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Effects of relationship context on contraceptive use among young women

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Abstract

Objectives: To understand how relationship status influences contraceptive use among young people.
Study Design: Data were collected as part of a longitudinal study on hormonal contraception among unmarried adolescent and young women who wanted to avoid pregnancy for at least one year, recruited at family planning clinics in the San Francisco Bay Area. Follow-up surveys were completed at 3, 6, and 12 months. Longitudinal analysis was used to examine whether relationship characteristics, including type and length of sexual relationship are associated with current use of effective contraception.
Results: Among women with a partner at baseline, 78%, 70%, and 61% had the same partner at 3, 6, and 12 months follow up, respectively. Women in casual relationships were less likely to use effective contraceptive methods, compared to women in consistent relationships (AOR=0.67, $p<.01$). Women in new relationships (0–3 months) were less likely to use effective contraceptive methods (AOR=0.60, $p<.001$) compared to women in relationships more than one year in length. Younger women (AOR=0.76, $p<.05$), black women (AOR=0.67, $p<.05$) and Latina women (AOR=0.73, $p<.05$) were also significantly less likely to use effective contraception. These effects remained even after controlling for condom use.
Conclusions: Relationship type and length are independently significantly associated with current effective contraceptive use among adolescent and young women. Women in casual relationships and new relationships were significantly less likely to use effective contraceptive methods.
Implications: Family planning providers should discuss women's relationship context and association with contraceptive use in order to help women think of contraception as a long-term personal strategy. Since relationship status affects contraceptive use, providers and programs that aim to reduce unintended pregnancy can consider strategies to create a paradigm shift around contraceptive use that focuses on the woman's reproductive goals, current life stage, and life goals.

Keywords: Contraceptive use; relationships; adolescents; young women; longitudinal; commitment

1. Introduction

High rates of nonuse and discontinuation of contraceptive methods are major contributors to unintended pregnancy. More than 32% of women discontinue the pill [1] and more than 44% discontinue use of injectable contraception within one year [1,2]. A myriad of factors are associated with contraceptive nonuse and discontinuation including age, race, income, method-related factors, and relationship status [3].

Improving our understanding of relationship dynamics may offer opportunities for intervention through tailored counseling and expanded sex education programming. Studies of sexually active teenagers find that relationship characteristics, such as age at first sexual encounter [4], relationship type and length [5], level of intimacy [5], communication [6], and partner homogamy [7] are associated with contraceptive use. One national study found that young women's odds of ever having used contraception in first sexual relationships increased with the relationship duration and decreased if they had not known their partner before dating him. However, odds of consistent use (vs. inconsistent or no use) were higher for women in more casual relationships than for those in

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committed relationships and for women using a hormonal method instead of condoms [8].

Evidence on how relationship type influences contraceptive use is also mixed among adults [7,9–12]. Women in erratic relationships may be less likely than others to plan sexual intimacy, leaving them unprepared to protect against pregnancy [13]. Yet, living in a marriage-like arrangement may reduce the motivation to avoid a pregnancy, and thus reduce effective use of contraception [14,15].

The effect of relationship length on contraceptive use in adults is also unclear. One United States (US) study found that longer relationships were associated with contraceptive nonuse or use of less effective methods [11]. However, in another study Latina women in relationships of one to two years were nearly three times more likely to use contraceptives as women in relationships of less than one year [12].

A greater understanding of the dating context among young people is needed to understand the dynamic nature of relationships and contraceptive use. We analyzed relationship and contraceptive use data over time data from a longitudinal study among a cohort of adolescents and young women who reported not wanting to get pregnant for one year and who initiated hormonal contraceptives.

2. Methods

2.1. Study sample

Data were collected from September 2005 to July 2008 as part of a study on contraceptive continuation of hormonal contraceptives at four Planned Parenthood health centers in the Bay Area [2]. The study enrolled women who selected to initiate a hormonal contraceptive. Women were eligible for inclusion if they were aged 15 to 24, not married, able to read English or Spanish, not pregnant, and not desiring pregnancy within the next year.

The University of California, San Francisco's Institutional Review Board approved the study. Research staff obtained informed consent. Participants completed electronic questionnaires at baseline and at 3, 6, and 12 months in-person or by phone interview. The survey was programmed to allow information reported at earlier surveys, like the name of the method initiated and the name (or nicknames) of sexual partners, to be merged into follow-up surveys. Study participants received $30 for completing baseline and 12-month follow-up questionnaires and $20 for completing the 3- and 6-month follow-up questionnaires. More details on study procedures are available elsewhere [2].

2.2. Primary outcome

The primary outcome of interest was current use of an effective method. As a proxy, we used contraceptive use at last sex, recorded at each visit (baseline, 3, 6, and 12 months). We included baseline observations because all women had similarly low likelihood of using an effective method pre-baseline, due to the study design. We coded women who reported having used the pill, patch, vaginal ring, DMPA, implant, or IUD at follow-up as using an effective contraceptive method. We coded women who reported using condoms or other methods as not using an effective contraceptive method. We excluded women who reported not having had sex in the last 30 days from the outcome variable.

2.3. Measures

The main independent variables of interest were two relationship characteristics: length and type. Women who reported having a current sexual partner were asked, "How long have you been seeing your main partner?" Responses were categorized as: 0–3 months, 4–6 months, 7–12 months, and more than one year. Responses of those without a partner were categorized as missing. For relationship type, women were asked, "How would you describe your main partner or your relationship with your main partner? He's my..." The following responses were categorized as being in a casual relationship: Associate, Baby's Daddy, Business, Casual partner, Friend with benefits, Hype, Sugar Daddy, Work/Twork, Other, Don't want to answer. Women who answered either "Boyfriend," "Main guy/partner," or "Husband" were categorized as being in a consistent relationship. These descriptors were derived from qualitative research with the study population [16]. Women who answered no to: "Is there a guy you are having sex with or are planning to have sex with?" were coded into a third category as not having a partner.

We also examined relationship commitment, conceptualized as the intrinsic benefit or importance of the relationship [17], using an 11-item standardized scale, adapted from the "Dimensions of Commitment Inventory" [18] which has been used among adolescent [19], unmarried, and cohabitating couples [20,21]. The Inventory included such items as, "I want to grow old with my partner," "It is really important to me to make my relationship as good as it can be," and "I like knowing that my partner and I are a couple". Participants chose from a five-point Likert scale ranging from Strongly Disagree to Strongly Agree. Because this inventory was developed to measure marital commitment, only a subset of the items could be adapted for the dating context. The combined measure had high internal consistency (Cronbach's alpha=0.871). A higher score on the scale represents a more committed relationship; the variable was dichotomized into high and low scores. This measure was assessed only at baseline and not for each partner over time, so was excluded from the models.

2.4. Data analysis

First, socio demographic and relationship characteristics were described and unadjusted associations between the independent variables and the outcome variable were examined. Second, we analyzed the intersections of

relationship type, relationship length, and relationship commitment score, using chi-square tests. Third, we employed two multivariable mixed-effects models, accounting for correlated repeated measurements within subjects, to examine the associations between relationship type and length and use of effective contraceptive methods. The unit of analysis was defined as women at each follow-up period and each was treated as a separate observation. Therefore, each participant could contribute up to four observation periods (pre-baseline, baseline to 3 months, 3 months to 6 months, and 6 months to 12 months). When analyzing "person-period" data sets, a time variable is needed to identify the specific occasion of measurement the period describes [22]. In our dataset, it represents the number of months since baseline. Missing data were encoded as their own category to allow for the inclusion of participants who might be missing values on one independent variable.

We refined the multivariable model based on results from bivariate analyses, previous results found in the literature, and known confounders. Model 1 examines the impact of relationship context on contraceptive use. Model 2 replicates Model 1 but includes condom use as an independent variable. Odds ratios and confidence intervals were estimated. All analyses were conducted using Stata 13 (College Station, Texas).

3. Results

We collected data on 1387 women; 71 women were lost to follow up and thus excluded from the sample, leaving 1316 in the final sample. The average age of participants at baseline was 19 years old (range: 15–25) (Table 1). One-third were black (36%), nearly one-third were Latina (27%), and 11% were white. Nearly one-fifth (17%) were not working and not in school and almost half (45%) were living in low-income neighborhoods.

At baseline, the majority of women (69%) were in consistent relationships, 14% had casual partners, and 17% had no sexual partner. Comparisons of relationship type, based on descriptors of partners, and the commitment scale showed agreement. Among women in consistent relationships at baseline, 57% (95% CI: 0.53, 0.61) had high scores on the relationship commitment scale, compared to 30% (95% CI: 0.18, 0.42) of women in casual relationships. Women who had been in relationships for more than one year at baseline were more likely to have a high score on the relationship commitment scale (58%, 95% CI: 0.53, 0.64) than women who had been in relationships for 4–6 months (46%, 95% CI: 0.35, 0.57) or 0–3 months (38%, 95% CI: 0.28, 0.48).

At 12 months after baseline, 63% (95% CI: 0.56, 0.67) of women in consistent baseline relationships were still with the same partner and 54% (95% CI: 0.43, 0.65) of women in casual baseline relationships were still with the same partner. Similarly, at 12 months, 69% (95% CI: 0.64, 0.74) of women with high scores on the relationship commitment scale were still with the same partner, while 52% (95% CI: 0.45, 0.59) of women with low relationship commitment scores were still with the same partner.

Table 1
Selected characteristics of the study sample at baseline (n=1316).

	n	%
Total	1316	100.0
Socio demographics		
Mean Age (range 15–25, SD 2.5)	19.2	
Age		
15–17	470	35.7
18–19	421	31.9
20–24 (ref)	425	32.3
Race/Ethnicity		
White (ref)	143	10.9
Latina	349	26.5
Black	469	35.6
Asian/Pacific Islander	145	11.0
Multiracial/Other	210	15.9
Not working or in school	224	17.0
Neighborhood Income - % poverty level		
% of families in zip code above federal poverty line	716	55.4
% of families in zip code below federal poverty line	575	43.69
Missing	25	1.90
Clinic Site		
East Oakland	407	30.9
Hayward	329	25.0
Vallejo	154	11.7
Richmond	426	32.4
Relationship Characteristics		
Relationship type at baseline		
No partner	218	16.6
Consistent partner	902	68.54
Casual partner	187	14.21
Missing	9	0.68
Relationship length at baseline		
0–3 months	244	18.54
4–6 months	179	13.60
7–12 months	162	12.31
>1 year	503	38.22
Missing	228	17.33
Relationship Commitment Scale		
High score	572	43.5
Low score	517	39.3
No partner	218	16.6
Missing	9	0.68
Relationship with baseline sexual partner		
Had a sexual partner at baseline (N=1310)	1092	83.46
Still with baseline partner at 3 months, if had partner (N=884)	690	78.05
Still with baseline partner at 6 months, if had partner (N=886)	623	70.32
Still with baseline partner at 12 months, if had partner (N=853)	523	61.31
Use of Contraception		
Used an effective contraceptive method at last sex		
At Baseline (n=1184)	183	15.46
3 months (n=1072)	804	75.0
6 months (n=1068)	636	59.6
12 months (n=1003)	514	51.25
Used a condom at last sex		
At BL (n=1291)	511	39.6
3 months (n=1219)	486	39.9
6 months (n=1244)	523	42.04
12 months (n=1200)	473	39.42

At baseline, 15.5% of the women had used an effective contraceptive method at last sex at baseline. At 3 months, this percentage increased to 75%, then fell to 60% by 6 months and 51% by 12 months.

In the multivariable model, women's odds of effective contraceptive use varied significantly by relationship length and type (Table 2, Model 1). Compared with women in relationships lasting more than one year, women in new relationships (0–3 months) were less likely to use an effective method (AOR = 0.60, 95% CI: 0.47, 0.77). Women in casual relationships (AOR = 0.67, 95% CI: 0.53, 0.84) had lower odds of effective contraceptive use than those in consistent relationships. Women aged 15–17 years (AOR = 0.76, 95% CI: 0.61, 0.94) had lower odds of effective contraceptive use than those 20–24 years. Black women had lower odds of effective contraceptive use compared with white women (AOR = 0.67, 95% CI: 0.49, 0.92). These effects remained significant after controlling for condom use (Table 2, Model 2). Condom use was not significantly associated with odds of effective contraceptive use.

Table 2
Adjusted odds of current effective contraceptive use.

	Model 1 (n=4323 follow-up periods)		Model 2 (n=4304 follow-up periods)	
	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Characteristics				
Relationship length				
0–3 months	0.60***	0.47, 0.77	0.60***	0.47, 0.77
4–6 months	0.97	0.77, 1.23	0.97	0.76, 1.23
7–12 months	1.14	0.92, 1.43	1.14	0.91, 1.42
>1 year (ref)				
Relationship type				
Consistent partner (ref)				
Casual partner	0.67**	0.53, 0.84	0.66***	0.53, 0.83
No partner	1.42	0.27, 7.52	1.61	0.29, 8.78
Age				
15–17	0.76*	0.61, 0.94	0.77**	0.62, 0.95
18–19	1.00	0.81, 1.24	1.00	0.81, 1.24
20–24 (ref)				
Race				
White (ref)				
Latina	0.73*	0.54 0.99	0.72*	0.52, 0.98
Black	0.67*	0.49, 0.92	0.66**	0.48, 0.90
AS/PI	0.79	0.55, 1.15	0.78	0.54, 1.14
1+/Other	0.81	0.58 1.14	0.79	0.56, 1.11
Not working or in school	0.80	0.63, 1.01	0.79	0.62, 1.01
Neighborhood Income[1]	0.99	0.99, 1.00	0.99	0.99, 1.00
Clinic Site				
East Oakland (ref)				
Hayward	1.03	0.81, 1.31	1.02	0.80, 1.30
Vallejo	1.47*	1.09, 1.99	1.45*	1.06, 1.96
Richmond	1.30*	1.04, 1.63	1.29*	1.03, 1.62
Condom use at last sex			1.01	0.99, 1.02
Time (months)	1.09***	1.08, 1.11	1.09***	1.07, 1.11

***p<.001; **p<.01; *p<.05.
The unit of analysis is follow-up visits. Data on relationship length were missing for 1156 follow-up periods, data on relationship type were missing for 272 follow-up periods, and data on neighborhood income were missing for 100 follow-up periods.
[1] % families in zip code living below the federal poverty level.

4. Discussion

In this sample of young women wanting to avoid pregnancy, using more nuanced methods to assess relationships, we found independent associations between relationship type and length and effective contraceptive use. The odds of contraceptive use were lower in casual and shorter relationships compared to consistent and longer relationships. Women in casual relationships, or without a partner, were also less likely to be currently using effective contraceptive methods than those in consistent relationships. These effects remained, even after controlling for condom use, suggesting that condom use alone does not appear to explain why women in casual and new relationships have lower odds of using effective methods. These findings point to a more complex interaction between relationships and contraceptive use, extending previous research, which demonstrates that women in committed relationships are better contraceptive users [4,7,8] and that women trade hormonal methods for condoms [5,23,24].

Overall, these findings suggest that relationship context is independently associated with contraceptive use, which changes as women move in and out of relationships. Women in casual relationships may not perceive a need for contraceptive use because they connect use of hormonal contraceptives to the importance or "seriousness" of the relationship. Women in new relationships may not have the opportunity to obtain effective contraception or alternatively are reluctant to use an effective method until they know whether the relationship will be committed. Women in longer duration relationships may be less likely to use an effective method because they are less concerned about becoming pregnant.

Based on these findings, it is likely then that a woman's relationship context may be one of the factors that prevents her from using methods in a way that provides contraceptive protection commensurate with her pregnancy, childbearing, and life goals. Our data suggest that a paradigm shift may also be needed to help encourage women to think about contraceptive protection connected to life stage and reproductive goals, in addition to relationship status and infection risk, allowing them to initiate methods "before" or regardless of whether they are in a committed relationship.

The idea of counseling around reproductive life goals is consistent with the CDC's guidelines on providing quality family planning services in the US [25,26]. These guidelines recommend that all providers offer all people who are capable of having a child in their lifetimes counseling about their reproductive health goals. While one study found that reproductive life plan counseling does not increase overall contraceptive use [27], further research is needed to assess whether it increases satisfaction or consistent use among young women.

This study augments the literature because it demonstrates that using a more nuanced method to assess relationships, by asking women directly about the nature of their relationships and labels they may use for their partner, can provide insight on contraceptive use. A recent study demonstrated that classifying short-term relationships based on length of relationship alone as "casual" or long-term ones as "serious" may ignore heterogeneity within these categories that may have implications for contraceptive use [28]. Instead perhaps providers should discuss these nuances with their clients by inquiring about the nature of their relationships as well as clients' long-term reproductive goals.

This study has some limitations. The study examined racially/ethnically diverse young women from public family planning clinics in California and thus our findings may not be generalizable to other women or women not seeking contraceptives. Additionally, the study design focused on women who initially selected short-acting reversible methods at baseline, and therefore long-acting contraceptives (LARC) are under-represented in the study. When the data were collected (2005–2008), few women were initiating long-acting methods but since then method mix has changed substantially. It is unknown how increased availability and use of LARC affects the association between relationship status and method continuation. Additional studies are needed to understand the associations and interactions between changes in relationships and LARC use, given the higher continuation rates seen with these methods. Finally, use of effective contraceptive methods is based on retrospective self-reports subject to recall bias. Nevertheless, the longitudinal nature of the study makes these findings an important contribution to our understanding of relationship effects on contraceptive use.

For providers who counsel patients interested in initiating contraceptives, it may be useful to better understand the nature of the relationships their clients are in rather than making assumptions based only on limited inquiries. More research on simple questions that provide better insight into relationship status may be helpful. Family planning programs should also consider counseling and messaging strategies that encourage women to think about contraception in the context of life stages and reproductive goals, rather than based on a particular relationship.

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