptoms experienced. For some women with higher depressive symptoms we may have been measuring transient distress due to the situation that would soon subside, but for others we may have been measuring something more akin to depression. Transient depressive symptoms due to the situation may lead women to actively cope with having an unwanted pregnancy by choosing more effective methods [24–26], while something more akin to depression may lead women to choose less effective methods as a result of inaccurate, negative beliefs about contraception or lack of motivation to prevent pregnancy [27,28]. To tease this out, future research could assess women's current and past depressive symptoms

since most experiencing a first depressive episode have at least one more episode during their lifetime [29]. Alternatively, contraceptive counseling practices or the patient-provider interaction may have differed for women with more or less depressive symptoms and this together produced different results. Future research should explore whether different contraceptive counseling practices interact with depressive symptoms to influence choice of more versus less effective contraceptive methods.

We found that multiple sexual partners predicted choice of low vs. moderate and high effectiveness methods. Women who have had sex with multiple people in the past 6 months may be less likely to be in a committed, long-term relationship. Such women may not believe there is a need to use moderate or high effectiveness contraceptive methods to prevent pregnancy because they do not envision engaging in frequent, regular heterosexual intercourse in the near future. Alternatively, having more sexual partners (even if less frequent sexual activity) may lead women to choose to use condoms more frequently than other types of contraception in order to protect themselves against *both* an unintended pregnancy *and* sexually transmitted infections.

We also found that age, number of prior abortions, and experiencing intimate partner violence predicted choice of low vs. high effectiveness methods. To our knowledge, we are the first to show that intimate partner violence experienced in the last 6 months was a significant independent predictor of choosing low vs. high effectiveness contraceptive methods among women seeking abortions. It is possible that women experiencing intimate partner violence in the past 6 months lack feelings of control, agency, or confidence around their reproductive decisions or fear their partner's reaction should he find out she is using a contraceptive method, thereby choosing low effectiveness or no methods rather than high effectiveness methods.

The current study has some limitations. First, we cannot rule out that other unmeasured confounding factors may be leading women to experience more depressive symptoms just before an abortion and choose low effectiveness methods. Second, as intimated above, it is not clear whether we are in fact assessing transient distress before an abortion or something more akin to depression that lasts for at least two consecutive weeks and usually for months at a time [26]. If related, we do not know why more depressive symptoms were associated with choosing low versus moderate and high effectiveness methods. Third, the convenience sample may limit the generalizability of our findings; however, the distribution of age, marital status, and trimester of abortion for the women in our sample are similar to those of U.S. women seeking abortions [30,31]. Finally, we do not know whether women actually initiated the selected method they said they planned to use in the next 6 months. Lack of access or other barriers may have prevented women from initiating the method they selected.

This study found that more depressive symptoms were significantly associated with choosing low versus moderate and high effectiveness methods, independent of a range of other factors. These findings combined with other literature on the topic cast doubt on the notion that more depressive symptoms uniformly influence women's contraceptive decisions in the abortion care setting. Thus, reproductive health providers should not assume that women experiencing more pre-abortion depressive symptoms will be more likely to choose

certain methods. Instead, tailoring practices to help all women, including those with more depressive symptoms, make contraceptive decisions that align with their situation, needs, and values is warranted.

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Table 1

Contraceptive methods selected (N = 347)

Method	Percent selected (N)
Low effectiveness	7.2 (25)
None	2.0 (7)
Condoms	5.2 (18)
Moderate effectiveness	54.8 (191)
Oral contraceptive pill	34.9 (121)
Transdermal patch	3.2 (11)
Vaginal ring	4.6 (16)
Injectable (DMPA) shot	12.1 (42)
High effectiveness	38.1 (134)
Intrauterine device	29.7 (103)
Contraceptive implant	6.6 (23)
Tubal ligation	1.2 (4)
Partner vasectomy	0.6 (2)

Table 2

Bivariate relationship between depressive symptoms (CESD score) and covariates (N=347)

	CESD Score	p-value
Sociodemographics		
Race (mean, SD)		0.60
White	22.0 (10.9)	
Black	23.3 (12.4)	
Hispanic	24.4 (12.8)	
Other	23.3 (11.6)	
Education (mean, SD)		0.45
Less than high school	21.0 (11.7)	
High school	22.7 (11.1)	
Some college	24.3 (12.0)	
College graduate or more	23.1 (12.7)	
Marital status (mean, SD)		0.39
Never married	24.1 (11.9)	
Cohabiting	22.5 (12.2)	
Married	20.8 (11.6)	
Separated/Divorced/Widowed	23.8 (11.4)	
Age (correlation)	-0.13	0.02
Abortion Characteristics		
Abortion trimester (Mean, SD)		0.28
First	23.4 (11.9)	
Second	20.6 (11.9)	
Abortion procedure		0.60
Surgical	23.1 (11.6)	
Medication	23.7 (12.5)	
Adverse Experiences		
Any Intimate Partner Violence in past 6 months (Mean, SD)		< 0.0005
Yes	27.5 (11.7)	
No	21.1 (11.5)	
Any Reproductive coercion in past 6 months (Mean, SD)		0.001
Yes	28.2 (11.8)	
No	22.3 (11.7)	
Number of childhood adversities (correlation)	0.33	<0.0005
Relationship Characteristics		
Multiple sexual partners in past 6 months (Mean, SD)		0.09
Yes	25.2 (10.6)	
No	22.7 (12.3)	
Relationship for more than a year (Mean, SD)		0.96
Yes	23.2 (12.0)	
No	23.3 (11.8)	

	CESD Score	p-value
Talk very much with partner about things that matter		0.001
Yes	21.6 (11.7)	
No	25.8 (11.8)	
Talk about very serious things with partner		0.01
Yes	21.8 (12.0)	
No	25.0 (11.5)	
Previous Pregnancies		
Number of prior abortions (correlation)	−0.07	0.18
Number of childbirths (correlation)	−0.15	0.007
Future Pregnancy Desires		
Very important to avoid pregnancy in next year (Mean, SD)		0.23
Strongly agree	22.8 (11.8)	
Do not strongly agree	24.6 (12.1)	

Table 3

Bivariate relationship between contraceptive effectiveness level choice and study variables (n = 347)

	Low effectiveness (N = 25)	Moderate effectiveness (N = 191)	High effectiveness (N = 134)	p-value
Sociodemographics				
Race (%)				0.53
White	20.0	28.9	26.5	
Black	36.0	17.4	21.2	
Hispanic	24.0	30.0	28.0	
Other	20.0	23.7	24.2	
Education (%)				0.80
Less than high school	4.0	10.5	12.9	
High school	28.0	22.1	23.5	
Some college	52.0	43.7	41.7	
College graduate or more	16.0	23.7	22.0	
Marital status (%)				0.45
Never married	68.0	53.7	47.0	
Cohabiting	16.0	27.4	28.8	
Married	4.0	10.0	13.6	
Separated/Divorced/Widowed	12.0	8.9	10.6	
Age (Mean, SD)	26.8 (6.3)	26.0 (6.1)	26.0 (6.1)	0.83
Abortion Characteristics				
Abortion trimester (%)				0.05
First	84.0	95.8	91.7	
Second	16.0	4.2	8.3	
Abortion procedure (%)				0.02
Surgical	72.0	62.1	76.5	
Medication	28.0	37.9	23.5	
Adverse Experiences				
Intimate Partner Violence in past 6 months (%)				0.05
Yes	56.0	34.2	30.3	
No	44.0	65.8	69.7	
Reproductive coercion in past 6 months (%)				0.61
Yes	16.0	14.7	18.9	
No	84.0	85.3	81.1	
Number of childhood adversities (Mean, SD)	3.7 ^a (1.7)	2.5 ^b (2.2)	2.8 ^{ab} (2.0)	0.02
Relationship Characteristics				
Multiple sexual partners in past 6 months (%)				0.003
Yes	52.0	22.6	20.5	
No	48.0	77.4	79.5	
Relationship for more than a year (%)				0.53
Yes	60.9	63.1	68.7	

	Low effectiveness (N = 25)	Moderate effectiveness (N = 191)	High effectiveness (N = 134)	p-value
No	39.1	36.9	31.3	
Talk very much with partner about things that matter				.95
Yes	60.0	61.6	59.8	
No	40.0	38.4	40.2	
Talk about very serious things with partner				.26
Yes	40.0	57.4	54.5	
No	60.0	42.6	45.5	
Previous Pregnancies				
Prior abortions (mean, SD)				0.24
None	64.0	55.8	48.5	
One or more	36.0	44.2	51.5	
Childbirth (%)				0.03
None	56.0	53.7	39.4	
One or more	44.0	46.3	60.6	
Future Pregnancy Desires				
Very important to avoid pregnancy in next year (%)				0.03
Yes (strongly agree)	60.0	72.1	81.8	
No (do not strongly agree)	40.0	27.9	18.2	
Depressive symptoms				
Continuous (mean, SD)	30.0 ^a (9.4)	22.4 ^b (11.8)	23.2 ^b (12.2)	0.01
Dichotomous (% at or above cutoff of 20)	84.0	53.2	60.6	0.01

Notes. Means with different superscripts are significantly different at $p < .05$ by Tukey's Honestly significant different pairwise test.

Table 4

The unadjusted and adjusted relationship between depressive symptoms and the effectiveness levels of contraceptive method choice (N=347)

Depressive symptoms	Low vs. moderate effectiveness methods			Low vs. high effectiveness methods		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Continuous measure	1.05 (1.02–1.09)	1.06 (1.02–1.11)	1.06 (1.01–1.11)	1.05 (1.01–1.08)	1.05 (1.01–1.09)	1.05 (1.002–1.10)
Dichotomous measure	4.63 (1.53–13.99)	5.80 (1.73–19.45)	4.56 (1.27–16.32)	3.41 (1.11–10.51)	3.76 (1.10–12.87)	3.09 (0.84–11.40)

Model 1 is unadjusted. Model 2 adjusts for sociodemographics, trimester of abortion, prior pregnancies, and importance of avoiding pregnancy in the next year. Model 3 adjusts for the same factors in Model 2 plus type of abortion (surgical vs. medication), multiple sexual partners in the past 6 months, and adverse experiences.

Table 5

Significant predictors (OR and 95% CI) of low vs. moderate and high effectiveness contraceptive methods (N = 347).

	Low vs. Moderate Effectiveness	Low vs. High Effectiveness
Depressive symptoms (continuous)	1.06 (1.01–1.11)	1.05 (1.002–1.10)
Sociodemographics		
Age	1.08 (0.97–1.21)	1.14 (1.02–1.28)
Relationship characteristics		
Multiple sexual partners	3.10 (1.09–8.81)	3.78 (1.28–11.22)
Adversities		
Intimate partner violence	2.15 (0.75–6.15)	3.28 (1.11–9.68)

Other covariates in the model that were not significant predictors include race/ethnicity, marital status, education level, number of children, number of prior abortions, trimester of abortion, type of abortion (medication vs. surgical), importance of avoiding pregnancy in the next year, any reproductive coercion in past 6 months, and total number of childhood adversities.