

Associations Between Low-Income Women's Relationship Characteristics and Their Contraceptive Use

CONTEXT: Women's relationship context likely influences both their ability and their motivation to use contraceptives. No recent studies, however, have examined associations between women's relationship characteristics and use of different methods.

METHODS: Data were collected in a longitudinal study of 839 low-income women at risk of unintended pregnancy who visited public family planning and postpartum clinics and maternity wards in two Southeastern cities. Simulated probabilities calculated from multivariate analyses assessed associations between a wide range of relationship characteristics and the use of no method, condoms, withdrawal, female methods or dual methods.

RESULTS: Women who had had a child with their partner had an increased likelihood of contraceptive nonuse and use of withdrawal, and a decreased likelihood of using any female method. Respondents who were in a relationship for a relatively long time had an elevated likelihood of nonuse and use of female methods, but a lowered likelihood of condom use. Furthermore, married or cohabiting women were less likely than others to use dual methods. Respondents who had good communication with their partner had an elevated likelihood of using condoms. In addition, women who expected to receive a lot of emotional support from their partner if they became pregnant were more likely than others to report any condom use or dual method use, and less likely to report contraceptive nonuse.

CONCLUSIONS: When counseling family planning clients, providers should consider women in the context of their relationships. Future research exploring factors associated with contraceptive method use should examine variables related to the establishment, quality and expectations of their relationships.

Perspectives on Sexual and Reproductive Health, 2008, 40(3):171–179, doi: 10.1363/4017108

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The proportion of pregnancies in the United States that are unintended is 49%, and among low-income women, this proportion is even higher—62% among those with incomes below the federal poverty level.¹ Couples' contraceptive use and method choice strongly affect the likelihood that they will experience an unintended pregnancy. Couples who do not use any contraceptive account for more than half of unintended pregnancies,² and those relying on relatively ineffective methods are much more likely to experience a contraceptive use failure than are those using highly effective ones.^{3,4} Therefore, among women at risk of an unintended pregnancy, increasing the use of contraceptives in general, and of highly effective methods in particular, could significantly reduce the rate of such pregnancies.

Because women experience the risk of unintended pregnancy in the context of a sexual relationship, it is reasonable to expect that the characteristics of that relationship influence their contraceptive use. However, little is known about these potential influences. Recent studies exploring the factors affecting contraceptive use have focused on women's individual characteristics.^{5–8} Research examining the effects of relationship characteristics on contraceptive use was conducted more than two decades ago and was limited to relatively small samples of

college students.^{9–12} Furthermore, with one exception,¹³ not only have previous studies of contraceptive use not considered relationship factors, they have focused on the determinants of whether any method is used, rather than on which methods are used.

Some research related to HIV or STD prevention (rather than pregnancy prevention) has examined the association between relationship characteristics (e.g., duration, marital status and women's power in the relationship) and the use of condoms or dual methods.^{14,15} However, except for some studies that controlled for whether women wanted to have a child, most of this research has not accounted for women's pregnancy prevention considerations, and has not investigated the use of other contraceptive methods.

Given the varied effectiveness of contraceptive methods^{3,4} and the importance of condoms for the prevention of STDs, in the present study we investigated how relationship characteristics are related to women's use of all types of contraceptives—condoms, withdrawal, female methods and dual methods—as well as to contraceptive nonuse.

We also addressed another problem in previous studies of contraceptive use, which have generally included both women who desire a pregnancy and those who do

TABLE 1. Hypothesized associations examined in a study of relationship characteristics and low-income women's contraceptive use

Characteristic	No method	Condom	With- drawal	Female method	Dual methods
Relationship quality					
Communication	+ or -	+	None	None	+
Satisfaction	+ or -	+	None	None	+
Sexual exclusivity	+ or -	-	None	None	-
More established relationship (partners are married or cohabiting, partners have had a child together, and the relationship's duration and expected duration are relatively long)	+	-	-	+	-
More positive expectations (woman expects emotional and financial support from her partner, expects him to be a good father and expects a continued close relationship with his relatives if she has a baby and the relationship ends)	+	None	None	None	-

not, and simply controlled for this factor. The potential determinants of contraceptive use, however, likely depend on whether a woman wants to get pregnant, and controlling for this cannot account for these interactions. Thus, we limited our analysis to women who were at risk of an unintended pregnancy—that is, sexually active, nonsterilized women who did not want to become pregnant or were ambivalent about getting pregnant. By excluding those who wished to become pregnant, we could assess associations between relationship characteristics and contraceptive use among women needing contraceptives. A fuller and clearer identification of relationship characteristics associated with contraceptive nonuse and use of less effective methods can help family planning providers identify women who may need additional support in their contraceptive practice.

HYPOTHESES

We considered women's decision to use a contraceptive and their choice of method to be a simultaneous decision. Although the process may not be entirely conscious, women likely are aware of a number of contraceptive methods and decide at once whether to use one or more methods or to use none.

We hypothesized that three main types of relationship characteristics are associated with the contraceptive use of women who do not want to get pregnant: the quality of the relationship, the extent to which the relationship is established and the woman's expectations of her partner and his family were she to have a child with him. These relationship characteristics can affect both women's motivation and their ability to use contraceptives in general, and the use of some methods more than others.

*At baseline, nearly all clients of the study clinics in Atlanta were black; in Charlotte, the majority were black, a minority were white, and there were too few Hispanics or members of other racial or ethnic groups to be included in the study.

We hypothesized that better relationship quality may be associated with greater nonuse of contraceptives because women in good relationships would be less motivated to avoid a pregnancy; at the same time, however, better relationship quality may be associated with decreased nonuse because being in a good relationship would enhance women's ability to use contraceptives (Table 1). We did not hypothesize an association between relationship quality and the use of withdrawal or female methods, but we did predict an association with condom use (alone or in combination with a female method), and that the direction of this association would differ among variables measuring relationship quality. Specifically, we believed that good communication and high relationship satisfaction would be associated with increased condom or dual method use because they increase women's ability to negotiate such use, but that sexual exclusivity would be associated with decreased use because it reduces the perceived risk of STDs.

We also hypothesized that being in a more established relationship would be associated with greater contraceptive nonuse, because women may be less motivated to avoid pregnancy and may perceive less need to protect themselves against STDs. Furthermore, we expected that because they may be less concerned about STDs and may desire longer term contraceptive protection, they would be less likely to use condoms, withdrawal or dual methods, and more likely to use female methods.

Finally, we hypothesized that women's positive expectations of their partner and his family would be associated with an increase in nonuse and a decrease in dual method use, because women with positive expectations would be less motivated to avoid a pregnancy. We did not hypothesize any association between women's expectations and their use of condoms, withdrawal or female methods.

METHODS

Data

We used data from a longitudinal survey on contraceptive choice and use conducted in Atlanta and in Charlotte, North Carolina, which is described in detail elsewhere.¹⁶ At baseline (between July 1993 and October 1994), the study enrolled a probability sample of 2,477 women visiting public family planning and postpartum clinics and maternity wards. To be eligible, women had to be black or non-Hispanic white* and choosing a contraceptive method that they had not used in the previous three months. Three follow-up surveys were conducted; because our objective was to study women's contraceptive choices during follow-up, we excluded from each survey women who had been sterilized by the prior round. In each follow-up survey, 86–91% of nonsterilized women from the previous round were successfully interviewed. The present analysis is based primarily on data from the third follow-up, conducted between February and October 2000. (Some control variables were drawn from the second follow-up survey, which was completed,

on average, 3.5 years prior to the third follow-up.) This last survey included 1,362 women, of whom 800 had had at least one pregnancy between the second and third follow-up surveys (pregnancy group), and 562 had had none during this period (no-pregnancy group).

For women in the pregnancy group, the study partner was the man involved in their most recent pregnancy. For women in the no-pregnancy group, the study partner was the man they had a “special relationship” with at the time of the interview (defined as “a partner, husband or boyfriend with whom you share your life and with whom you have sex; by sex we mean where a man puts his penis in your vagina”). We then asked all women about the characteristics of study partners who fit this description. A large majority of women with any sexual relationship with a man identified it as a special relationship: Only 52 women in the pregnancy group did not identify the father in this manner, and 42 women in the no-pregnancy group who were sexually active did not identify their partner in this way. These 94 women were excluded from the analysis.

Because we were interested in contraceptive use among women who did not want to get pregnant, we excluded 261 individuals who reported that they had wanted to get pregnant in the 30 days before becoming pregnant (pregnancy group) or before the interview (no-pregnancy group), or who said that one reason they were not using contraceptives was that they wanted to get pregnant. We also excluded 13 women relying on vasectomy as their primary method because this number was too small to analyze as a separate category, and excluded 117 women in the no-pregnancy group who currently had no sexual partner. An additional 38 women were dropped because of missing data. Thus, the current analysis was based on 839 sexually active women who had not wanted to get pregnant or had been ambivalent or did not care about getting pregnant in the 30 days before either their most recent pregnancy or the interview.

Interviewers divided the period between the second and third follow-up interviews into time segments according to whether the respondent was in a special relationship (or more than one), was not in a relationship or was pregnant; segments were further divided into those specific to each partner (or each set of partners). For each of these relationship and no-relationship segments, the interviewer asked which contraceptive methods were used (if any) in which months; women were also asked to identify months in which they had had no sexual intercourse. For each pregnancy segment, the interviewer asked about method use during both the month the pregnancy began and the previous month. To collect comparable data for women who had had no pregnancies during the follow-up period, the interviewer further asked these women about methods used during the month of the interview and the previous month. For convenience, when addressing contraceptive use, we refer to this time period as the “30 days before” the pregnancy or interview.

Measures

•*Dependent variable.* We examined contraceptive use during the 30 days before the interview (no-pregnancy group) or the most recent conception (pregnancy group). We specified the dependent variable in three ways. First, we examined five categories of contraceptive use: no method, condoms alone, withdrawal alone, a female method alone or dual use (both condoms and a female method). (Female methods are sterilization, implants, the IUD, injectables, oral contraceptives and barrier methods other than male condoms.) Subsequently, to more fully investigate the factors associated with the use of condoms and female methods, we first combined the categories of condoms alone and dual use into a single category signifying any condom use, and then combined use of female methods and use of dual methods into a single category signifying use of any female method.

•*Independent variables.* Three variables assessed relationship quality: communication, or the extent to which the woman talked to her partner about things that really mattered to her (response options were a lot, some, a little and not at all), satisfaction with the relationship (very satisfied, somewhat satisfied, dissatisfied or very dissatisfied) and sexual exclusivity of the relationship (both partners were exclusive, one was not or both were not). Four variables assessed the extent to which the relationship was established: marital status (married, cohabiting or noncohabiting), whether the respondent had had a child with her partner, duration of the relationship (less than six months, 6–23 months, 2–6 years or more than six years) and expected duration of the relationship (long, medium or short). Another four variables evaluated the woman’s expectations of her partner and his family: how much emotional and financial support she expected from her partner if she got pregnant (a lot, some, none or don’t know), how good a father she thought he would be (really good, OK, not good or don’t know) and whether she expected a continued close relationship with his relatives if she had a child with him, even if they broke up.

Most of these variables referred to the 30 days before the woman became pregnant (pregnancy group) or before the interview (no-pregnancy group). However, three variables referred to the entire relationship period* during which the pregnancy or the interview occurred: A woman was classified as married or cohabiting if she had been at any time during the period; satisfaction with the relationship and sexual exclusivity both referred to “most of” the relationship period.

•*Control variables.* Control variables included demographic and partner characteristics and pregnancy-related measures; all were treated as categorical variables. Two demographic variables were measured at the time of pregnancy or at the third follow-up interview: the

*If a woman had a relationship with a partner on and off, each uninterrupted stretch of the relationship was treated as a relationship period.

TABLE 2. Percentage distribution of low-income women who were at risk of unintended pregnancy, by selected characteristics, Atlanta and Charlotte, 2000

Characteristic	% (N=839)	Characteristic	% (N=839)
DEMOGRAPHIC		RELATIONSHIP	
Age		Relationship quality	
14–24	50.0	Communication	
25–29	27.6	A lot	57.9
≥30	22.4	Some	27.0
		A little/not at all	15.0
No. of live births		Satisfaction	
0	16.1	Very satisfied	39.7
1	34.7	Somewhat satisfied/dissatisfied/very dissatisfied	60.3
≥2	49.3		
Race/ethnicity		Sexual exclusivity	
Black	87.8	Both partners exclusive	75.3
White	12.2	One or both not exclusive	24.7
Education†		Relationship establishment	
<high school	33.3	Marital status	
High school/GED	37.3	Married	22.9
Vocational/≥some college	29.4	Cohabiting	41.6
		Noncohabiting	35.5
Employed†		Had a child with partner	
Yes	84.1	Yes	42.2
No	15.9	No	57.8
Household received public assistance†,‡		Duration of relationship	
Yes	57.0	<6 mos.	9.0
No	43.0	6–23 mos.	25.3
		2–6 yrs.	35.7
		>6 yrs.	30.0
PARTNER		Expected duration of relationship	
Age		Long	74.6
16–24	30.5	Medium/short	25.4
25–29	34.5		
≥30	35.0	Woman's expectations	
Education		Emotional support from partner in event of pregnancy	
≤high school	62.2	A lot	51.9
Vocational/≥some college	33.5	Some/none/don't know	48.1
Don't know	4.3		
Partner wants a child with respondent		Financial support from partner in event of pregnancy	
A lot	31.1	A lot	60.3
Some/a little/not at all	68.9	Some/none/don't know	39.7
PREGNANCY-RELATED		Partner as father	
Desire for a pregnancy		Really good	66.2
Ambivalent/don't care	25.1	OK/not good/don't know	33.8
Do not want	74.9		
Perceived ease of getting pregnant		Relationship with partner's relatives if couple had a child and broke up	
More than most women	24.3	Would continue	65.0
About the same as most	50.9	Would not continue	35.0
Less than most	24.8		
Frequency of intercourse		Total	100.0
≥once a week	75.9		
≤three times a month	24.1		

†Assessed at the second follow-up interview. ‡Includes Temporary Assistance for Needy Families, Aid to Families with Dependent Children and food stamps. Notes: Unless otherwise noted, variables were assessed at the third follow-up interview. The 1993 baseline survey collected data on women visiting clinics and maternity wards in Atlanta and Charlotte, but by the third follow-up survey, in 2000, some of these women were living elsewhere.

woman's age (14–24, 25–29, or 30 or older) and number of previous live births (none, one, or two or more). Three other demographic variables were drawn from the second follow-up survey: education (less than high school, high school or GED, or vocational or at least some college), whether the woman had worked for pay between the first and second follow-up surveys, and whether anyone in her

household had received public assistance (Temporary Assistance for Needy Families, Aid to Families with Dependent Children or food stamps) in that same period. Self-reported race (black or white) was collected at baseline.

Partner characteristics (from the respondent's report) were assessed at the third follow-up: Age (16–24, 25–29, or 30 or older) and education (high school or less,

vocational or at least some college, or don't know) referred to the time of conception or interview; how much he wanted a child with her (a lot, some, a little or not at all) referred to the 30 days prior to conception or interview.

Pregnancy-related variables included the woman's desire for a pregnancy in the 30 days before her pregnancy or the interview (do not want, don't care or ambivalent, i.e., "partly wanted to and partly did not want to") and her perceived fecundity (whether she thinks she can get pregnant more easily than most women when not using any birth control, about as easily or less easily). Finally, we assessed the frequency of sexual intercourse in the 30 days before the pregnancy or interview (at least once a week, 2–3 times a month or no more than once a month).

Analysis

We first examined the contraceptive method mix among the women, then performed bivariate and multinomial logistic regression analyses to assess associations between relationship characteristics and method use. In both bivariate and multivariate analyses, we conducted pairwise significance tests among categories of independent variables that were significantly related to the dependent variable. (Results of bivariate analyses are available upon request.)

In the multivariate analyses, we estimated three regression models. The first compared the likelihood of women's using condoms alone, withdrawal, female methods alone or dual methods with the likelihood of their using no method. The second model assessed the likelihood of any condom use (either alone or with a female method), and the third model examined the likelihood of any female method use (either alone or with condoms). To facilitate interpretation of these models, we calculated simulated probabilities: We changed the value of each category of a given independent variable one at a time first to 1 and then to 0, and calculated the probability for the dependent variable at each value, keeping the value of all other independent variables at their true value. Because the outcome categories of withdrawal and no method were identical in all three models, their predicted probabilities remained identical. The probability of any condom use in the second model equaled the sum of the probabilities of condom use alone and dual use in the first model (allowing for rounding errors); likewise, the probability of any female method use in the third model equaled the sum of the probabilities of female method use alone and dual use. All multivariate results are presented as predicted probabilities.

We conducted all statistical analyses using SUDAAN, version 8.0.2, to adjust for the complex survey design.¹⁷ We used weights to adjust for both sample design and attrition of eligible women over the survey rounds.

RESULTS

Descriptive Data

Although half of the women were aged 14–24 at the time of pregnancy or interview (Table 2), fewer than 1% were younger than 18 (not shown). Most respondents were in

TABLE 3. Percentage distribution of women by contraceptive methods used during the month of conception or interview and the previous month

Method	%
Female method alone	26.9
Sterilization	3.6
Implant/IUD	2.3
Injectable	7.9
Oral contraceptive	11.6
Barrier	1.5
Condom alone	34.0
Withdrawal	7.6
Dual methods	12.3
Condom and oral contraceptive	5.9
Condom and injectable	5.0
Condom and other female method	1.5
No method	19.2
Total	100.0

their 20s, and large majorities had children (84%) and were black (88%). One-third had less than a high school education at the second follow-up survey, and between the first and second follow-ups, 84% had worked for pay outside the home and 57% had lived in a household in which someone received public assistance.

The age of the women's partners ranged from 16 to 60 (not shown); most were in their 20s or 30s. Sixty-two percent of respondents reported that their partner had a high school education or less, and 34% said he had at least some vocational or college education. Nearly one-third said their partner wanted to have a child with them "a lot," while more than two-thirds answered "some," "a little" or "not at all."

Three-fourths of the women stated that they did not want to get pregnant, whereas one-fourth were ambivalent or did not care. Half believed that they would get pregnant about as easily as most women when not using any birth control, a quarter believed they would get pregnant more easily than most and a quarter believed they would get pregnant less easily than most. Three-fourths of the women had sexual intercourse at least once a week.

Nearly six in 10 respondents talked a lot with their partners about things that really mattered to them. Four in 10 were very satisfied with their relationships, and three-fourths reported that they were in sexually exclusive relationships. During the period of the relationship when conception or the interview occurred, 23% of women were married and 42% were cohabiting; 42% had had a child with their partner. Nine percent of respondents had been in their relationship for less than six months, 25% for 6–23 months and 66% for two years or more. Three-quarters expected their relationship to last a long time.

More than half of women expected that they would receive a lot of emotional and financial support from their partner if they got pregnant (52% and 60%, respectively), and 66% believed that their partner would be a really good

TABLE 4. Simulated probability of women's use of contraceptive methods, by selected characteristics, from multivariate regression analysis

Characteristic	Model 1					Model 2: any condom use	Model 3: any female method
	No method	Condom alone	Withdrawal	Female method alone	Dual methods		
DEMOGRAPHIC							
No. of live births							
0	0.19	0.37	0.12	0.20	0.12	0.49	0.32
1	0.19	0.26	0.13	0.28	0.14	0.41	0.42
≥2	0.19	0.38*	0.05*	0.28	0.10	0.49	0.38
Race/ethnicity							
Black	0.20	0.35	0.08	0.25*	0.13	0.48*	0.37*
White	0.15	0.27	0.07	0.41	0.10	0.37	0.52
Education							
<high school	0.22	0.41*	0.05	0.23	0.09*	0.50	0.31*
High school/GED	0.19	0.31	0.07	0.27	0.16	0.47	0.43
Vocational/≥some college	0.16	0.30†	0.13†	0.30	0.11	0.41	0.41†
PARTNER							
Education							
≤high school	0.19	0.33	0.08	0.27	0.13	0.46	0.40
Vocational/≥some college	0.17	0.40	0.06	0.26	0.11	0.50	0.37
Don't know	0.23	0.15*,†	0.33*,†	0.21	0.09	0.23*,†	0.29
PREGNANCY-RELATED							
Desire for a pregnancy							
Ambivalent/don't care	0.29*	0.32	0.07	0.25	0.07*	0.39*	0.32*
Do not want	0.16	0.35	0.08	0.27	0.14	0.48	0.41
RELATIONSHIP							
Communication							
A lot	0.16	0.38*	0.06	0.27	0.12	0.50	0.39
Some	0.21	0.28	0.09	0.27	0.15	0.43	0.42
A little/not at all	0.23	0.28	0.14	0.25	0.09	0.37†	0.35
Marital status							
Married	0.14	0.36	0.13	0.30	0.07	0.42	0.38
Cohabiting	0.21	0.35	0.06	0.28	0.09	0.45	0.37
Noncohabiting	0.21	0.32	0.06	0.23	0.18*,†	0.51	0.42
Had a child with partner							
Yes	0.24*	0.32	0.11*	0.23	0.10	0.43	0.33*
No	0.16	0.34	0.05	0.31	0.14	0.48	0.44
Duration of relationship							
<6 mos.	0.22	0.44	0.07	0.12	0.15	0.59	0.29
6–23 mos.	0.13	0.44	0.10	0.22	0.12	0.55	0.33
2–6 yrs.	0.23*	0.31*	0.08	0.27†	0.12	0.43*,†	0.38
>6 yrs.	0.20*	0.26*,†	0.07	0.35*,†	0.13	0.39*,†	0.49*,†,‡
Expected duration of relationship							
Long	0.18	0.34	0.09*	0.27	0.11	0.45	0.39
Medium/short	0.21	0.35	0.04	0.25	0.15	0.51	0.41
Emotional support from partner in event of pregnancy							
A lot	0.15*	0.36	0.08	0.25	0.16*	0.52*	0.41
Some/none/don't know	0.23	0.31	0.07	0.29	0.09	0.41	0.38

*Significantly different from percentage in the second row at p<.05. †Significantly different from percentage in the first row at p<.05. ‡Significantly different from percentage in the third row at p<.05. Notes: All variables listed in Table 2 were included in these models. Results are presented only for those variables that had a significant association with contraceptive use at p<.10 as indicated by F tests, and that had pairwise comparisons significant at p<.05.

father. Finally, two-thirds thought that if they had a baby, they would continue to have a close relationship with their partner's relatives even if they broke up with him.

During the 30 days before becoming pregnant or being interviewed, 27% of the women used a female contraceptive method alone, and another 12% used one with

condoms (Table 3, page 175). During the same period, 34% used condoms alone, and an additional 12% used condoms with a female method. Eight percent relied exclusively on withdrawal, and 19% used no method. Condoms were by far the most common method used by respondents. Oral contraceptives and injectables were

the next most common methods (used, alone or with condoms, by 18% and 13%, respectively). Only 4% of women reported sterilization; this proportion is small because women who had been sterilized prior to the earlier surveys were dropped from subsequent rounds.

Multivariate Analysis

In the multivariate analysis, five control variables and six relationship variables were associated with contraceptive use. Although the models included all of the variables listed in Table 2, in Table 4 we present the simulated probabilities only for those variables that had a significant association with contraceptive use at $p < .10$ as indicated by F tests and that had pairwise comparisons significant at $p < .05$.

•**Control variables.** No demographic variables were associated with women's contraceptive nonuse, but several were significantly related to the type of method used. Women who had had one birth were less likely than those of higher parity to use condoms alone (simulated probability of 0.26 vs. 0.38) and more likely to use withdrawal (0.13 vs. 0.05). Black women were more likely than white women to use any condoms (0.48 vs. 0.37) and less likely to use any female method (0.37 vs. 0.52). Compared with women with less than a high school education, those who had finished high school had probabilities of having used dual methods and any female method that were 7–12 points higher, while the probability that they used condoms alone was 10 points lower; women with vocational or at least some college education had probabilities of having used withdrawal and any female method that were 8–10 points higher.

The only partner characteristic associated with contraceptive use was education. Notably, however, only lack of knowledge of partner's level of education—rather than any given level—was significant. Compared with women who knew their partner's level of education, women who did not know it were less likely to use condoms (simulated probability of 0.15 vs. 0.33–0.40) and more likely to use withdrawal (0.33 vs. 0.06–0.08). Further analyses indicated that women who did not know their partner's education level had lower quality relationships than women who did know: They were less likely to be satisfied, to be in sexually exclusive relationships and to have good communication (not shown). This lack of knowledge was also associated with having less established relationships, but this association was weaker.

Compared with women who said they did not want to get pregnant, women who were ambivalent or did not care about getting pregnant were more likely to be nonusers (simulated probability of 0.29 vs. 0.16) and less likely to use dual methods (0.07 vs. 0.14). Furthermore, they were less likely to use any condoms (0.39 vs. 0.48) or any female method (0.32 vs. 0.41).

•**Relationship variables.** Communication was the only relationship quality variable that was associated with contraceptive use: Women who talked a lot with their

partner about things that really mattered to them were more likely than women who talked some to use condoms alone (simulated probability of 0.38 vs. 0.28), and more likely than those who talked a little or not at all to use any condoms (0.50 vs. 0.37).

All of the relationship establishment variables were associated with contraceptive use. Respondents who were married or cohabiting were less likely than those who were noncohabiting to use dual methods (simulated probability of 0.07–0.09 vs. 0.18). Women who had had a child with their partner were more likely than others to be contraceptive nonusers (0.24 vs. 0.16) and to use withdrawal (0.11 vs. 0.05), and less likely to use any female method (0.33 vs. 0.44). Women in relationships of two or more years rather than 6–23 months were more likely to be nonusers (0.20–0.23 vs. 0.13). Longer relationship duration was also associated with increased use of any female method (e.g., 0.29 for less than six months vs. 0.49 for more than six years) and decreased use of any condoms (e.g., 0.59 vs. 0.39, respectively). Women who expected their relationship to last a long time had an increased likelihood of using withdrawal (0.09 vs. 0.04).

Finally, the only expectation variable associated with contraceptive use was that of emotional support. Compared with women who expected some or no emotional support from their partner if they became pregnant, women who expected a lot of support were less likely to be nonusers (simulated probability of 0.15 vs. 0.23) and more likely to use dual methods (0.16 vs. 0.09) and any condoms (0.52 vs. 0.41).

DISCUSSION

Because the women in this study were sexually active and did not want to get pregnant during the reference period, or were ambivalent or did not care, they needed to be using highly effective contraceptive methods to avoid having an unintended pregnancy. However, one-fifth were using no birth control, and two-fifths were using condoms alone or withdrawal—methods that are relatively ineffective for pregnancy prevention. Our results suggest that a consideration of the characteristics of women's relationships with their sexual partners may provide insight into the contraceptive use of women who are at risk of unintended pregnancy.

We hypothesized that relationship quality has opposite effects on women's motivation to use contraception and their ability to do so, and as a result relationship quality can either increase or decrease the likelihood of women's using any contraceptives. The predicted opposing influences may have led to the lack of association between the relationship quality variables and contraceptive nonuse. We also hypothesized that associations with condom use and dual method use differ for these variables: that women with good communication and greater satisfaction with their relationships are more likely to use condoms and dual methods, while those in exclusive

relationships are less likely to use them. The hypothesis that women with better partner communication are more likely to use condoms was supported. In contrast, we found no association between either relationship satisfaction or sexual exclusivity and condom use, and none of the relationship quality variables was associated with dual method use. Although women in nonexclusive relationships might have considered themselves at higher risk for STDs and therefore been more motivated to use condoms, being in such a relationship may have been correlated with individual characteristics, such as low self-efficacy, that may have affected their ability to negotiate condom use. Women who did not believe their partners were exclusive may also have been less likely to have enough power in the relationship to insist on condom use. Studies have shown that women with less power in their relationships have a decreased likelihood of using condoms.^{13,18-20} Interestingly, women who did not know their partner's education level were also less likely to use condoms; this lack of knowledge most likely reflected a lower quality relationship. Because the two levels of partner's education were not associated with use, we conclude that the education level itself was not significant.

We also hypothesized that women in more established relationships are less motivated than others to avoid an unintended pregnancy and therefore more likely to use no method. Furthermore, we predicted that women in such relationships are less likely to use condoms, withdrawal or dual methods and more likely to use female methods. The findings supported our hypotheses, with two exceptions. First, women in more established relationships were not consistently more likely to use female methods. Although women in longer relationships were, as hypothesized, more likely to use female methods, those who had had a child with their partner were less likely to use any female method. The reason for this is unclear, although it may be related to their level of motivation to avoid a pregnancy. The negative consequences of having a child with their partner may seem smaller to women who have already had one, making them less motivated to use more effective female methods. The second exception was that women in more established relationships were more likely than those in less established relationships to use withdrawal. Little research has investigated the factors influencing the use of withdrawal in this country, although research in Turkey has shown that many couples rely on withdrawal to avoid the potential side effects of female methods.^{21,22} Many American couples are concerned about the side effects of hormonal methods,²³⁻²⁵ and perhaps some of them start out using condoms to avoid these methods, but subsequently switch to withdrawal once the relationship becomes more established.

Only one expectation variable was significant, and the associations were in the opposite direction of that hypothesized: Women expecting a lot of emotional support from their partners were more likely than women

expecting some or none to use contraceptives, and specifically to use dual methods or condoms. The expectation of a lot of emotional support in the event of a pregnancy might have reflected the quality of the relationship more than it reflected anticipated support, as these women were probably already receiving high levels of emotional support from their partners. Expectations of emotional support may therefore have facilitated contraceptive use in the same way that had been hypothesized for relationship quality, thus decreasing nonuse and increasing dual method use.

Limitations and Strengths

The data used in this study are subject to some limitations. First, because at baseline all women were choosing a different contraceptive method from the one (if any) they had used recently, the sample may be skewed toward women who are likely to use contraceptives. However, we believe any potential bias is limited, because more than 60% of respondents had enrolled in the study within three months of delivering a baby, and most of them had been strongly encouraged by providers to choose a method. Furthermore, many women stopped using any method over the course of the study. Second, women in the pregnancy group might have been selected for a period when they were using less effective methods or no method. Third, the data collected from these women may be affected by recall bias, because the pregnancy may have occurred between one month and 4.5 years prior to the interview. In preliminary qualitative research, however, we found that because women's contraceptive use prior to a pregnancy was highly salient to them, they had no difficulty recalling it.

An additional limitation is that the data do not include measures for some constructs that could be important. Because we used data from a survey designed to study unintended pregnancy, limited data on the risk of STD or HIV infection were available. We also lacked measures for women's access to family planning services, as well as some relationship factors that may influence contraceptive use, such as power, conflict and trust in relationships.

An important strength of the study, however, was the collection and analysis of data on a wide variety of relationship characteristics that have not been previously examined. Other advances offered by the present analysis were the examination of the full range of contraceptive behaviors—nonuse; use of condoms, withdrawal or female methods; and dual use of condoms and female methods—and the exclusion of women who wanted to get pregnant, thus limiting the analysis to women who were at risk of unintended pregnancy.

Conclusions

Our findings highlight the importance of family planning providers' considering women in the context of their relationships when providing them with contraceptive

services. Women in low-quality relationships, in particular, may need additional support to enhance their ability to practice contraception. For these women, long-term methods, whose use is not strongly affected by cooperation or support from the partner, may be especially appropriate. Some women in low-quality relationships may also need protection from HIV and other STDs; reliance on long-term methods will not provide adequate protection, and these women may require counseling on how to get their partners to use condoms. The development and provision of female-controlled methods for STD prevention may be particularly important for these women.

It is notable that in this population of women at risk of unintended pregnancy, those in more established relationships were less likely to be using any contraceptives and more likely to be relying on withdrawal. Women in such relationships may therefore need additional support in considering the full array of methods available to them, thinking through their pregnancy intentions and determining if their current contraceptive practice is adequate to realizing those intentions.

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Acknowledgments

The research on which this article is based was funded by grant RO1-HD34897 from the National Institute of Child Health and Human Development. The authors thank Tzy-Mey Kuo for statistical and programming support, and C. M. Suchindran for thoughtful analytic advice.

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