Utilization of Birth Control Services Among Homeless Women

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Although homeless women appear to be at notable risk of unintended pregnancy, insufficient attention has been paid to understanding their access to birth control services and the characteristics of homeless women who want birth control services. To address these research gaps, the authors analyzed data from a probability sample of 974 homeless women who were interviewed in shelters and meal programs in Los Angeles County. Multivariate logistic regression analysis revealed that among those women who wanted birth control services during the past year, using these services was associated with fewer perceived barriers to health care, having a regular source of care, consistent use of contraception, and lower odds of alcohol dependence. Availability and cost barriers to birth control services must be reduced, and effective service linkages should be developed among providers of birth control services, substance abuse treatment, and primary care.

Public health and women's reproductive rights advocates have made forceful arguments over the years supporting availability of safe birth control methods and family planning services (Brown & Eisenberg, 1995; Ruzek, 1978; Weisman, 1997). Availability of safe and effective contraceptive methods has increased over the past few decades (Qureshi & Attaran, 1999; Sable & Libbus, 1998; Speroff, 1998). However, nearly half of the 5.4 million U.S. pregnancies yearly are unintended, which is a rate that exceeds the Healthy People 2000 objective (Fu, Darroch, Haas, & Ranjit, 1999; Henshaw, 1998; U.S. Department of Health and Human Services, 1991). More than half of those unintended pregnancies occur among women who did not use contraception despite no apparent intent to become pregnant (Harlap, Kost, & Forrest, 1991). These findings and

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the fact that unintended pregnancy carries risk of poor pregnancy outcome and adverse socioeconomic consequences for women (Institute of Medicine, 1995) suggest that efforts to enhance women's access to birth control methods and services should be redoubled.

The 1995 National Survey of Family Growth (NSFG) and the 1994-1995 Abortion Patient Survey (APS) indicate that poverty presents a notable barrier to contraception in the United States (Fu et al., 1999). Rates of unintended and unwanted pregnancies have been especially marked among impoverished women, suggesting a growing disparity in access to family planning services between poor and nonpoor women (Mitchell & McCormack, 1997). Perhaps the most impoverished women in this nation are homeless, and they may be at notable risk of unintended pregnancy. At any given time, approximately one fifth of homeless women are pregnant, which is a rate twice the national average (Wright, Weber-Burdin, Knight, & Lam, 1987). Among homeless women recently interviewed in Los Angeles, 41% had used no contraceptive method of any kind during the past year, although the average reported frequency of vaginal intercourse during that time was once per week (Gelberg, Leake, Lu, Andersen, & Wenzel, 1999).

Although a few studies have investigated homeless women's contraceptive practices and endorsements of different types of methods (Galavotti et al., 1995; Gelberg et al., 1999), previous research to our knowledge has not investigated homeless women's access to birth control services, nor has sufficient attention been paid to the characteristics of homeless women who desire birth control services. Identification of specific methods that homeless women are currently using or are willing to use in the future to protect themselves against unintended pregnancy is important for informing clinical prevention programs targeted at these women. However, using many of the effective contraceptive methods (e.g., oral contraceptives, Norplant) first requires that homeless women access the health care system and make a physician or clinic visit (Radecki & Bernstein, 1989).

OBJECTIVE

Using information reported by a large probability sample of homeless women interviewed in shelters and meal programs in Los Angeles County, we describe the characteristics of homeless women who desire birth control services and document and explain homeless women's use of birth control services. Because homeless women who do not access these services may be the least likely to use contraceptive methods or to use them effectively (Shuler, Gelberg, & Davis, 1995), it is important to understand the characteristics associated with homeless women's desire for birth control services as well as their use of them. Understanding access to birth control services is particularly relevant in light of the evidence that homeless persons face serious barriers to receiving

appropriate health care services generally (Gelberg, 1996; Koegel, Sullivan, Burnam, Morton, & Wenzel, 1999; Plumb, 1997; Wenzel, Koegel, & Gelberg, 1996). The underlying premise of this study is that homeless women who wish to avoid pregnancy must be afforded the means to do so and that access to birth control services is an important step toward this goal.

THEORETICAL FRAMEWORK

A widely employed model of health services utilization (Aday, Andersen, & Fleming, 1980; Andersen & Newman, 1973), one that has guided a number of studies of access to care among homeless individuals (Koegel et al., 1999; Padgett, Struening, & Andrews, 1990; Wenzel et al., 1995) and that has been updated for use with homeless and other vulnerable populations (Gelberg, Andersen, & Leake, 2000), guides this analysis and the interpretation of results of birth control service use. This model of health services utilization is also used to describe the characteristics of women who express a desire for contraceptive services.

According to the Andersen model (Aday et al., 1980; Andersen & Newman, 1973) of health services utilization, use of services is a function of predisposing, enabling, and need characteristics. Predisposing or individual characteristics may describe the inclination of people to use services, and enabling characteristics represent financial or other support to use services and attributes of service systems that can facilitate access. An individual's need for services may be either as perceived by the person or as assessed by professionals. A policy-relevant distinction can be made between equitable and inequitable access to services; access is equitable when utilization can be explained by need (Aday et al., 1980). Access explained by characteristics other than need may indicate areas for policy change.

HYPOTHESES

Although use of birth control services among homeless women is poorly understood, evidence indicates that access to other health care is not equitable for homeless persons and is typically dependent on a variety of factors not restricted to need for care (Gallagher, Andersen, Koegel, & Gelberg, 1997; Gelberg et al., 2000; Koegel et al., 1999; Padgett et al., 1990). We therefore hypothesized that in addition to need factors, predisposing (e.g., more severe homelessness) and enabling characteristics (e.g., having health insurance) would make significant contributions to understanding homeless women's use of birth control services.

METHOD

PARTICIPANTS

The sample for this investigation participated in a larger study that examined health care issues relevant to homeless women of reproductive age (Gelberg, Andersen, Browner, & Wenzel, 1995). Data were collected on a total of 974 homeless women ages 15 to 44 between January and October of 1997 in 60 shelters and 18 meal programs located within Los Angeles County, California. A woman was defined as homeless if she spent any of the past 30 nights (a) in a mission, homeless shelter, or transitional shelter; a hotel paid for by a voucher, church, or chapel; an all-night theater or other indoor public place; an abandoned building; a car or other vehicle; the street or other outdoor public place; or (b) in a rehabilitation program for homeless people and also stayed in one of the settings mentioned above in (a) during any of the 30 nights before she entered the rehabilitation program.

SAMPLE DESIGN AND PROCEDURES

The participants were obtained using a two-stage sampling procedure. The first stage employed lattice sampling with probabilities proportional to a measure of size (i.e., number of visits made by eligible homeless women for a typical week of shelter or meal operation) to selected sites stratified by geographic region within Los Angeles County and by site type (i.e., shelter or meal program). In the second stage, systematic random sampling with equal probabilities was used to select homeless women visits to study sites. These two stages collectively produced a self-weighting sample of homeless women visits. Because women were sampled with replacement over a relatively short (10-month) period of time, individuals who had been interviewed previously were often selected. These individuals were not reinterviewed; rather, a compensatory frequency component was incorporated into analysis weights. Nonresponse attributable to loss of sites was 5.6%; nonresponse for women within sites was 14.0%. The combined nonresponse rate was 18.8%.

Interviewers worked in teams at each site; the size of the team was estimated from the site's measure of size. The team leader randomly selected women to be screened for eligibility from bed lists, meal lines, waiting areas, or other congregating areas. Each woman who was selected was approached by one interviewer. Those who orally consented to participate in the screening interview and met the eligibility criteria for the study (homeless, age 15 to 44) were either administered the full interview immediately or after finishing their meal. In some shelters, such as those housing clients who worked during the day, women

were selected from bed lists or diagrams and contacted later to set up an appointment to be interviewed. Participants were paid $2 for completing a screening interview and $10 for completing the full survey. The study was approved by the University of California, Los Angeles, and RAND institutional review boards.

MEASURES

Birth control services utilization. Operationalization of birth control services utilization was based on questions asked of a household sample of reproductive age (15-44) women in the 1995 NSFG (U.S. Department of Health and Human Services, 1997). Nonsterile women in this study were first asked if, during the past 12 months, they had wanted to see a doctor to obtain a method of birth control or a prescription for a method, such as pills, shots, or other help so that they would not get pregnant. An affirmative response to this question was immediately followed by, "Did you see a doctor for a method of birth control or a prescription for a method, such as pills, shots, or other help so that you wouldn't get pregnant?" Thus, we investigated use among a subsample of women who expressed a desire or perceived need for services.

Predisposing characteristics. Predisposing characteristics were demographics, perceived barriers to general health care, social structure, general health status and hospitalization, and psychiatric disorder. Demographic variables were age, currently living with a partner, and having their children living with them during the past year. Perceived barriers were represented by a scale that asked women to rate 16 items in terms of how much of a problem each was (3 = *big problem*, 2 = *small problem*, or 1 = *not a problem*) in getting health care. Items were developed for the study based on in-depth interviews with homeless women and literature review and included issues of finding care, transportation to care, clinic hours, privacy, fear, and cost concerns. Scale scores were represented by the mean of the items. Internal consistency of this unpublished scale was .86 for the full sample of 974 homeless women.

Social structure included ethnicity, education, and severity of homelessness (i.e., percentage of time living in the streets past 60 days, homeless more than 12 months and for more than one episode during the lifetime) (Koegel & Burnam, 1991). General health status was rated from *excellent* to *poor* using a single item with a 5-point Likert-type scale. This item was converted to a dichotomous "excellent, very good, good" versus "fair or poor" variable (Collins et al., 1999). The health status item has frequently been used in surveys as a general health indicator (Aday, 1991; Golding, Stein, Siegel, Burnam, & Sorenson, 1988; Ware & Sherbourne, 1992). We also looked at whether women had been hospitalized for any reason during the past 12 months (Padgett et al., 1990; Wenzel et al., 1995).

For the domain of psychiatric disorder, the homeless women were administered screening instruments to assess depression during the past year and abuse

of or dependence on alcohol and other drugs during their lifetime. The screener for a 12-month diagnosis of depression or dysthymia (Rost, Burnam, & Smith, 1993) consists of two items from the Diagnostic Interview Schedule (DIS) (Robins, Helzer, Croughan, & Ratcliff, 1981) and one item from the Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977). Using a Los Angeles community sample, sensitivity was 81% (i.e., 81% of the time, the measure will detect a disorder when it is present) and specificity was 95% (i.e., 95% of the time, the measure will not detect a disorder when it is not present) when compared against the full DIS (Rost et al., 1993). Lifetime alcohol and drug abuse or dependence were also determined using screening instruments developed from the DIS (Robins et al., 1991; Rost et al., 1993). In community samples, the sensitivity of the alcohol screener against the full DIS ranged from 87% to 91% and the sensitivity of the drug screener was 91% to 92% (Rost et al., 1993). Specificity for both screeners exceeded 91%.

Enabling characteristics. These variables included both personal/family resources and an approximation of community resources (Wenzel et al., 1996). Respondents reported total income during the past month, whether they were employed full or part time, and whether they were covered by any public or private insurance in the past year. We also included regular source of medical care (i.e., "one place . . . like a doctor's office or clinic, where you go when you are sick or want advice about your health"), because it is a resource that may be associated with access to services (Donovan, 1996; Gallagher et al., 1997). We also asked the women whether they had a case manager and whether anyone encouraged them during the past year to obtain a birth control method or medical care. Community resources were represented by the proportion of time women reported spending in the central or south-central city areas of Los Angeles (areas with the largest concentrations of homeless persons) versus other areas during the previous 60 days. The central city area contains more services targeted at homeless persons than many other areas of the city. This area also, however, has the largest concentration of homeless people in the city. Thus, although we explore community resources with the data available in this study, a possible demand for services that exceeds supply may mitigate their importance.

Need characteristics. The interview with homeless women was designed such that only those women who said they wanted to see a doctor for birth control services during the past year were asked whether they did see a doctor for birth control services in that year. Thus, the question about use of birth control services was targeted at women who had already expressed some perceived need for services. Among these women, we considered a number of additional variables as indicators of need for birth control services. It is possible that even women who wanted birth control services during the previous year considered becoming pregnant during that year, and thus we included a woman's report of

attempting or not attempting to become pregnant sometime during that year. Using guidelines from the 1995 NSFG (National Center for Health Statistics, 1995), we determined whether a woman had had a previous pregnancy that was unintended (i.e., whether she wanted to become pregnant at some time in the future or not at all, thinking back to the last time she was pregnant) and treated this as an indicator of need for birth control services. Women were also asked whether they had used effective forms of birth control during the past year: the male or female condom; birth control pill; partner's vasectomy or sterilization; diaphragm; foam, jelly, or cream; cervical cap; suppository or insert; IUD; Norplant; or injectables (Depo-provera). Women who were not using at least one of those methods every time they had vaginal sex during the past year were considered in need of services. Women were additionally asked about the frequency of vaginal intercourse during the previous year, where greater frequency may indicate greater need.

DATA ANALYSIS

Analyses required successive restrictions of the original sample of 974 women. First, we limited the sample to those women who were not sterile and who reported having sex with men only or with both men and women during the previous 12 months. Women were considered sterile if they responded affirmatively to having had a hysterectomy, both of their ovaries removed, or both of their tubes tied, cut, or removed. This resulted in a subsample of 633 women or 65% of the original sample. These are women for whom access to birth control services is particularly relevant; thus, the restriction facilitates greater precision in practice and policy recommendations.

Beginning with the subsample of 633 women who were not sterile and who had sex with men in the past year, we used SAS statistical software (SAS Institute, Inc., 1999) to perform bivariate analyses (i.e., chi-square tests and *t* tests, as appropriate) to describe the women who did and did not want birth control services in terms of the predisposing, enabling, and need characteristics. We then used multiple logistic regression analysis to arrive at a set of characteristics that independently contributed to the women's reports of wanting birth control services during the past year. Given the large number of potential predictors, we screened (via the bivariate analyses) and omitted those variables associated at the $p \geq .10$ level with a desire for services.

Of those who were both of reproductive potential and sexually active with men during the past year, 212 (33%) wanted birth control services. For this sample, we computed chi-square and *t* tests, as appropriate, to compare the predisposing, enabling, and need characteristics of women who did and did not receive birth control services in the past year. Because of a missing value for past-year doctor visit for birth control, 211 cases were available for these analyses. Variables related to use of services at $p < .10$ were entered into a multiple logistic

regression model to determine the independent contribution of each predictor to use of birth control services in the previous year. Because alcohol dependence and drug dependence were associated at $r = .60$, we developed a combination variable that reflected no substance dependence, alcohol dependence only, drug dependence only, and both alcohol and drug dependence for use in regression analysis. Based on bivariate results, we created a single dichotomous variable to represent ethnic group (African American or Hispanic vs. other) in regression analysis.

Data were weighted for all analyses. The weights were inversely proportional to the separate probabilities of selection for each woman, which in turn were directly proportional to their relative frequency of use of sampling-frame sites during the data collection period. Weights were renormed appropriately for the successive restrictions of the sample. The STATA (1993) software package was used for multivariate modeling because of its ability to appropriately use the sampling weights and correct for intracluster correlations. We considered bivariate and multivariate test results significant at the $p < .05$ level.

RESULTS

As shown in Table 1, the average age of the 633 nonsterile, sexually active homeless women in this study was 30. The 212 (33%) women among them who wanted to receive birth control services during the past year were younger than those who did not. Almost half of the 633 women had children living with them during the past year, and a greater proportion of women who wanted birth control services had children living with them than women who did not express this wish. More than half of the women were African American, and a fifth were Hispanic. African American and Hispanic women comprised greater proportions of the women who desired birth control services.

Women who wanted birth control services were less likely to have spent time living on the streets during the past 60 days and less likely to report being homeless more than 12 months and for more than one episode in their lifetime. Among women who desired birth control services, drug dependence was less prevalent than among women who did not express this desire. Having a regular source of medical care and a case manager were more commonly found among women who wanted birth control services, and these women were more likely to have spent no time during the past 60 days in the central or south-central areas of Los Angeles. Women who wanted birth control services were more likely to have had a previous unintended pregnancy, less likely to report not using a birth control method during each episode of vaginal sex during the past year, and less likely to report having vaginal sex two or more days per week in the past year. Partnership status, alcohol problems, depression, and encouragement to obtain birth control were among the variables that did not achieve significance.

TABLE 1: Characteristics Associated With Homeless Women's Desire to See a Doctor for a Method of Birth Control or a Prescription for a Method During the Past Year

	Wanted to See Doctor for Birth Control in Past Year (n = *212*)[a]	*Did Not Want to See Doctor* (n = *421*)	*Total* (N = *633*)	*Test*[b]	p
Predisposing characteristics					
Mean age (*SD*)	29.2 (5.5)	30.9 (5.4)	30.3 (5.0)	–2.26	.024
Living with a partner	20.1	27.1	25.2	2.89	.089
Living with children in past year	60.2	39.7	46.4	16.2	.001
Perceived barriers to health care *M* (*SD*)	1.7 (.37)	1.6 (.43)	1.7 (.41)	1.25	.213
Ethnic group				14.10	.003
African American	54.1	50.3	51.5		
Hispanic	26.6	15.3	19.8		
White	8.9	14.8	12.9		
Native American, Asian, Pacific Islander, other	10.4	19.6	16.6		
Achieved at least high school or general equivalency diploma	59.1	53.1	55.1	1.39	.238
Any time spent on street in past 60 days	16.7	27.3	23.9	5.99	.014
Homeless for more than 12 months and more than one episode	62.1	75.5	71.1	8.40	.004
Good to excellent general health	61.3	59.0	59.7	.22	.636
Hospitalized past year	33.6	37.0	35.9	.49	.483
Depression past year	52.3	56.0	54.8	.54	.461
Lifetime alcohol abuse or dependence	37.1	39.6	38.8	.24	.622
Lifetime drug abuse or dependence	42.6	56.6	52.0	7.58	.006
Enabling characteristics					
Total income past month (in dollars)				1.66	.090
0	9.8	13.4	12.2		
1-200	23.9	20.2	21.4		
201-400	19.8	29.1	26.0		
401-600	25.7	14.3	18.0		
601 or more	22.9	20.9	22.3		
Employed full or part time	13.9	10.7	11.7	.99	.319
Regular source of medical care	70.0	58.2	62.0	5.73	.017
Any health insurance coverage past year	79.0	78.7	78.8	.01	.943
Encouraged to obtain birth control past year	28.6	25.6	26.6	.45	.502
Encouraged to obtain medical care past year	31.7	36.0	34.6	.80	.372
Have a case manager	67.1	49.3	55.1	12.34	.001

TABLE 1 Continued

	Wanted to See Doctor for Birth Control in Past Year (n = *212*)[a]	*Did Not Want to See Doctor* (n = *421*)	*Total* (N = *633*)	*Test*[b]	p
Spent no time in central or south-central Los Angeles in past 60 days	44.2	27.6	33.0	11.81	.001
Need characteristics					
No attempt to become pregnant during past year	88.5	66.5	73.4	23.70	.001
Previous unintended pregnancy	70.4	52.5	58.4	12.62	.001
Not using a birth control method every time had vaginal sex in past year	66.3	84.0	78.3	17.61	.001
Had vaginal sex at least 2 days per week in past year	42.3	55.7	51.3	6.83	.009

NOTE: Subsample of 633 out of 974 total homeless women includes nonsterile, reproductive-age women in Los Angeles County shelters and meal facilities who were sexually active with men during the past year.
a. Percentages shown unless otherwise noted as mean and standard deviation.
b. All are chi-square tests except *t* test for age and health-related beliefs. Sample size is unweighted; analyses are weighted.

The results of logistic regression analyses to determine independent correlates of a desire for birth control services in the past year are shown in Table 2. Three characteristics remained significant in this adjusted analysis. Women who had spent more time on the streets in the previous 60 days were significantly less likely to want birth control services. The odds that a woman wanted birth control were 1.8 times greater for women who had a previous unintended pregnancy than for women who did not, and the odds of wanting birth control services were two times lower for women who did not use contraceptives every time they had vaginal sex during the past 12 months than for women who did.

As shown in Table 3, more than two thirds of women who did see a doctor for birth control had children living with them during the past year as compared to 47% of women who did not see a doctor. Women who made a doctor visit had lower perceived health care barrier scale scores than women who did not. Greater proportions of the women who used services were African American or Hispanic compared to women who did not use services. Users of health care services were less likely to screen positive for alcohol abuse or dependence during their lifetime. Women who used birth control services had higher monthly incomes and were more likely to have a regular source of medical care. Although more than half of women who used birth control services did not use a contraceptive every time they had sex in the past year, inconsistent contraceptive use was much more common among women who did not use these services.

TABLE 2: Results of Logistic Regression Analysis Predicting Homeless Women's Desire to see a Doctor for a Method of Birth Control or a Prescription for a Method During the Past Year

	Coefficient	*Standard Error*	p *Value*	*Odds Ratio*[a]	*95% Confidence Interval*
Predisposing characteristics					
Mean age (*SD*)	–.029	.018	.109	.971	(.936, 1.01)
Living with a partner	.008	.341	.981	1.01	(.512, 1.98)
Living with children, past year	.218	.275	.429	1.24	(.721, 2.14)
White, other non-Hispanic, non-African American ethnicity (vs. Hispanic or African American)	–.304	.293	.303	.74	(.41, 1.32)
Any time spent on street past 60 days	–.017	.005	.000	.98	(.97, .992)
Homeless for more than 12 months and more than one episode	–.413	.219	.062	.66	(.43, 1.02)
Lifetime drug abuse or dependence only	–.029	.257	.910	.97	(.58, 1.62)
Enabling characteristics					
Spent no time in central or south-central Los Angeles in past 60 days	.115	.244	.538	1.16	(.72, 1.89)
Total income in past month	–.111	.103	.286	.89	(.73, 1.10)
Regular source of medical care	.017	.288	.953	1.02	(.57, 1.80)
Have a case manager	.308	.243	.209	1.36	(.84, 2.20)
Need characteristics					
Attempted to become pregnant during past year	–.684	.428	.113	.50	(.22, 1.18)
Previous unintended pregnancy	.585	.264	.029	1.80	(1.06, 3.03)
Not using birth control method every time had vaginal sex in past year	–.703	.274	.012	.49	(.29, .853)
Had vaginal sex at least 2 days per week past year	–.198	.288	.493	.82	(.46, 1.45)

NOTE: Subsample of 633 out of 974 total homeless women includes nonsterile, reproductive-age women in Los Angeles County shelters and meal facilities who were sexually active with men during the past year.
a. Adjusted for the linear effects of all other variables in the model.

Women who did not use birth control services during the past year also had vaginal sex more frequently. Among the variables not significantly related to birth control services use were partnership status, depression, health insurance, encouragement to get care, having a case manager, and area of the city.

Table 4 depicts results of a regression analysis predicting use of birth control services during the past year among women who wanted services. Women who

TABLE 3: Characteristics Associated With Homeless Women's Visits to a Doctor for a Birth Control Method or Prescription for a Method During the Past Year

	Doctor Visit for Birth Control in Past Year[a] *(n = 117)*	*No Visit (n = 94)*	*Total (N = 211)*	*Test*[b]	p
Predisposing characteristics					
Mean age (*SD*)	28.9 (6.2)	29.6 (5.1)	29.2 (5.5)	–.66	.510
Living with a partner	19.6	21.2	20.2	.05	.817
Living with children in past year	68.5	47.3	60.1	6.36	.012
Perceived barriers to health care *M* (*SD*)	1.6 (.34)	1.9 (.36)	1.7 (.36)	–3.55	.001
Ethnic group				9.40	.024
African American	58.7	46.8	54.4		
Hispanic	29.8	21.8	26.6		
White	4.0	16.5	8.9		
Native American, Asian, Pacific Islander, other	7.5	14.9	10.4		
Achieved at least high school or general equivalency diploma	57.0	62.1	59.0	.36	.548
Any time spent on street in past 60 days	11.9	24.0	16.7	3.58	.058
Homeless for more than 12 months and more than one episode	57.0	69.4	61.9	2.21	.137
Good to excellent general health	58.1	66.1	61.2	.91	.340
Hospitalized in past year	31.8	35.7	33.4	.24	.627
Depression in past year	46.0	61.4	52.1	3.24	.072
Lifetime alcohol abuse or dependence	27.1	52.8	32.2	9.55	.002
Lifetime drug abuse or dependence	37.0	51.3	42.7	2.80	.094
Enabling characteristics					
Total income past month (in dollars)				13.62	.009
0	7.1	11.1	8.8		
1-200	27.3	21.3	24.7		
201-400	10.7	34.4	20.9		
401-600	30.3	19.9	25.8		
601 or more	24.6	13.3	19.7		
Employed full or part time	18.4	7.3	14.0	3.40	.064
Regular source of medical care	84.3	48.1	70.0	20.00	.001
Any health insurance coverage past year	80.2	77.0	79.0	.20	.653
Encouraged to obtain birth control past year	32.5	22.9	28.7	1.50	.221
Encouraged to obtain medical care past year	27.2	38.0	31.5	1.79	.180
Have a case manager	66.9	67.3	67.0	.00	.951
Spent no time in central or south-central Los Angeles in past 60 days	43.5	45.2	44.1	.05	.829

(continued)

TABLE 3 Continued

	Doctor Visit for Birth Control in Past Year[a] (n = *117*)	*No Visit* (n = *94*)	*Total* (N = *211*)	*Test*[b]	p
Need characteristics					
No attempt to become pregnant during past year	85.8	92.4	88.5	1.44	.230
Previous unintended pregnancy	64.7	79.0	70.3	3.31	.069
Not using a birth control method every time had vaginal sex in past year	55.9	82.7	66.5	10.89	.001
Had vaginal sex at least 2 days per week in past year	33.2	56.5	42.4	7.51	.006

NOTE: Subsample of 211 out of 974 total homeless women includes nonsterile, reproductive-age women in Los Angeles County shelters and meal facilities who were sexually active with men during the past year and who desired seeing a doctor for a birth control method or prescription during the past year.
a. Percentages shown unless otherwise noted as mean and standard deviation; total for analyses is 211 instead of 212 because of missing value for past-year doctor visit.
b. All are chi-square tests, except *t* test for age and health-related beliefs. Sample size is unweighted; analyses are weighted.

perceived greater barriers to health care were significantly less likely to use birth control services. The odds that a woman with lifetime history of alcohol abuse or dependence only received services were, very notably, almost 7 times lower than the odds that a non-alcohol–, non-drug–dependent woman received services. Women with a regular source of care had almost 5 times greater odds of receiving birth control services than women without a regular care source. The odds that a woman who reported inconsistent use of contraception received birth control services were 3 times lower than the odds that a consistent contraceptive user received these services.

DISCUSSION

All homeless women included in this study were sexually active with men and were of reproductive potential. It is somewhat disturbing that only a third of these women wanted to see a doctor to obtain a birth control method or prescription for a method in the past year, but it was encouraging that alcohol and drug problems and depression were not independently associated with desire for services. Our analyses indicated that the women who wanted birth control services, as compared to those who did not, tended not to be "street people," and many reported that they were already using some method of protection each time they had sexual intercourse in the past year. They were more likely, however, to have experienced a previous unintended pregnancy. Although we cannot draw strong

TABLE 4: Results of Logistic Regression Analysis Predicting Homeless Women's Visits to a Doctor for a Birth Control Method or Prescription for a Method During the Past Year

	Coefficient	*Standard Error*	p *Value*	*Odds Ratio*[a]	*95% Confidence Interval*
Predisposing characteristics					
Living with children in past year	–.055	.529	.918	.95	(.33, 2.72)
Perceived barriers to health care	–.970	.419	.023	.38	(.16, .874)
White, other non-Hispanic, non–African American ethnicity (vs. Hispanic or African American)	–.907	.470	.058	.40	(.16, 1.03)
Any time spent on street in past 60 days	–.024	.014	.100	.98	(.95, 1.00)
Depression past year	–.400	.394	.313	.67	(.31, 1.47)
Lifetime alcohol abuse or dependence only	–1.89	.833	.026	.15	(.03, .791)
Lifetime drug abuse or dependence only	.845	.498	.094	2.33	(.86, 6.28)
Both alcohol and drug abuse or dependence	–1.03	.538	.059	.36	(.12, 1.04)
Enabling characteristics					
Total income in past month	–.217	.195	.269	.80	(.54, 1.19)
Employed full or part time	.652	.542	.233	1.92	(.65, 5.65)
Regular source of medical care	1.60	.472	.001	4.95	(1.93, 12.66)
Need characteristics					
Previous unintended pregnancy	–.447	.350	.205	.64	(3.19, 1.28)
Not using a birth control method every time had sex in past year	–1.12	.428	.011	.33	(.14, .769)
Had vaginal sex at least 2 days per week, past year	–.385	.422	.364	.68	(.29, 1.58)

NOTE: Subsample of 211 out of 974 total homeless women includes nonsterile, reproductive-age women in Los Angeles County shelters and meal facilities who were sexually active with men during the past year and who desired seeing a doctor for a birth control method or prescription during the past year.
a. Adjusted for the linear effects of all other variables in the model.

conclusions about behavioral intentions and we are limited by temporal ambiguity, a reasonable interpretation is that the women wishing contraceptive services appeared to be motivated to prevent pregnancy and were at a general advantage by virtue of their less severe living situations. Lack of desire for services suggests the need for outreach and educational interventions as well as satisfaction of subsistence needs as a first step to increasing homeless women's awareness of birth control services and the benefits of family planning. Careful investigation of the role of and desire for children in the lives of homeless women is also necessary.

Only about half of the women wanting birth control services succeeded in accessing these services during the past year, leaving a considerable proportion of homeless women without adequate protection against an unintended or unwanted pregnancy. Four of the variables that we considered in our multivariate attempt to understand birth control service use attained statistical significance, and three of these were predisposing and enabling factors. In accordance with our expectations, this finding suggests that there are inequities in access to birth control services for homeless women that must be addressed by practitioners and policy makers.

Regarding predisposing factors that suggest inequities in access, a greater perception of barriers to health care was independently associated with not using birth control services. General population studies have shown that women attempting to prevent pregnancy may confront structural barriers to birth control services, including an inability to pay, lack of transportation, child care difficulties, and inconvenient clinic hours (Radecki & Bernstein, 1989; Silverman, Torres, & Forrest, 1987). A number of explanations for the association between perceived barriers and service use are plausible. Homeless women may have failed to receive wanted birth control services during the past year because they faced barriers to getting birth control services either during that time or previously. Alternatively, the women's problematic experiences in getting health care may have led them to expect the same experiences in getting birth control services. Whether or not these perceptions of barriers are grounded in women's current or previous experiences with obtaining birth control services or other health care services, health beliefs have been found in previous studies to be influential predictors of a number of health-related behaviors (Ellingson & Yarber, 1997; Neff & Crawford, 1998).

Perceived barriers represent a mutable characteristic that can be addressed through enhancement of services and education. Preliminary analyses (not depicted here) of individual items in our perceived barriers scale revealed that half or more of the women who did not seek birth control services reported specifically that finding health care, cost of health care, and time spent in the waiting room were sizable barriers for them in getting medical care generally. Service enhancements to minimize barriers might then, for example, emphasize providing information to homeless women in shelters and other locations on where to find no-cost or low-cost birth control services, providing birth control services via mobile outreach to homeless women, and ensuring that women receive all the public health benefits to which they are entitled. Precedents exist for family planning service outreach to homeless women (Donovan, 1996), although recent national data show that special family planning programs for homeless women are uncommon (Frost & Bolzan, 1997).

Finding affordable care is particularly relevant given recent changes in the funding of public sector health care services. Concerns have been raised about the accessibility of birth control services in Medicaid managed care environments, due, for example, to the limited number of publicly funded family

planning agencies that hold contracts with managed care organizations providing services to Medicaid enrollees (Aved & Michaels, 1998; Gold, Darroch, & Frost, 1998; Gordon, 1998; Salganicoff & Delbanco, 1998). At the level of federal policy, Title X of the Public Health Service Act has been a significant and stable source of funding for affordable birth control services for impoverished women for more than a decade (American Psychological Association, 1999).

An additional predisposing factor, lifetime alcohol abuse or dependence, contributed prominently to understanding use of birth control services. This diagnosis appeared to present a major obstacle for homeless women who wanted to receive birth control services, although a review of the literature provides little information to aid in the interpretation of this relationship. Absence of information about recent abuse or dependence (or remission) and severity of dependence makes interpretation of this finding difficult as well. The association is generally supported, however, by the diagnostic criteria for alcohol dependence in that large amounts of time may be spent in acquiring and using alcohol and recovering from intoxication (American Psychiatric Association, 1994), thus leaving decreased time and motivation for attending to health care needs. Homeless women with alcohol use disorders appear to need special assistance in accessing the contraceptive services they desire.

Treating homeless women with alcohol abuse or dependence may be a useful means of increasing access to birth control services. Providing birth control services in the context of substance abuse treatment programs and emphasizing this service in general health care settings may enhance homeless women's ability to avoid pregnancy if they wish to do so. Recognition has increased among providers and policy makers that indigent women may have many needs—substance use disorders, lack of birth control, mental and physical health problems, lack of housing, domestic violence—and that these must be addressed simultaneously in comprehensive programs (Center for Substance Abuse Treatment, 1994; Goldberg, 1995). Building collaborative relationships to facilitate comprehensive services for the indigent is one of the complexities that many states and localities are addressing as they begin to provide public sector health services under managed care.

Notably, having a regular source of medical care was associated with homeless women's access to birth control services. We have no definitive way of ruling out a tautology that the person or place deemed the regular care provider is the person or place providing birth control services. Our finding is generally consistent, however, with results found for women and men in the general population that having a regular source of medical care predicts use of care (Bindman, Grumbach, Osmond, Vranizan, & Stewart, 1996; Morbidity and Mortality Weekly Report, 1998). The potential importance to use of contraceptive services of having a regular place or provider of care, and the widespread knowledge that homeless women have multiple service needs, further argues for a one-stop-shopping approach so that multiple needs can be addressed in one setting.

This argument must be reconciled, however, with the increasing difficulty of substance abuse treatment providers, as an example, to meet the multiple service needs of clients under one roof (Lamb, Greenlick, & McCarty, 1998). Involving providers of different services through collaborative linkages has been deemed necessary, and indeed, building such linkages and integrated services has been one of the biggest challenges facing the larger health care services system in recent years (National Association of State Alcohol and Drug Abuse Directors, 1998).

Regarding the finding that inconsistent use of contraceptives during the past year was associated with lack of access to birth control services in that year, the temporal ambiguity of the cross-sectional design employed here hinders clear interpretation. We conceptualized a lack of consistent use of at least one birth control method as a need factor for service utilization, although our analyses found the opposite relationship. Consistent use of birth control may have increased the likelihood that women saw a doctor about a method or a prescription for a method, because they had gained familiarity with these services and their chosen method and wished to continue its use. Conversely, inconsistent use may have been the result of not receiving services rather than, as we had conceptualized, a need motivating the use of services.

A number of variables that we would have expected to contribute to birth control service use did not. Severity of homelessness was not significantly related to use of birth control services in the regression analysis. This deserves more investigation because findings from previous studies suggest that homeless persons who have experienced harsher living conditions may have more difficulty accessing medical care (Koegel et al., 1999; Wenzel et al., 1995). That health insurance was inconsequential argues that nonfinancial barriers to care are critical in understanding access to birth control services, as has been found for other health care services (Padgett et al., 1990). That having a case manager and receiving encouragement to obtain medical care and birth control were not significant in multivariate analyses suggests that these social enabling assets are insufficient in the face of barriers to birth control services. Case managers for homeless women may need to expend more effort in helping these women to obtain the birth control services they desire.

LIMITATIONS

A number of limitations must be considered when interpreting the results of this study. Our cross-sectional, correlational design precludes definitive statements about temporal and causal ordering. Exclusive reliance on self-report data carries risk that information from respondents' has been biased by impaired recall or other factors. Our definition of birth control services utilization was based on a question about visiting the doctor during the past year. It is plausible that women received nonbarrier methods of birth control from nurse practitioners and other health care professionals and that our definition excluded an

important group of providers women may have used. Only through a physician, however, is one able to legally obtain the most effective methods (i.e., Depo-provera and Norplant).

By focusing only on women at risk of conception during the past year (i.e., both nonsterile and sexually active with men), we omitted a group of women who are at potential risk for sexually transmitted diseases and for whom barrier methods of contraception are particularly relevant. Also regarding barrier methods, women who did not access birth control services during the previous year may have nevertheless received some protection against pregnancy via condoms. However, unlike many of the highly effective methods of contraception available only through a health care provider, effectiveness of male and female condoms requires consistent and proper use, and the much more frequently used and widely available male condom depends on partner compliance. Very few homeless women have ever used the female condom (Gelberg et al., 1999), and improper and inconsistent use of the male condom is common among homeless and housed women (Gelberg et al., 1999; Rosenberg & Gollub, 1992). Cooperation by partners may represent a serious potential barrier to protection against pregnancy (as well as sexually transmitted diseases) given the high rates of domestic violence reported by homeless women (Wenzel, Koegel, & Gelberg, 2000).

Despite the limitations, the findings of this study suggest a number of directions for further research as well as for practice and health policy. Longitudinal study of the associations of predisposing, enabling, and need characteristics with desire for and use of birth control services would resolve issues of temporal ambiguity. Qualitative work would contribute to understanding the mechanisms of association, such as that between alcohol abuse or dependence and service use. Availability and cost barriers to birth control services should be reduced by providing information to homeless women on where affordable services can be obtained, bringing these services to the women (e.g., in shelters), and helping women to receive all of the health care benefits for which they are eligible. These recommendations call for a more active case management role in facilitating access to birth control services, which may be especially important for homeless women with alcohol problems. Because homeless women face a multitude of problems, effective linkages must be developed among multiple care providers, including providers of birth control services, substance abuse treatment, and primary care.

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