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Contraceptive Counseling and Use Among Women with Systemic Lupus Erythematosus: A Gap in Health Care Quality?

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Abstract

Objectives—Disease activity and medication use can complicate pregnancies in SLE. We therefore examined contraceptive counseling and use among women in the University of California, San Francisco Lupus Outcomes Study.

Methods—In 2008, we queried participants regarding their pregnancy intentions, contraceptive use, and receipt of contraceptive counseling. Premenopausal women <45 years who were sexually active with men were considered at risk of pregnancy. We compared self-reported rates of contraceptive counseling and use, stratified by treatment with teratogenic medications, and by history of thrombosis or antiphospholipid antibodies (aPL), using chi-square tests. We used logistic regression models to examine predictors of contraceptive counseling and use.

Results—Among 206 women, 86 were at risk for unplanned pregnancy. Most (59%) had not received contraceptive counseling in the last year; 22% reported inconsistent contraceptive use, and 53% depended solely on barrier methods. Intrauterine contraceptives (IUDs) were used by 13%. Women using potentially teratogenic medications were no more likely to have received contraceptive counseling, to use contraception consistently, or to use more effective contraceptives. History of thrombosis or aPL did not account for low rates of hormonal methods. Four women with a history of thrombosis or aPL were using estrogen-containing contraceptives.

Conclusions—Most women at risk for unplanned pregnancy reported no contraceptive counseling in the past year, despite common use of potentially teratogenic medications. Many relied upon contraceptive methods with high failure rates; few used IUDs. Some were inappropriately using estrogen-containing contraceptives. These findings suggest the need to improve provision of contraceptive services to women with SLE.

Systemic lupus erythematosus (SLE) disproportionately affects women of reproductive age, making issues surrounding pregnancy and contraception an important part of clinical care for this population. Although individuals with SLE have an increased risk of complications during pregnancy, growing evidence suggests that carefully planned pregnancies that occur during times of disease quiescence may portend better outcomes for both the mother and fetus (1–3). In addition, because many medications used to treat SLE have significant

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teratogenic potential, use of effective contraception is imperative when pregnancy is not planned.

In recent years, the approach to contraception in SLE has seen significant progress, largely because of important clinical trials demonstrating that many contraceptive methods are safe in this patient population. Previous research had suggested that hormonal agents might increase the risk of disease flares (4, 5). However, two randomized trials found no increase in flares in those without severe disease flares at study entry (6, 7). A recent systematic review also concluded that available evidence suggests that benefits of use outweigh potential risks for most contraceptive methods in women with SLE (8).

Given these advances in understanding the safety of contraceptive options for women with SLE and growing evidence that carefully planning for pregnancy to occur during times of disease quiescence improves maternal and fetal health outcomes (3), we investigated both the use of contraceptives and the receipt of contraceptive counseling in a large, observational study of women with SLE.

Methods

Study Population

Data derive from the sixth annual wave (2008–2009) of the University of California, San Francisco Lupus Outcomes Study (LOS), a prospective observational study of 957 English-speaking individuals with SLE. Details on study methodology have been reported previously (9). Briefly, subjects participated in an annual standardized telephone interview that averages 50 minutes in length and consists of validated measures of SLE disease activity and manifestations, general physical and mental health status, disability, employment, service utilization, and sociodemographic characteristics (9). Recruitment for the LOS occurred in several settings in an attempt to capture the full spectrum of SLE, including academic rheumatology offices (25%), community rheumatology offices (11%), and non-clinical sources, including patient support groups and conferences (26%), and other forms of media (38%). All patients had a diagnosis of SLE from a physician, and these diagnoses were confirmed by a formal review of the medical record to document American College of Rheumatology criteria for SLE (10).

Measures

Pregnancy planning or intention among women <45 years was assessed using a validated item: “Which of the following best describes your situation over the past three months? Trying to get pregnant, wouldn’t mind getting pregnant, trying to avoid getting pregnant, or does this not apply to you?” (11, 12). Individuals who responded that this question did not apply to them were then queried: “Is that because you are not sexually active with men, because you cannot become pregnant, because your partner has been surgically sterilized, or for some other reason?”

Among individuals at risk for pregnancy based on these survey items, we assessed the frequency of contraceptive use (never, sometimes, always), as well as the type of contraception used during the past three months (combined oral contraceptive, mini-pill/progestin only, patch, implant, ring, injection, spermicide, barrier method, intrauterine devices (IUD), rhythm method or withdrawal). To assess the receipt of contraceptive counseling, individuals were asked, “In the last year, have you received counseling regarding birth control from your doctor or another health care provider?”

Reproductive histories were assessed in all six waves of the LOS. In the baseline interview, conducted in 2002–2003, individuals provided historical information regarding their

reproductive histories, including total number of pregnancies and pregnancy outcomes (number of live births, early miscarriages (in the 1st trimester), late miscarriages/stillbirths, tubal or ectopic pregnancies, and induced abortions). This information was updated during each annual interview. In addition, individuals provided information about their menopausal status and whether or not they had undergone a hysterectomy.

Respondents were also queried regarding their age, race/ethnicity (Caucasian, Latino, African-American, Asian/Pacific Islander, Other), education (high school education or less, some college/vocational/associate's degree, baccalaureate degree or above), marital status, disease duration, and medication use. SLE disease activity was measured by the Systemic Lupus Activity Questionnaire (SLAQ), a validated self-report measure that ranges from 0 (no disease activity) to 44 (maximum disease activity) (13, 14). To identify potential teratogen use, we considered current use of all non-glucocorticoid immunosuppressive medications used to treat SLE (methotrexate, mycophenolate mofetil, azathioprine, cyclosporine, tacrolimus, leflunomide, cyclophosphamide, or biologic agent). Plaquenil was not included given growing evidence of its safety in SLE pregnancies (15–18).

Lastly, because anti-phospholipid antibodies (aPL) or thrombosis can influence decisions regarding contraception, we obtained information on these factors for participants in the study at risk for unplanned pregnancy. A history of thrombotic events (stroke, myocardial infarction, deep venous thrombosis, pulmonary embolism, retinal vein thrombosis, or other events) was obtained as part of the baseline questionnaire. Each reported event was confirmed by review of the medical record by trained abstractors working with a rheumatologist. In addition, our trained abstractors reviewed medical records for unreported thrombotic events, working with a rheumatologist who adjudicated events when questions arose. Similarly, aPL status (anticardiolipin IgG or IgM (aCL), lupus anticoagulant (LAC), and beta-2-glycoprotein-1 IgG or IgM (B2GP1) was obtained from this review; aPL status was available for 66% of patients and was considered present if at least one of the above tests were positive.

Statistical Analysis

We report the sociodemographic characteristics, SLAQ scores and reproductive histories of the cohort of women enrolled in the LOS who were <45 years at the time of the interview. Using chi-square tests, we compared rates of contraceptive counseling and use, stratified by treatment with potentially teratogenic medications. Next, we examined contraceptive use in three subsets of women: 1) those with a history of confirmed thrombosis, 2) those with aPL but no thrombosis, and 3) those with neither of the above, using chi square tests to see if a history of thrombosis or aPL was associated with the use of effective contraception.

Using univariate logistic regression models, we examined predictors of two outcomes: use of effective contraceptives (any hormonal method or IUD) and receipt of contraceptive counseling in the past year. Predictors examined include sociodemographic characteristics (age, race/ethnicity, education, marital status), use of potentially teratogenic medications, SLAQ score, health care utilization (measured as one or more visits to a primary care provider, rheumatologist, or obstetrician/gynecologist in the last year), prior pregnancy, and prior induced abortion. Finally, we constructed multivariate logistic regression models using significant predictors from the univariate analyses to examine receipt of contraceptive counseling and use of effective contraception.

All data were analyzed using STATA 10.0 (StataCorp, College Station, TX). The research protocol was approved by the University of California San Francisco Committee on Human Research. All participants gave their informed consent to be part of the study.

Results

A total of 715 women participated in the sixth annual LOS interview, 222 of who were women of reproductive age (19–44 years). The sociodemographic characteristics of the women are listed in Table 1. A majority of women reported previous pregnancies (75% of women 19–44 years) (Table 2). Of the 409 pregnancies among women 19–44 years (mean pregnancies per woman 2.9, SD 1.8, range 1–12), 265 resulted in a live birth (mean live births per woman 1.8, SD 1.3, range 0–6), while 61 resulted in an early miscarriage (mean miscarriages per woman 0.4, SD 0.9, range 0–5), six resulted in a late miscarriage, seven were ectopic pregnancies, and 57 resulted in induced abortions (mean abortions per woman 0.4, SD 0.8, range 0–4).

Table 3 describes pregnancy risk, receipt of contraceptive counseling and contraceptive use among women in the LOS. Of the 222 women <45 years, data on contraceptive use and counseling was available for 206 (16 individuals had missing responses on this series of questions). Slightly over half of the 206 women <45 years were not at risk for unplanned pregnancy because they were postmenopausal (12%), had no male partner or had a partner who had undergone surgical sterilization (21%), or for some other medical or surgical reason such as previous hysterectomy or bilateral tubal ligation (21%). Therefore, 92 women (45%) were at risk for pregnancy of whom six were either pregnant or trying to become pregnant and 75 were trying to avoid pregnancy. In addition, 11 patients responded that "they wouldn't mind" becoming pregnant, but were not actively planning pregnancy. These patients were also considered at risk for unplanned pregnancy.

Among the 86 women at risk for unplanned pregnancy, most reported always using contraception (78%) during the past three months. A majority of women reported using only barrier methods (53%), while 22% used hormonal methods and 13% used IUDs. Most women at risk for unplanned pregnancy had not received contraceptive counseling from a healthcare provider in the last year (59%). Rates of contraceptive counseling were similar among the subset of women who were currently taking potentially teratogenic medications (63% reported no counseling). There were no statistically significant differences with regard to receipt of contraceptive counseling, frequency of contraception use, or type of contraception use ($p>0.05$) between women who were taking or not taking potentially teratogenic medications. Of the women taking potentially teratogenic medications at the time of interview, the majority were using mycophenolate mofetil (59%), with smaller numbers using other medications, including calcineurin inhibitors (22%), azathioprine (11%), and methotrexate (9%). One individual was using etanercept, and one individual was using abatacept. The individuals taking medications with higher potential for fetal harm (mycophenolate mofetil and methotrexate) were equally likely to be using effective contraception (only 25% of these women reported use of hormonal methods or IUDs).

In Table 4, we report univariate predictors of 1) the use of effective contraception (any hormonal method or IUD) and 2) the receipt of contraceptive counseling, among women at risk for unplanned pregnancy. In unadjusted models, Caucasians were more likely to use effective contraception compared to other racial/ethnic groups, and individuals who visited an obstetrician/gynecologist at least once in the last year were more likely to both use effective contraception and receive contraceptive counseling. In multivariate models examining use of effective contraception that adjusted for both race/ethnicity and obstetrics/gynecology visits, the findings remained unchanged (OR for non-Caucasians 0.37, 95% CI 0.14–0.95; OR for obstetrics/gynecology visit 3.20, 95% CI 1.03–9.91). In multivariate models examining receipt of counseling that adjusted for both history of a previous pregnancy and visiting an obstetrician/gynecologist, only the latter remained a significant

predictor of receiving contraceptive counseling (OR for previous pregnancy 2.02, 95% CI 0.80–5.14; OR for obstetrics/gynecology visit 3.46, 95% CI 1.12–10.74).

Finally, we examined the use of contraceptives in women with a history of confirmed thrombosis and/or with aPL, since these factors may influence the choice of contraceptive method (Table 5). Of the 86 women at risk for unplanned pregnancy, 11 had a history of thrombosis, and of these, most were using barrier methods (n=8), while one individual used an IUD. Two individuals with a history of thrombosis were using an estrogen-containing contraceptive (one individual had a history of stroke, and one individual had a history of both stroke and myocardial infarction). Among 24 women with a history of aPL but no thrombotic events, most were using barrier methods (n=10) or no contraception (n=6), while two used estrogen-based contraceptives, two used progestin-only methods, and four reported using an IUD. Because we were interested in investigating whether the presence of thrombosis or aPL was driving the high use of barrier methods in the cohort, we compared those with and without a history of thrombosis or aPL with regard to contraception method use. These groups had similar rates of hormonal contraceptive use ($p>0.05$).

Discussion

In this large, observational study of women with SLE, we found that a minority of women with SLE at risk for unplanned pregnancy reported receipt of contraceptive counseling or use of effective contraception. Although many women reported always using contraception (78%), most reported use of barrier methods, which have 1-year failure rates with typical use that range from 15–32% (19). Barrier methods were the most common form of contraception even in the subset of women without a history of thrombosis or aPL. In addition, we found that an important predictor of both contraceptive counseling and use was involvement of an obstetrician/gynecologist in clinical care.

Although ours is the first study to investigate the receipt of contraceptive counseling among women with SLE, our findings regarding contraceptive use are consistent with two recent studies. In a U.S. study performed in an SLE referral clinic, barrier methods were also the most commonly used form of contraception (47%), followed by estrogen-containing contraception (24%). Use of intrauterine devices was low (4%) (20). In a Finnish study that compared women with SLE under the age of 46 from a hospital registry to population controls, those with SLE were more likely to use IUDs than population controls (13 versus 5%), but less likely to use oral contraceptives (18 versus 28%) (21). Similar to our findings, these studies suggest that use of effective contraception by women with SLE is relatively low.

Unintended pregnancies, whether they are mistimed or unwanted, are especially problematic for women with SLE. While the Institute of Medicine has documented many negative social and economic consequences of unintended pregnancy (22), women with SLE and their fetuses may face unique negative health consequences. Women with active disease in the first trimester have an increased risk of pregnancy loss, particularly stillbirth (3). One study found that proteinuria or thrombocytopenia in the first trimester increased the risk for pregnancy loss to nearly 40% (23). Several studies have shown that patients with active lupus nephritis have a significantly increased risk for pregnancy loss, preterm birth and pre-eclampsia (1, 2). In addition, another important finding that has emerged from the literature is that inactive disease in the six months prior to conception portends a good prognosis; women with inactive disease are dramatically less likely to flare during pregnancy than those with moderate/severe disease (8% versus 58%) (3, 24, 25). Therefore, patients with SLE should be encouraged to carefully time pregnancy to coincide with periods of prolonged disease quiescence.

Another factor complicating unintended pregnancies in SLE is the risk to the fetus of exposure to potentially teratogenic medications. Among the 86 women at risk for unintended pregnancy in our study, over half were taking potentially teratogenic medications. Even among this subgroup, only a minority of patients reported receipt of contraceptive counseling in the last year and few were using effective contraceptives. Contraceptive counseling during clinical care is the main approach to reducing the risk of unintended pregnancy, and has previously been advocated by the U.S. Preventive Services Task Force for the general population (26). Although studies comparing the effectiveness of contraceptive counseling techniques for women with SLE are needed (27, 28), at least one large study demonstrates that counseling increases the use of effective contraception in the general population (29). In SLE, we have recently developed a quality measure specifying that contraceptive counseling should be documented in the medical record of all women at risk for pregnancy who are initiating potentially teratogenic medications (30). Our findings suggest that patients with SLE have significant unmet needs for contraceptive counseling and should be targeted for quality improvement.

In response to the growing literature regarding pregnancy risks in SLE, the Centers for Disease Control (CDC) recently adapted the World Health Organization's (WHO) medical eligibility criteria (MEC) for contraceptive use and highlighted SLE as a condition in which unintended pregnancy may pose an unacceptable health risk (31, 32). The report states that women with SLE "should be advised that sole use of barrier methods for contraception and behavior-based methods of contraception may not be the most appropriate choice because of their relatively higher typical-use rates of failure." Current literature suggests that all available barrier methods have high one-year failure rates with typical use (male condom: 15%, female condom: 21%, diaphragm with spermicide: 16%, cervical cap and sponge: 16% in nulliparous women and 32% in parous women). This contrasts with much lower failure rates with typical use seen with hormonal contraceptives (8% for the patch, ring, and progestin-only or combination estrogen-progestin pills, and 3% for Depo-Provera). The lowest failure rates are achieved with IUDs (<0.8% for copper T, and 0.2% for levonorgestrel-IUD) and Implanon (0.05%) (19).

A history of thrombosis or aPL can narrow contraceptive options in women with SLE. Previous thrombosis is a contraindication for the use of estrogen-containing contraceptives (31). Two women in our sample, both with a history of documented thrombosis (stroke and myocardial infarction), reported inappropriate use of estrogen-containing contraceptives. In women without a history of thrombosis, but with aPL, the CDC MEC also advises consideration of alternatives to estrogen-containing contraceptives (31). Two women in our sample with a history of documented aPL but no previous thrombosis reported use of estrogen-containing contraceptives. Future studies are needed to further evaluate the prevalence of such inappropriate medication use in SLE. Given growing national attention to the larger human and economic consequences of medication-related problems in the United States (33), creating tools to minimize these problems is a priority, and may provide an opportunity to decrease adverse events in patients with SLE.

Although estrogen-containing contraceptives are contraindicated for women with a history of thrombosis or aPL, other contraceptive methods can be recommended for this group of women (34). First, progestin-only methods (pills, injections, implants, or IUDs) do not increase the risk of thrombosis in the general population. However, a small increased risk in women with SLE can not be definitively ruled out, given that sufficiently powered, controlled studies in women with SLE or a history of aPL or thrombosis are lacking (8, 35). One randomized trial that did not exclude women with a history of aPL reported four thrombotic events, two in women taking combined hormonal contraceptives, and two in women taking progestin-only contraceptives (with no events in the copper-IUD group); all

women with a thrombotic event had low titer aPL (between 26 and 33% of women were aPL positive at baseline) (6). However, these findings are difficult to interpret given that the trial was not powered to detect adverse events. An international, multicenter, case-control study sponsored by the WHO in the general population found that the lower doses of hormones used in currently available progestin-only contraceptives do not significantly influence hemostasis (36). Two additional studies, including a recent national cohort study that examined a variety of progestin-only methods, including the levonorgestrel-containing IUD, also found no additional risk of thrombosis (37, 38).

Although this data provides some reassurance, because women with a history of thrombosis were not specifically studied (or were excluded) from these studies, direct extrapolation to women with SLE and aPL or thrombosis is not possible. Still, when the adverse health effects and increased thrombotic risks related to pregnancy itself are considered, it is likely that the benefits of progestin-only contraceptives outweigh the theoretical risk for most women with SLE. Of the progestin-only methods, the levonorgestrel-containing IUD results in the lowest blood levels of hormone, and like all hormonal methods, has the additional benefit of decreasing menstrual blood flow. Lastly, the copper-IUD is considered a safe method for all women with SLE. Previous concerns about an increased risk of infection in immunocompromised patients appear unfounded (8).

A strength of this study is that we applied a detailed survey algorithm to precisely define the population of women with SLE at risk for unplanned pregnancy. We included only women 44 years of age and younger who were pre-menopausal, while excluding all women who were not sexually active with men at the time of the interview and those reporting medical or surgical infertility in either themselves or their male partners. Although recall bias is possible in our study, patient self-report may be a preferrable method for obtaining information about receipt of contraceptive counseling, since counseling is often not included in the medical record (and if included, does not mean that the patient understood or internalized the information provided) (39–41). Underreporting of unintended pregnancies and induced abortions has been found in other surveys (42, 43); it is therefore likely that only half of the unintended pregnancies and induced abortions that occurred for women in the LOS were captured. Only two-thirds of our sample had aPLs available, so we cannot rule out underascertainment of inappropriate estrogen use. Limitations of our study include the cross-sectional design, which precludes the demonstration of causal relationships between contraceptive counseling and use, and limited sample size, which did not allow us to build more comprehensive multivariate models in our analysis of contraceptive use and counseling. In addition, our findings may not be generalizable to other patient populations with SLE. In particular, although our study consisted of a diverse patient population, non-English speaking individuals were excluded. Also, participants in the LOS have a relatively high level of educational attainment; women with lower educational levels may be even less likely to use effective contraception (44).

In summary, we found that most women with SLE at risk for unplanned pregnancy reported no contraceptive counseling in the past year, despite common use of potentially teratogenic medications. Many women relied on contraceptive methods with relatively high failure rates and few used IUDs, a method offering effective, reversible contraception without increasing vascular risk. More generous prescription drug coverage policies that reduce out-of-pocket payments for contraceptives, particularly IUDs, have significant potential to increase their use, and should be considered for women with SLE (45, 46). Four women with a history of thrombosis or aPL were inappropriately taking estrogen-containing contraceptives, suggesting a potential opportunity for quality improvement in this group. Seeing an obstetrician/gynecologist significantly increased the odds of receiving contraceptive counseling. Facilitating women’s access to a family planning specialist may therefore be an

important mechanism to increase contraceptive counseling and use. However, inter-specialty differences also suggest a need for rheumatologists, generalists, or other specialists caring for individuals for SLE to include contraceptive counseling in routine clinical care.

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Table 1

Sociodemographic characteristics of women <45 years with SLE.

Characteristic	Women <45 years n=222 (%)
Age, *mean ± SD (range)*	36 ± 6 (19–44)
Disease duration, *mean ± SD (range)*	13.5 ± 6 (1–30)
Race/ethnicity, *n(%)*	
Caucasian	98 (44)
Latino	25 (11)
African-American	32 (14)
Asian/Pacific Islander	37 (17)
Other	30 (14)
Education, *n(%)*	
≤High school graduate	33 (15)
Some college/vocational	79 (36)
College degree	110 (50)
Marital status, *n(%)*	
Married/living with partner	124 (56)
Not married	98 (44)
SLE activity (SLAQ† score), *mean ± SD (range)*	9.8 ± 7 (0–38)

SLAQ=Systemic Lupus Activity Questionnaire.

Table 2

Reproductive histories of women <45 years with SLE (n=715).

Characteristic, *n(%)* or *n, mean ± SD (range)*	**n=222**
Hysterectomy	24 (11)
Ever pregnant	142 (75)
Total pregnancies among those ever pregnant	409, 2.9 ± 1.8 (1–12)
Live Births	265, 1.8 ± 1.3 (0–6)
Early miscarriages	61, 0.4 ± 0.9 (0–5)
Ectopic pregnancies	7, 0.05 ± 0.2 (0–1)
Late miscarriages or stillbirths	6, 0.04 ± 0.2 (0–1)
Induced abortions	57, 0.4 ± 0.8 (0–4)

Table 3

Pregnancy risk, contraception and contraceptive counseling among women with SLE under age 45.

Characteristic	Women <45 years	Women <45, on potentially teratogenic medications
Pregnancy Risk and Intention	N=206	n=116
Not at risk for pregnancy	114 (55%)	67 (58%)
Postmenopausal	24 (12%)	14 (12%)
No male partner/partner sterilized	46 (22%)	29 (25%)
Other medical or surgical reason *	44 (21%)	24 (21%)
At risk for pregnancy	92 (45%)	49 (42%)
Pregnant	3 (1%)	0 (0%)
Trying to become pregnant	3 (1%)	3 (3%)
Not trying to become pregnant †	86 (42%)	46 (40%)
Contraceptive Use and Counseling Among Women at Risk for Unintended Pregnancy	n=86	n=46
At risk for unplanned pregnancy	86 (42%)	46 (40%)
Frequency of contraceptive use in past three months		
Never	10 (12%)	6 (13%)
Sometimes	9 (10%)	6 (13%)
Always	67 (78%)	34 (74%)
Methods of Contraception in past three months		
None	10 (12%)	6 (13%)
Barrier method only	46 (53%)	28 (61%)
Hormonal method ‡	19 (22%)	9 (20%)
IUD	11 (13%)	3 (7%)
Contraceptive counseling in past year		
No	51 (59%)	29 (63%)
Yes	35 (41%)	17 (37%)

* Medical or surgical reasons (including bilateral tubal ligation or hysterectomy).

† includes 11 women who reported that “they wouldn’t mind” becoming pregnant.

‡ Combined oral contraceptive, mini-pill/progestin only, patch, implant, ring, injection.

Table 4

Univariate predictors of use of effective contraception* and receipt of contraceptive counseling among women with SLE at risk for unplanned pregnancy.

Characteristic	n	Use of effective contraception* Odds ratio (95% CI)	Receipt of contraceptive counseling Odds ratio (95% CI)
Age (per year)	86	0.99 (0.92–1.08)	0.97 (0.90–1.04)
Non-Caucasian (vs. Caucasian)	50	**0.39 (0.2–0.98)**	0.62 (0.26–1.5)
College degree (vs. less education)	56	1.12 (0.83–1.5)	1.61 (0.64–4.06)
Not married (vs. married/living with partner)	39	0.72 (0.29–1.76)	1.24 (0.52–2.95)
Taking teratogenic medication	46	0.43 (0.17–1.06)	0.72 (0.30–1.70)
SLAQ score	86	0.97 (0.92–1.05)	0.96 (0.90–1.03)
Disease duration	86	1.01 (0.94–1.10)	1.01 (0.94–1.09)
Health care providers			
Primary care provider	53	1.11 (0.44–2.79)	2.05 (0.82–5.14)
Rheumatologist	71	0.77 (0.24–2.40)	1.46 (0.45–4.73)
Obstetrician/Gynecologist	60	**3.00 (1.0–9.03)**	**4.20 (1.40–12.60)**
Receipt of contraceptive counseling	35	1.80 (0.73–4.42)	--
Prior pregnancy	42	2.00 (0.81–4.93)	**2.62 (1.08–6.37)**
Prior induced abortion	15	0.90 (0.46–1.7)	0.78 (0.40–1.53)

SLAQ=Systemic lupus activity questionnaire.
Bolded values indicate $p<0.05$.

*Effective contraceptives included any hormonal method or an IUD.

Table 5

Contraceptive Use Among Women with a History of Thrombosis or aPL at Risk For Unintended Pregnancy.

	History of aPL and/or thrombosis		
Methods of Contraception in Past 3 Months	**Thrombosis***	**aPL only**	**Neither**
	(n=11)	(n=24)	(n=51)
None	-	6 (25%)	4 (8%)
Barrier method only	8 (73%)	10 (42%)	28 (55%)
Hormonal method	2 (18%)	4 (17%)	13 (26%)
Estrogen-containing method†	2	2	11
Progestin-only method‡	-	2	2
IUD	1(9%)	4 (17%)	6 (12%)

*Any thrombosis, regardless of aPL status.

†Combined oral contraceptive, patch, or ring.

‡Mini-pill/progestin only pill, implant, injection.