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Oral Contraceptive Use Among African American Adolescents: Individual and Community Influences[1]

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Side effects of oral contraceptives are a noteworthy problem, particularly among low-income young women who reside in inner-city communities. The problem may be compounded by inadequate family planning services, particularly when such services are provided by general medical practices with high volumes of clients. This study examined the prevalence and correlates of pill-related side effects, with particular attention to the role of clinic characteristics. Participants were 177 pregnant and parenting African American adolescents and young women (average age = 18.34). The experience of a pill-related side effect was the most frequently cited barrier to birth control use, and it was significantly related to contraceptive behavior. Finally, although participants attending comprehensive clinics experienced more barriers to medical service use than those attending neighborhood clinics, they reported fewer problems with pill-related side effects and better psychological functioning. Implications for future research and policy are discussed.

KEY WORDS: oral contraceptive; adolescents; family planning services; levels of analysis.

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The rate of adolescent childbearing is higher in the United States than in any other industrialized nation and a substantial proportion of births to young mothers are unintended (Battle, 1990). For example, between 1983 and 1988, 87% of all births to 15- to 19-year-old never-married women and 69% of all births to 20- to 24-year-old never-married women in the United States were reported as unwanted or mistimed (Tanfer, Cubbins, & Brewster, 1992). These findings suggest that despite dramatic increases in the availability of birth control over the past three decades, many adolescents and young adults are not making effective use of them.

One factor that appears to be related to inconsistent contraceptive use is the experience of side effects. In this article we focus on oral contraceptives, and examine the extent to which side effects, as well as individual and clinic characteristics, contribute to inconsistencies in low-income, African American adolescents' usage. In doing so, we have attempted to expand the level of analysis beyond the adolescents' psychological and physical functioning to examine the ways in which the qualities of health-care settings in low-income communities may influence adolescents' contraceptive behavior.

Background Information

Oral contraceptives are the most commonly used method of birth control in the United States and studies suggest they are especially popular among African American adolescents (Morrison, 1985; Mudd et al., 1978; Zelnick & Kantner, 1980). Despite the pill's widespread acceptance as well as the reduced links with breast cancer and cardiovascular problems, many oral contraceptive users experience uncomfortable side effects and remain fearful of the method's health risks. Nausea, irregular menstrual cycles, breast tenderness, acne, bleeding, and weight fluctuations are acknowledged to be fairly common side effects (Collins, 1989; Connell, 1987; Gerstman et al., 1991). These problems appear to be particularly prevalent among low-income adolescents in inner-city communities (Oakley, Sereika, & Bogue, 1991). In addition to actually experiencing side effects, many low-income teens seem to worry about such problems as blood clots, cancer, high blood pressure, and birth defects (Emans et al., 1987; Howe, 1984; Levy & Grinker, 1983; Oakley et al., 1991).

Given that method satisfaction and concern about side effects are among the best predictors of effective pill use among low-income urban adolescents and young women, these effects and concerns pose a serious challenge to inner-city contraceptive service providers (Washington, Rosser,

& Cox, 1983; Zabin, Stark, & Emerson, 1991). Services with adequate counseling and follow-up measures have the potential to prevent some of these problems. They might increase teens' confidence in the pill by accurately describing the health risks, and they might also decrease the rate of side effects by providing individualized instructions on pill use, or by altering dosages after side effects begin to occur. Such services might also reduce pill use by increasing the range of alternative contraceptive methods available to teens (Howe, 1984). In support of this view, Winter and Breckenmaker (1991) tested a service delivery model that incorporated extra follow-up efforts, staff training on adolescent development, individual counseling, visual aids, and telephone contact. In contrast to teens at control sites, the adolescents who received services at the experimental site were more likely to use birth control and less likely to experience contraceptive problems.

Unfortunately, most adolescents, particularly those in very low-income neighborhoods, may not have access to such comprehensive, age-appropriate, health and contraceptive services. Evidence from a variety of sources suggests that young women who live in medically underserved, racially and economically segregated neighborhoods tend to get their pregnancy-related services at local medical settings that are not primarily focused on family planning. The quality of services provided at such settings has been called into question by researchers and service providers alike.

Key informant urban service providers report that many low-income African American adolescents in inner-city communities obtain family planning as well as other forms of medical services at free-standing "storefront" clinics. In general, such practices are believed to be understaffed, perhaps having only one doctor (who may be undertrained and professionally isolated) and a receptionist. Moreover, the quality of care is often considered to be substandard. The informants voice concern about young women who obtain oral contraceptives from such settings, suggesting that it is not uncommon for incorrect doses to be prescribed and for birth control pills to be dispensed without the required gynecological exam (M. Daniels, personal communication, April 1991; K. Lawrence, personal communication, April 1991).

Similarly, social scientists studying the Medicaid system have identified several problems with the quality of care available in low-income urban communities. It has been suggested that by providing relatively small reimbursements for each visit, the Medicaid system may encourage some physicians to treat large numbers of patients as quickly as possible. Although the majority of Medicaid physicians do not abuse the system, evidence suggests that a significant number of physicians do attempt to increase their income by seeing large numbers of Medicaid clients for short,

rushed visits with little time for establishing rapport (Brodt, Possley, & Jones, 1993; Mitchell & Cromwell, 1980; Perloff, Kletke, & Neckerman, 1987). Such practices are typically staffed by physicians with lower credentials than those in other settings (Fossett, Perloff, Peterson, & Kletke, 1990).

Although contraception is traditionally viewed as an individual behavioral issue (Morrison, 1985) and thought to be influenced by psychological characteristics such as locus of control and depression (e.g., Adams, McArney, Panzarine, & Tuttle, 1990; DuRant, Jay, & Seymore, 1990), the above discussion raises additional questions about the quality of the medical consultation provided to inner-city adolescents. We do not know how common it is for adolescents in impoverished neighborhoods to use substandard clinics or what their other options might be, and we have yet to explore the ways in which characteristics of health service settings might be related to contraceptive behavior. These questions seem especially relevant for community psychologists, since they involve analysis beyond the level of the individual. At the same time, they pose a serious challenge to the field, since it is generally quite difficult to develop valid measures of extraindividual variables (Shinn, 1989).

We report the results of two related studies that were designed to explore these questions, and to expand the study of contraceptive behavior beyond the level of individual psychological functioning. It is not our purpose to develop a comprehensive model of contraceptive behavior, or to definitively establish the causative role of service setting characteristics. Rather, we present these data to suggest a new way of treating contraceptive experiences and to generate ideas for future research.

In Study 1, we examined the prevalence and correlates of pill-related side effects among a relatively large sample of pregnant and parenting African American adolescents and young women. Our goal was to examine the relevance within our sample of previous findings regarding the prevalence of side effects. Building on available knowledge about the current state of health care services in inner-city communities (e.g., Brodt et al., 1993; Fossett et al., 1990; Mitchell & Cromwell, 1980), and about the types of contraceptive services that are particularly successful with adolescent clients (e.g., Winter & Breckenmaker, 1991), we then developed a classification scheme to distinguish between different types of pregnancy-related service settings. In Study 2, we applied this classification scheme to the service settings used by a small subset (n = 30) of the original study participants, and investigated the relationship between the type of setting used and various correlates and outcomes relevant to birth control use.

STUDY 1

Method

Participants

The participants were 177 pregnant and parenting adolescents and young women from two social service settings. Previous analyses revealed no differences between participants at the two settings on demographic variables (Rhodes, Ebert, & Fischer, 1992). Participants ranged in age from 14 to 22 years, with a mean age of 18.34 (SD = 1.79), and a median age of 18. Over one quarter (27.1%) of the sample was pregnant at the time of the interview, and 15.3% were pregnant with their first child. About half of the participants (54%) had one child, 22.2% had 2 children, 8% had 3 children, and 0.6% (1 person) had 4 children. Nearly all of the participants (96%) had never been married, and approximately two thirds (64.4%) were not in school at the time of the interview. Most of the participants (90.8%) were receiving some form of public assistance.

Procedure

Between December 1989 and January 1991, study participants were recruited at two inner-city nonmedical social service agencies in a large Midwestern city. Pregnant and parenting clients between the ages of 14 and 22 were approached by staff members of the service agencies and asked if they would be willing to be contacted by a researcher. They were informed that participation was entirely voluntary and that refusal would have no negative consequences. Written consent of parents was obtained for all participants under 18. The young women were then contacted by an African American woman research associate who conducted the interviews at the service sites. The young women were paid $20 for their participation, which consisted of a 2-hour, structured interview.[3] They were also given money for transportation. All of the individuals who were contacted agreed to participate in the study.

[3]To assess the fidelity of the interview protocol over time, a series of t tests and chi-square tests were performed which compared the participants interviewed during the first half of the study (March 1990 through August, 1990) with those interviewed during the second half (September 1990 through January 1991). No significant differences were detected on any of the variables examined in this paper. Thus it was concluded that the interviewer was reasonably consistent over time.

Measures

The interviews included questions on background demographic variables as well as scales of stress, psychological functioning, and social support. Pregnancy and birth control histories were also assessed, along with patterns of medical and social service utilization.

Symptom Checklist-90-R. Psychological symptomatology was assessed via the SCL-90-R (Derogatis, 1983), a 90-item self-report instrument. Participants were asked to rate (on a 5-point scale ranging from *not at all* to *extremely*) how much they were bothered by various psychological symptoms. Alpha coefficients for the overall scale ranged from .77 to .90, and test–retest reliabilities have ranged from .78 to .90 (Derogatis, 1983). The 13-item depression subscale has a reported alpha of .90 and a test–retest coefficient of .82; the 10-item anxiety subscale ($\alpha = .85$) has a reported test–retest coefficient of .86; and the 12-item somatization subscale ($\alpha = .86$) has a test–retest coefficient of .86. The Global Severity Index (GSI) was calculated from the total number of symptoms and the intensity of perceived distress and is considered the scale's best single indicator of the current level or depth of the disorder (Derogatis, 1983).

Mastery. A 7-item Mastery scale (Pearlin, Lieberman, Menaghan, & Mullan, 1981) was used to measure the extent that participants viewed themselves as having mastery or control over events in their lives. The items were rated on a 4-point scale ranging from *strongly disagree* to *strongly agree*. High levels of validity and reliability have been reported on this scale (Pearlin et al., 1981).

Self-Esteem. The Rosenberg Self-Esteem Scale (1979) consists of 10 items each rated on a 4-point scale ranging from *strongly disagree* to *strongly agree*. Rosenberg (1979) reported high reliability levels for this scale ($\alpha = .87$ and test–retest reliability = .85).

Economic Strain. A 9-item scale (Pearlin et al., 1981) was used to assess chronic economic problems such as difficulty paying bills, worrying about money, and not having enough money for medical care. Participants rated the frequency with which they experienced these problems on a 4-point scale ranging from *never* to *always.* Stable test–retest reliability (mean coefficient $r = .79$) has been reported for this scale (Pearlin et al., 1981).

Birth Control Utilization. Participants were asked about their birth control use around the time of their pregnancy or pregnancies. Those who were sexually active and not pregnant at the time of the interview were also asked what type of contraceptives, if any, they used at last intercourse.

Barriers to Birth Control Utilization. A list of common barriers to contraceptive use had been previously generated during pilot interviews with young women from one of the service settings in the study. This list in-

cluded the following choices: makes me sick, don't know where to get it, money, scared of physical exam, hurts, embarrassed to ask for it, someone might find out, my boyfriend doesn't want me to use it, my parents, other. Participants in the present study were shown this list and asked if any of the items posed problems for them. Those who gave "other" as a response were required to specify the reason. Anyone who chose "makes me sick" as her response and/or indicated an "other" reason that corresponded to a pill-related side effect (e.g., weight gain, allergic skin reaction, spotting, dosage) was classified as having experienced trouble with side effects.

Health and Social Service Utilization. During the same pilot interviews that were used to generate the birth control barriers mentioned above, barriers to health and social service utilization were discussed. In the structured interview, participants were asked about their frequency of use of various types of services. For each type of service they were asked to indicate which (if any) of the following barriers interfered with their use of that service: cost, transportation, money, rude staff, long lines, don't need it, won't help, child care, illness, confusing guidelines, and "other" reasons. Summary variables were created to represent overall number of barriers and frequency of use of medical and nonmedical services (Rhodes, Fischer, Ebert, & Meyers, 1993).

Results

Patterns of Birth Control Use and Side Effects

Consistent with previous studies, the pill was the most common form of birth control used among the participants. Most of the participants (107) were identified as potential birth control users because they were not pregnant at the time of the interview and they indicated that they had been recently sexually active. Within this group, 35 participants (32.7%) said that they had not used any method of birth control at last intercourse. The majority of the remaining potential birth control users (44 participants, or 61% of those who were using birth control) said that they were using oral contraceptives at the time of their last intercourse. The next most common form of birth control was condoms, which accounted for 27.8% of those who used any method at last intercourse.

The prevalence of barriers to contraceptive use was examined for the entire sample (N = 177), since even the participants who were pregnant or sexually active at the time of the interview could have experienced problems with birth control use in the past. Pill-related side effects were the most commonly cited barriers to birth control use. Sixty-six (37.3%) chose

the response "it makes me sick" and an additional 8 participants (4.5%) listed a pill-related side effect as an "other reason." Comparatively, only 14 young women (7.9%) listed any of the alternative barriers to contraceptive use (such as scared of the physical exam, hurts, afraid to ask for it, my boyfriend doesn't want me to use it, parents, or any of the "other reasons" that were not side effects).

Among the 107 potential birth control users in the sample, participants who indicated that pill-related side effects interfered with their use of birth control were significantly less likely to use any form of birth control than were those who did not complain of such side effects, $\chi^2(1, N = 107) = 6.25, p < .05$. Similarly, those who complained of side effects were significantly less likely to report current use of the pill, $\chi^2(1, N = 107) = 16.79, p < .0001$. Finally, participants who complained of pill-related side effects scored lower on the Mastery scale ($M = 20.82$) than did those who did not report such problems ($M = 21.89$), $t(175) = 1.94$, one-tailed $p < .053$.

STUDY 2

After establishing the prevalence of pill-related side effects among study participants, we were interested in exploring the relationship between this individual-level experience and the service-delivery contexts in which it might have developed. Toward this end, we gained access to information about the health-care settings that a subset of the Study 1 sample attended. A second study was then designed to examine the health-care settings thus identified and to investigate the relationship between setting characteristics and individuals' experiences with pill-related side effects.

Method

Participants

Thirty-one participants, who represented a subset of the Study 1 sample, were involved in Study 2. Study 2 participants ranged in age from 14 to 21 years, with a mean age of 18.7 ($SD = 1.98$), and a median age of 19. Forty percent were pregnant, and more than three fourths (76.7%) were not in school at the time of the interview. Study 2 participants were not statistically different from the overall sample on any of the variables (Table I).

Table I. Comparison Between Participants for Whom Clinic Data Were Available and the Remainder of the Sample

Variable	Group means: Clinic (n = 30)	Group means: Remainder (n = 146)	t	p
		Continuous variables		
Global Severity	0.74	0.79	-0.43	.669
Depression	0.86	0.91	-0.37	.708
Somatization	0.72	0.64	0.72	.470
Anxiety	0.53	0.56	-0.28	.783
Self-esteem	34.53	33.49	1.09	.279
Locus of control	22.50	21.21	1.77	.078
Financial strain	2.77	2.72	0.46	.646
Age	18.70	18.25	1.25	.212
			χ^2	df	p
No. of children	1.2	1.3	4.75	4	.314
Pregnant (%)	40.0	24.7	2.95	1	.086
In school (%)	23.3	39.7	2.44	1	.118

Procedure

Medical records, which were available through one of the participating social service settings, were used to determine the names and addresses of the agencies that participants had used for pregnancy-related medical care within the 8 months prior to the interview. These records were only complete for a small subset (n = 31) of the original study participants. After the original interviews had been conducted, all of the participants for whom the records were complete were informed by mail that one page of their record was going to be analyzed as part of the study in which they had previously participated. They were given an opportunity to refuse this, but none did. This page was used to identify the names of all of the clinics (n = 15) that were attended by study participants. A researcher visited each of the clinics, where she conducted interviews with clinic staff members.

Measures

Medical Records. The medical records included information about the clinics that the participants had attended for pregnancy-related medical

care. The agency director indicated that the clinics named in the records were likely to be the participants' sources of birth control as well as pregnancy-related care.

Clinic Characteristics. A set of questions based on available knowledge was developed in order to distinguish potential storefront clinics from more comprehensive service settings. These questions were derived from the literature and the observations of key informants. The questions included: Does the clinic have a formal affiliation with a hospital? Does it have access to funding from sources other than Medicaid (such as the Department of Public Health or private foundations)? Are nonmedical services and personnel such as family planning counselors available on site? What are the clinics' hours of operation? What type of off-hours coverage is available (in case of emergencies or questions)? Is the agency a "federally qualified clinic" (meaning that it meets certain standards and is entitled to higher Medicaid reimbursement rates)? How many physicians practice at the clinic? Is it a general medical practice or is there a special focus on the needs of teenagers or on pregnancy-related medical care? Each question was treated as a 2- or 3-level categorical variable, and judgments were made as to how each clinic should be coded on each variable. When the two coders disagreed, the responses were discussed until a consensus was reached.

Self-Report Measures. Participants' self-reported data, collected within the context of Study 1, were also examined. These included the scores on the Mastery and SCL-90-R scales, experiences with pill-related side effects, and barriers to service utilization.

Results

General Description of Clinics

The 15 clinics identified in the participants' medical records varied in terms of size, location, and range of services offered. All but one (which was in a nearby suburb) were located in racially and economically segregated inner-city neighborhoods. Several clinics were inside or close to a group of public and training hospitals which were clustered together on the edge of the city's low-income areas. Others were spread out along urban, residential, and commercial streets. Some of the clinics were general medical practices, whereas others emphasized adolescent health, or pregnancy and gynecological services. Many provided social services and counseling, whereas others were limited to providing medical care. The number and types of professionals also varied considerably, with some clin-

ics having only one doctor and one receptionist and others having several doctors and nurses and a range of support staff.

Analysis of Clinic Data

Cluster analyses were conducted to determine group classifications of the 15 clinics. Initially, the complete linkage clustering technique was used to determine natural clusters (Lorr, 1983). First, all eight clinic variables were included in the analysis. A 2-cluster solution was selected, because the higher order clusters were quite small and because it was considered to be conceptually meaningful. The analysis was then repeated with only those variables that directly reflected the experiences of patients. Information about whether a clinic was federally qualified, affiliated with a hospital, or funded by outside sources was omitted because these variables are only indirectly relevant to clients' experiences. Hours of operation, number of physicians, adolescent or pregnancy specialization, and availability of nonmedical services were included in the second cluster analysis.

Finally, these analyses were repeated using the between-groups average linkage method and again using the within-groups average linkage method, following Borgen and Barnett's (1987) recommendations. All of the above methods produced identical 2-cluster solutions.

Table II presents descriptive information about the two clusters that the above methods identified. Cluster 1 comprised clinics that were affiliated with hospitals, had more than two doctors, and provided nonmedical services. Cluster 2 contained a broader range of clinic characteristics than did Cluster 1. These included some but not all of the qualities that characterize storefront clinics. Based on these results, the Cluster 1 clinics were labeled comprehensive clinics and Cluster 2 clinics were labeled neighborhood clinics.

Clinic Characteristics and Individuals' Experiences

After the two clinic clusters were identified, the 31 participants for whom recent clinic data were available were divided into two groups according to which type of clinic they had attended. Some had attended more than one clinic during the 8 months prior to being interviewed, but almost everyone who had done so had attended two or more clinics from the same cluster. One person had attended at least one of each type of clinic, and was therefore dropped from subsequent analyses. Among the 30 remaining, 15 had attended one or more comprehensive clinics and 15 had attended one or more neighborhood clinics.

Table II. Cluster Analysis of Clinics Attended by Study Participants

	Cluster 1: Comprehensive Clinics (N = 7)		Cluster 2: Neighborhood Clinics (N = 8)	
	n	%	*n*	%
Hospital affiliation	7	100	6	75
Provides nonmedical services	7	100	1	12.5
Funding from state or private sources	6	85.7	0	0
Hours				
Less than full week	3	42.9	3	37.5
Full week	2	28.6	3	37.5
More than full week	2	28.6	2	25
Federally qualified	5	71.4	2	25
No. of doctors				
1	0	0	4	50
2	0	0	3	37.5
More than 2	7	100	1	12.5

Members of the two clinic groups were similar on all of the demographic variables except number of children, which was higher among those who attended neighborhood clinics (Table III). However, the two groups differed significantly on a number of psychosocial variables that may be relevant to contraceptive behavior (Table IV). Specifically, the comprehensive clinic group scored higher on Mastery, while the neighborhood clinic group scored higher on the Gobal Severity Scale and the Somatization subscale of the SCL-90-R (Derogatis, 1983). Furthermore, although the cell frequencies were too small to permit statistical analysis, the comprehensive clinic group appeared to be more likely than the neighborhood clinic group to report barriers to medical service utilization. Among the 5 comprehensive clinic users who cited barriers, 60% cited long lines, 20% cited rude staff, and 20% cited cost.

Finally, the relationship between type of clinic used and the experience of pill-related side effects as a barrier to birth control use was explored. Chi-square analysis revealed that these variables were signifi-

Table III. Demographic Comparisons According to Type of Clinic Attended

Variable	Clinic group: Comprehensive *M*	Clinic group: Neighborhood *M*	*t*(28)	*p*
No. of children	0.80	1.53	−2.26	.032
Age	18.27	19.13	−1.22	.234
Financial strain	2.79	2.75	0.20	.844.
	%	%	$\chi^2(1)$	*p*
In school	26.6	20.0	0.19	.666
Pregnant	53.3	26.6	2.22	.136
Medical card	86.6	93.3	0.37	.543

cantly related in the expected direction. Participants who used clinics that fell into the comprehensive clinic cluster were less likely to report side effects as a problem than were participants who used neighborhood clinics, $\chi^2(1, N = 30) = 3.97, p < .05$ (see Appendix).

DISCUSSION

Adolescents and young women frequently report pill-related side effects as barriers to consistent contraception. In this study, a large

Table IV. Psychological Functioning According to Type of Clinic Attended

Variable	Clinic group: Comprehensive *M*	Clinic group: Neighborhood *M*	*t*(28)	*p* (one-tailed)
Mastery	23.60	21.40	1.75	.048
Self-esteem	35.33	33.73	1.03	.157
Depression	0.72	1.00	−1.45	.080
Somatization	0.55	0.90	−1.92	.033
Anxiety	0.43	0.63	−1.19	.112
Global severity index (GSI)	0.60	0.89	−2.01	.027

proportion (41.8%) of the participants indicated that pill-related side effects were a problem for them. Notably, among nonpregnant, sexually active participants, those who reported these side effects were significantly less likely than their peers to be using birth control and were especially less likely to be using the pill. Also, those who complained of side effects had less of a sense of mastery over important events in their lives.

The clinics that study participants used for their pregnancy-related medical care fell into two clusters. One of the clusters included clinics that tended to have many doctors, hospital affiliations, and ample nonmedical services. This cluster was given the label comprehensive clinics since all of the clinics in this group offered a range of support or counseling services in addition to basic medical care. Clinics in the second cluster, referred to as the neighborhood clinics group, tended to have only one or two doctors, and did not usually offer any nonmedical services on site.

Within the relatively small Study 2 sample, differences were found between those participants who used comprehensive clinics and those who used neighborhood clinics. Psychological symptomatology appeared to be higher among the latter group, and members of this group also exhibited less of a sense of mastery over events in their lives. Finally, comprehensive clinic clients were significantly less likely to say that pill-related side effects interfered with their use of birth control than were neighborhood clinic clients.

This study does not provide enough information about the neighborhood clinic cluster to thoroughly evaluate the medical care provided by its member agencies. It does appear, however, that care at these clinics is narrower in scope than that available at the comprehensive clinics. Interestingly, none of the neighborhood clinic clients complained of barriers to medical care utilization, while a third of the comprehensive clinic clients did voice such complaints. Although this effect was too small to test given our sample size, it represents a suggestive trend that deserves further investigation. Perhaps when seeking pregnancy-related medical care many low-income clients are forced to choose between quality and comprehensiveness on the one hand, and convenience on the other.

Because of the cross-sectional, nonexperimental nature of this study, the observed relationships between psychological functioning, type of clinic attended, and the experience of side effects must be interpreted with caution. It is possible that the participants with a strong sense of mastery and few psychological symptoms were less likely to experience side effects and more likely to seek out good medical care because of their relatively higher level of functioning. Similarly, their less resilient peers may have been predisposed to experience side effects and unlikely to seek out comprehensive medical care. On the other hand, those who obtained care at comprehen-

sive clinics had access to a broader array of services and may have received superior care, which may explain the apparent advantage in mental health and more positive experiences with birth control that this group exhibited. To investigate these potential causal models of contraceptive behavior, longitudinal or experimental studies with larger samples would be needed. The present data suggest, however, that clinic type may be an important variable to include in such studies.

Furthermore, the participants in this study were all pregnant or parenting at the time of the interview. Although it is important to understand the link between clinic characteristics and contraception-related experiences within this high-risk population, future studies should expand on these findings by including teens and young women who were never pregnant, as patterns of clinic use may be different among such women.

In sum, it appears that the seemingly personal and biological experience of pill-related side effects and, by extension, unintended pregnancies, cannot be fully understood without also considering the fact that many poor young women may be receiving inadequate, perfunctory medical care. Pill-related side effects appear to be a formidable problem among low-income adolescents, and it is reasonable to hypothesize that the service delivery context may influence both their experiences with side effects and their overall adjustment.

To deliver the best possible family planning services to urban youth, therefore, it might be productive to gather more information about the processes hypothesized in this study. In addition to larger scale longitudinal and experimental data, in-depth interviews with young family planning clients might provide useful details about the problem of side effects and the influence of clinic barriers and characteristics on family planning. This information could, in turn, be used to guide the development of appropriate counseling and educational services and, ultimately, reduce the incidence of unplanned, early pregnancies.

APPENDIX

It is possible that the relationship between type of clinic used and side effects could be due to a selection bias whereby psychological functioning accounts for both clinic type and experiences with side effects. To explore this possibility, a hierarchical logistic regression analysis was performed in which clinic type and psychological functioning were used to predict the log odds of experiencing side effects within the Study 2 sample. Considered together, global severity of psychological symptoms and mastery did not contribute significantly to the model, $\chi^2(2, N = 30) = 1.88, p =$

.391. When clinic type was added to the model in a second step, its contribution was in the expected direction but not significant, $\chi^2(1, N = 30) = 2.70, p = .100$, suggesting that the relationship between clinic type and side effects may be somewhat weakened when psychological covariates are taken into account. Future research with larger samples could provide a more definitive test of the selection bias hypothesis.

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