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Structured contraceptive counseling provided by the Contraceptive CHOICE Project

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Abstract

Background—We describe the contraceptive counseling provided by the Contraceptive CHOICE Project (CHOICE) and compare contraceptive methods selected between the university research site and community partner clinics.

Study Design—We developed a structured, contraceptive counseling program. All CHOICE participants enrolling at our university research site underwent the counseling, which was evidence-based and included information about all reversible contraception. Participants enrolling at partner clinics underwent “usual” counseling. We trained 54 research team members to provide contraceptive counseling; the majority had no formal health care training. We compared the contraceptive methods chosen by participants enrolling at our university research site to participants enrolling at partner clinics who did not undergo structured contraceptive counseling.

Results—There were 6,530 (86%) women who enrolled into CHOICE at our university site and 1,107 (14%) women who enrolled at partner clinics. Uptake of long-acting reversible contraception was high at both the university site and partner clinics (72% and 78%, respectively, $p<.0001$). However, uptake of the intrauterine device was higher at the university site (58% compared to 43%, $p<.0001$) and uptake of the subdermal implant was higher at partner clinics (35% versus 14%, $p<.0001$). After adjusting for confounders, we found no difference in the uptake of long-acting reversible contraception between women counseled at the university site compared to partner clinics (adjusted relative risk=0.98, 95% confidence interval [0.94, 1.02]).

Conclusion—Structured contraceptive counseling can be effectively provided in a clinical research setting by staff without prior health care experience or clinical training.

Keywords

Contraceptive counseling; Long-acting reversible contraception; Intrauterine device; Subdermal implant

1. Introduction

Contraceptive counseling has the potential to increase the uptake of highly effective methods of contraception, to improve contraceptive use, and to increase continuation and satisfaction. However, prior studies of contraceptive counseling have not demonstrated consistent results. A survey of women after a visit with their primary care providers found that women who received counseling about hormonal contraception were more likely to

report use of that method at last intercourse [1]. A recent Cochrane review found that there was no data to support the effectiveness of contraceptive counseling in improving contraceptive adherence [2]. However, in this review, the authors did not evaluate whether contraceptive counseling impacted the choice of contraceptive method. A randomized controlled trial of structured contraceptive counseling among women seeking abortion did not show any increase in the uptake of very effective contraceptive methods compared to typical counseling [3]. A limitation of this study was that the typical counseling was provided by family planning specialists, which may have attenuated the effect of the structured counseling.

Increasing the uptake of highly effective contraceptive methods and improving contraceptive continuation are important strategies to decrease unintended pregnancy. The Contraceptive CHOICE Project (CHOICE) is an ongoing cohort study of 9,256 women with high uptake of long-acting reversible contraception (LARC) which includes the intrauterine device (IUD) and the subdermal implant. In this paper, we provide a description of the structured contraceptive counseling developed as part of CHOICE and compare the uptake of LARC between participants enrolled at the university site where they received structured contraceptive counseling and partner clinics where they received “usual” counseling.

2. Methods

We have described the methods of CHOICE in detail elsewhere [4], but will briefly review them here. CHOICE is a prospective cohort study of 9,256 women designed to: 1) promote the use of LARC; 2) remove financial barriers to contraception; 3) evaluate continuation and satisfaction for reversible methods; and 4) reduce unintended pregnancies in the St. Louis region. Women were eligible to participate if they were aged 14–45 years, resided in St. Louis City or County, had been sexually active with a male partner in the past six months or anticipated sexual activity in the next six months, had not had a tubal sterilization or hysterectomy, did not desire pregnancy in the next year, and were interested in starting a new reversible contraceptive method. We provided participants with the reversible contraceptive method of her choice at no cost. Participants completed follow-up surveys by telephone at 3 and 6 months and then every 6 months for 3 years (first 5090 participants) or 2 years (rest of the cohort). The majority of CHOICE enrollments occurred at our university clinical research site. Women at this site were self-referred and had heard about the project from a health care provider, family, friends, or a flyer. We also partnered with 13 community clinic sites where patients could be referred to CHOICE and enrolled on-site by research staff. These partner clinics included 6 federally qualified health centers that provided family planning services, two Planned Parenthood health centers, the outpatient Obstetrics and Gynecology clinic and the inpatient postpartum floor at an academic teaching hospital, a clinic providing no-cost health care services to adolescents and young adults, and two clinics providing abortion services. We obtained approval from the Washington University in St. Louis School of Medicine Human Research Protection Office prior to recruitment of participants.

The first CHOICE participant was enrolled in August 2007. We initially developed the CHOICE protocol with the assumption that health care providers would refer women to CHOICE for reversible contraception after contraceptive counseling had been performed and the woman had chosen a method. During the pilot phase of enrollment, we found that many of the women referred to CHOICE were unfamiliar with the complete range of reversible contraceptive options. In particular, women were not familiar with the most effective methods of contraception, the IUD and implant. They also had limited knowledge about the advantages and disadvantages of specific contraceptive methods.

We subsequently developed 2 strategies to increase contraceptive knowledge among our participants. First, we introduced a short script about LARC which was read to every woman at the time she was screened for study eligibility. This script has been previously described [4]. All participants heard this script regardless of enrollment site. Second, we developed a structured, comprehensive contraceptive counseling program for all participants enrolling in CHOICE at our university research site. Women who enrolled in CHOICE at one of our partner clinics underwent the “usual” contraceptive counseling provided at that site and were not provided with standardized counseling from CHOICE research staff. However, the CHOICE staff would provide additional information about the available contraceptive methods if requested at the time of enrollment. We instituted this contraceptive counseling during the pilot phase of the study.

Our main objective in developing a standardized, comprehensive contraceptive counseling program for our university enrollment site was to ensure that women enrolling into CHOICE were knowledgeable about all reversible contraceptive options including effectiveness, advantages, and disadvantages. The counseling framework for CHOICE was modeled after the GATHER process for counseling [5]. GATHER is a client-centered process focused on the woman, her expressed needs, situation, problems, issues and concerns. The goal of the contraceptive counseling component is to provide accurate, unbiased information about all contraceptive methods to help the woman assess her needs and make an informed decision. GATHER includes these components; GREET each client in a friendly, respectful way; a good connection between provider and client builds trust. ASK clients about their lives with simple open-ended questions, taking the lead from the client. TELL clients about available contraceptive methods and sexually transmitted infection (STI) protection within the context of their lives and preferences. HELP the client decide which contraceptive method works best for her needs. EXPLAIN everything about the client’s chosen method, how to use it, possible side effects and when to contact the clinic. RETURN clinic visits or follow-up phone calls are a time to discuss client’s use of their chosen method and their concern.

We developed a standardized contraceptive counseling script which was presented to the participant at her enrollment appointment at our university site, regardless of her baseline contraceptive knowledge or her interest in specific contraceptive methods. Participants underwent contraceptive counseling at the beginning of the enrollment process prior to completing informed consent or the baseline questionnaire. The script concisely describes the effectiveness, advantages, and disadvantages of each reversible method in order of effectiveness, including the levonorgestrel intrauterine system (LNG-IUS), the copper IUD, the subdermal implant, depot medroxyprogesterone acetate (DMPA), oral contraceptive pills (OCPs), the transdermal patch, the contraceptive vaginal ring, and condoms. Other methods such as diaphragm, contraceptive sponge, and natural family planning were discussed at the woman’s request. We provided participants with physical models of the methods during counseling and descriptions of the insertion procedures for the LARC methods. Counselors encouraged participants to ask questions and actively worked to increase accurate knowledge and dispel any incorrect information or myths.

Prior to administering the contraceptive counseling script, the counselor obtained the participant’s reproductive and medical history using a standardized data collection form. After contraceptive counseling was completed and a contraceptive method chosen, the counselor would present the participant’s reproductive and medical history to the research clinician for approval of the chosen method. Upon approval, the counselor would review written information about the chosen method with the participant that described the advantages and disadvantages and use of the method, and who to contact with questions.

We then created a training program for our CHOICE research staff to ensure that all contraceptive counselors were adequately trained, and to standardize the contraceptive counseling and collection of medical history across all counselors. Trainers included a research nurse with obstetrical and gynecological training (J.L.M.), an education expert with a public health background (K.J.O.), and 2 obstetrician-gynecologists with subspecialty training in family planning and/or public health (T.M. and J.F.P.). The training component consists of three 2-hr sessions covering the following information:

1. Reversible contraceptive methods including effectiveness, mechanism of action, use, contraindications, advantages, disadvantages and cautions as presented in *Contraceptive Technology* [6].
2. The contraceptive counseling script which provides brief overview of effectiveness, use, and side effects for all reversible methods.
3. The process of collecting a medical and reproductive history and identifying any medical contraindications to contraception.
4. How to implement the GATHER process.

After completion of the training sessions, counselors had to pass a test in each of the 3 training modules; contraceptive knowledge, counseling script and presentation of medical and reproductive history, and the GATHER process. Contraceptive counselors had to observe a minimum of 3 counseling sessions and were observed by one of the trainers (K.J.O. or J.L.M.) for a minimum of 2 sessions prior to being allowed to counsel independently. Counselors were evaluated on 20 criteria during each observed counseling session which are shown in Table 1.

In order to measure the average time spent counseling, we recorded the length of time of the counseling sessions over a 10-week period and calculated the mean and median times. We compared the contraceptive methods chosen at enrollment between women who enrolled at our university clinical research site and underwent structured contraceptive counseling, and women who enrolled at community partner clinics and underwent “usual” counseling. Means, standard deviations, frequencies and percentages were used to describe the baseline demographic characteristics of study participants as appropriate. For the comparison of baseline characteristics and contraceptive methods chosen, χ^2 and Fischer’s exact test were performed as appropriate. We used Poisson regression with robust error variance to analyze the association between counseling site and choosing LARC at enrollment while controlling for potential confounders. This regression technique allows for an unbiased estimate of the relative risk when the outcome of interest occurs more than 10% of the time, as was the case in selection of LARC in this analysis [9]. Covariates that were significant at the 0.05 level in the univariate model were included as confounders in our multivariable analyses. We excluded women who enrolled at the 2 clinics providing abortion services (n=1500) as the abortion experience may influence the contraceptive method chosen [7]. We also excluded women enrolling into postpartum IUD (n=44) or implant (n=74) studies as these women were preferentially seeking the IUD or implant. All statistical analyses were performed using Stata 11.0 (StataCorp LP, College Station, TX).

3. Results

Since 2007, the CHOICE Project has trained a total of 54 contraceptive counselors. Approximately 70% of the trainees were employed members of the CHOICE research team (n=38). In addition, we also trained 16 volunteers; the majority of these were first- and second-year medical students (n=14). Almost all (96%) of the trained contraceptive counselors had at least an undergraduate degree and 2 had professional health care degrees

(RN and NP). Among the CHOICE research staff, 39% (n=15) had no prior health care work experience before joining the project.

Between August 1, 2007, and September 27, 2011, we enrolled 9,256 women into CHOICE. Of the 7,637 women included in this analysis, 6530 (86%) enrolled at our university clinical research site and 1107 (14%) enrolled at our community partner clinics. The overall uptake of LARC was 73% among the cohort overall; 44% chose the LNG-IUS, 17% chose the subdermal implant, and 12% chose the copper IUD. Uptake of other methods at baseline included 10% who chose OCPs, 7% who chose DMPA, 8% who chose the vaginal ring, 2% who chose the contraceptive patch and < 1% who chose natural family planning or the diaphragm.

The characteristics of participants by enrollment site are shown in Table 2. Women who enrolled at our university site were older, more likely to be white, less likely to be Hispanic, more likely to be insured, less likely to be of low socioeconomic status (SES), and more likely to be nulliparous. Table 3 shows the contraceptive method selected at baseline for women enrolled at our university site compared to the partner clinics. The overall uptake of LARC was slightly higher for the partner clinics at 78% compared to the university site at 72% ($p<.0001$); however, both sites had very high uptake of LARC. Women who enrolled at the university site were more likely to choose the IUD than women enrolling at the partner clinics (58% compared to 43% respectively, $p<.0001$). Women who enrolled at the partner clinics were more likely to choose the implant than women enrolling at the university site (35% versus 14%, respectively $p<.0001$).

In the univariate logistic regression model, there were numerous baseline characteristics that were associated with choice of LARC in the univariate model. These included enrollment site, age, ethnicity, marital status, insurance, low SES, parity, and history of a STI and are shown in Table 4. After adjusting for the significant characteristics, women counseled at the university research site were equally as likely to choose a LARC method at enrollment compared to women counseled at a community partner clinic ($RR_{adj}= 0.98$; 95% CI: 0.94, 1.02). In the multivariable model, age, marital status, insurance status, and parity remained significantly associated with the choice of LARC compared to non-LARC.

We evaluated the time spent in structured contraceptive counseling in 221 counseling sessions over a 10-week period at the university research site. The mean time spent in contraceptive counseling was 12.9 min (SD 4.8) and the median time was 12 min (range 4 to 32 min). We were unable to measure the time spent in contraceptive counseling at the partner clinics as this time was not separated from the remainder of the health care visit. We did not measure the time spent obtaining the medical and reproductive history prior to the counseling session.

4. Discussion

Our experience in the Contraceptive CHOICE Project demonstrates that a structured, comprehensive contraceptive counseling program can be successfully implemented in a high-volume, clinical research setting. Almost half of our contraceptive counselors had no prior clinical experience and 96% did not have a professional health care degree. This bolsters the argument that contraceptive counseling does not have to be performed by an individual with a clinical background. However, it is necessary to train counseling staff to provide appropriate and evidence-based information. The mean amount of time spent in counseling was 13 minutes; therefore, allowing a trained counselor to perform contraceptive counseling could allow the clinician more time to provide other health care services.

LARC uptake was high at all CHOICE sites. The uptake of LARC was slightly higher at partner clinics than the university site (78 vs. 72%); but once we controlled for differences in baseline participant characteristics the difference was no longer significant. There are several possible explanations for the high uptake of LARC observed in both groups: One, all women regardless of enrollment site received a brief script about the effectiveness of LARC which may have increased uptake of LARC across all sites. Two, demographic and reproductive characteristics differed significantly for women enrolling at the partner clinics, which may have influenced the contraceptive method selected. In addition, partner clinics may have been more likely to refer women who were specifically interested in an IUD or an implant for participation in CHOICE. As LARC methods are expensive and difficult to afford without health insurance, uninsured patients who desired an IUD or an implant may have been more interested in study participation. Women enrolling at the partner clinics were less likely to be insured than women enrolling at the university site. However, when we controlled for these factors in our multivariable analysis, we did not see any association between enrollment site and choice of LARC. Other factors did remain associated with the choice of LARC including age, marital status, insurance status, and parity.

Women at the partner clinics may have also had additional contraceptive counseling provided by a member of the CHOICE research team. While these women did not systematically undergo the structured counseling, the research assistant would provide additional contraceptive information to enrollees and answer any questions about contraceptive methods. This additional counseling may have also increased the uptake of LARC. The uptake of LARC at the university site and the partner clinics is substantially higher than that seen in the general population which is less than 9% [8].

We also found that women enrolling at the university site were more likely to choose an IUD. Lower IUD use among the partner clinics may have been due to more restrictive criteria about who was considered an appropriate candidate. Clinicians at the university site followed evidence-based restrictions to IUD placement [10]. Conversely, women enrolling at partner clinics were more likely to choose an implant. Several of the partner clinics did not stock implants on site. Therefore, a woman could only get an implant at these clinics if she was a participant in the study. This could have resulted in higher uptake of the implant among women enrolling at the partner clinics than among the general clinic population.

Strengths of our study include a large cohort with a group who received structured contraceptive counseling and a comparison group who received “usual” counseling. CHOICE participants were all provided with the contraceptive method of their choice at no cost. Therefore, the contraceptive method chosen reflects the method the woman really wanted, not what was covered by her insurance or what she could afford. A limitation is that we did not set out prospectively to evaluate the effectiveness of our structured contraceptive counseling which limits our ability to draw conclusions about the effect of our counseling. Another limitation is our comparison group; women in both groups received the brief script of LARC which may have influenced contraceptive decision-making. In addition, there was no standard for “usual” counseling at the partner clinic and the content may have varied widely. Some of these participants had the ‘usual’ counseling supplemented by additional counseling from a CHOICE research assistant. A randomized controlled trial comparing structured counseling to typical counseling would provide valuable evidence about the effectiveness of our counseling model.

We have successfully demonstrated that a standardized contraceptive counseling process can be implemented and performed on a large-scale in a clinical setting by members of the research team without a clinical background. Contraceptive counseling that emphasizes effectiveness of contraceptive methods may increase the uptake of the most highly effective

methods of contraception, such as IUDs and implant. Our model can help expand the provision of comprehensive, evidence-based contraceptive counseling by allowing trained, non-health care professionals to participate in patient education.

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References

1. Lee JK, Parisi SM, Akers AY, Borrero S, Schwarz EB. The impact of contraceptive counseling in primary care on contraceptive use. *J Gen Intern Med.* 2011; 26:731–6. [PubMed: 21301983]
2. Halpern V, Lopez LM, Grimes DA, Gallo MF. Strategies to improve adherence and acceptability of hormonal methods of contraception. *Cochrane Database Syst Rev.* 2011; (4):CD004317. [PubMed: 21491389]
3. Langston AM, Rosario L, Westhoff CL. Structured contraceptive counseling — a randomized controlled trial. *Patient Educ Couns.* 2010; 81:362–7. [PubMed: 20869187]
4. Secura GM, Allsworth JE, Madden T, Mullersman JL, Peipert JF. The Contraceptive CHOICE Project: reducing barriers to long-acting reversible contraception. *Am J Obstet Gynecol.* 2010; 203(115):e111–7.
5. Rinehart W, Rudy S, Drennan M. GATHER guide to counseling. *Popul Rep J.* 1998; 48:1–1. [PubMed: 10096107]
6. Hatcher, RA.; Trussell, J.; Nelson, AL., et al. *Contraceptive Technology.* 19. New York: Ardent Media; 2007.
7. Madden T, Secura GM, Allsworth JE, Peipert JF. Comparison of contraceptive methods chosen by women with and without recent elective abortion. *Contraception.* 2011; 84:571–7. [PubMed: 22078185]
8. Finer LB, Jerman J, Kavanaugh ML. Changes in use of long-acting contraceptive methods in the United States, 2007–2009. *Fertil Steril.* 2012 Jul 13. [Epub ahead of print].
9. Zou G. A modified poisson regression approach to prospective studies with binary data. *Am J Epidemiol.* 2004; 159:702–6. [PubMed: 15033648]
10. U S. medical eligibility criteria for contraceptive use, 2010. *MMWR Recomm Rep.* 2010; 59:1–6.

Table 1

Criteria for evaluation of counselor performance during contraceptive counseling sessions

1	Greets the participant politely and warmly.
2	Assures the participant of confidentiality of information.
3	Has the participant review her contact information for accuracy.
4	Completes the medical and reproductive history form.
5	Describes every reversible contraceptive method according to the script.
6	Uses models and other visuals to explain the methods.
7	Ensures that the participant knows she has contraceptive options and that the choice is hers.
8	Asks the participant to confirm her contraceptive decision.
9	Presents the participant's medical and reproductive history to the clinician and obtains approval for the method.
10	Explains how to use approved contraceptive method to the participant.
11	Reviews how the participant plans to protect herself from STIs and provides condom demonstration.
12	Confirms the participant has received the required handouts.
13	Invites the participant to call with questions and/or concerns or for future appointment.
14	Thanks the participant for her time.
15	Encourages the participant to ask questions and share information.
16	Uses simple, nontechnical language during the counseling session.
17	Tailors key information to the needs of the participant.
18	Uses a friendly tone of voice and attentive body language to convey warmth, interest and respect.
19	Presents accurate information.
20	Clearly displays employee identification badge.

Table 2

Baseline demographic and reproductive characteristics among women enrolled at the university research site compared to community partner clinics

Characteristic	University research site (Total N= 6530) %	Community partner clinics ^a (Total N= 1107) %	p Value ^b
Age (years)			< .0001
14–17	4.5	8.6	
18–20	16.2	21.0	
21–25	39.6	35.3	
>25	39.7	35.1	
Race			< .0001
Black	47.8	51.4	
White	45.5	32.9	
Other	6.7	15.7	
Hispanic	3.2	18.1	< .0001
Marital status			.0004
Single/never married	61.1	56.4	
Married/living with partner	32.7	38.6	
Separated/divorced/widowed	6.2	5.0	
Insurance			< .0001
None	36.6	53.9	
Public	12.3	32.2	
Private	51.1	13.9	
Currently receives public assistance or has difficulty paying for basic necessities	51.7	79.7	< .0001
History of abortion	32.7	20.0	< .0001
Parity			< .0001
0	53.8	31.6	
1	22.8	29.6	
2	15.4	22.7	
3 or more	8.0	16.1	
History of STI ^c	38.8	44.8	.0002

Values are percentages. χ^2 test.

^aExcluding women who enrolled at community partner sites providing abortion services and women enrolling into a postpartum IUD or implant study.

^bThe p value compares the percentages for each covariate using the χ^2 test.

^cIncludes chlamydia, gonorrhea, trichomoniasis, genital herpes, human papilloma virus or HIV.

Table 3

Baseline chosen contraceptive method by enrollment site for the university research site compared to community partner clinics

Method	University research site (Total N= 6530) N (%)	Community partner clinics ^a (Total N= 1107) N (%)
LNG-IUS	2945 (45.1)	394 (35.6)
Implant	918 (14.1)	383 (34.6)
Copper IUD	816 (12.5)	86 (7.8)
OCPs	719 (11.0)	89 (8.0)
Vaginal ring	555 (8.5)	50 (4.5)
DMPA	451 (6.9)	85 (7.7)
Contraceptive patch	122 (1.9)	20 (1.8)
Fertility awareness	3 (0.05)	0
Diaphragm	1 (0.02)	0

^aExcluding women who enrolled at community partner sites providing abortion services and women enrolling into a postpartum IUD or implant study.

Table 4

Characteristics associated with selecting LARC at the time of study enrollment

Characteristic	Baseline chosen method		Univariate regression analysis		Multivariable regression analysis ^c	
	Non-LARC	LARC	RR	95% CI	RR	95% CI
Enrollment site						
University research site	28%	72%	0.92	0.89, 0.95	0.98	0.94, 1.02
Community partner clinics	22%	78%	Referent		Referent	
Age (years)						
14–17	24%	76%	0.98	0.92, 1.04	1.08	1.01, 1.15
18–20	34%	66%	0.84	0.81, 0.88	0.92	0.88, 0.97
21–25	31%	69%	0.89	0.86, 0.92	0.95	0.92, 0.98
>25	22%	78%	Referent		Referent	
Race						
Black	28%	72%	0.98	0.95, 1.01		
White	27%	73%	Referent			
Other	27%	73%	0.99	0.95, 1.05		
Hispanic						
Yes	22%	78%	1.09	1.03, 1.14	1.06	0.99, 1.12
No	28%	72%	Referent		Referent	
Marital status						
Single/never married	32%	68%	Referent		Referent	
Married/living with partner	20%	80%	1.17	1.14, 1.20	1.09	1.06, 1.12
Separated/divorced/widowed	22%	78%	1.15	1.10, 1.21	1.03	0.98, 1.10
Insurance						
None	31%	69%	0.96	0.93, 0.99	0.93	0.89, 0.96
Public	13%	87%	1.21	1.18, 0.99	1.12	1.07, 1.16
Private	27%	72%	Referent		Referent	
Low SES ^a						
Yes	25%	75%	1.08	1.05, 1.11	0.98	0.94, 1.12
No	31%	69%	Referent		Referent	
History of abortion						

Characteristic	Baseline chosen method		Univariate regression analysis		Multivariable regression analysis ^c	
	Non-LARC	LARC	RR	95% CI	RR	95% CI
Yes	27%	73%	1.01	0.98, 1.04		
No	28%	72%	Referent			
Parity						
0	36%	64%	Referent		Referent	
1	22%	78%	1.21	1.17, 1.26	1.17	1.13, 1.22
2	15%	85%	1.32	1.28, 1.37	1.25	1.20, 1.30
3 or more	15%	85%	1.33	1.28, 1.38	1.23	1.17, 1.29
History of STI ^b						
Yes	25%	75%	1.05	1.02, 1.08	1.01	0.98, 1.04
No	29%	71%	Referent		Referent	

RR, relative risk; 95% CI, 95% confidence interval.

^aCurrently receives public assistance or has difficulty paying for basic necessities.

^bIncludes chlamydia, gonorrhea, trichomoniasis, genital herpes, human papilloma virus or HIV.

^cAdjusted for enrollment site, age, ethnicity, marital status, insurance, low SES, parity and history of an STI.