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ABSTRACT

Effective birth control is needed to combat adolescent pregnancy which is a major health and social problem, the adverse consequences of which have been well-documented along a variety of dimensions. A significant obstacle to the provision of birth control services to teenagers is the belief that such services will encourage adolescent coital activity. The validity of this belief was studied by a longitudinal study which assessed teenage sexual behavior prior to and one year after obtaining oral contraception. Almost all the young women were coitally experienced when they first came to the clinic for birth control. During the year the young women used oral contraception, they showed a very moderate increase in frequency of coitus which was not accompanied by an increase in their current number of sex partners. Given the opportunity to obtain prescription contraception, these adolescent women demonstrated good continuity of usage. These results, considered in conjunction with other research, support the conclusion that providing teenagers with effective birth control will not markedly increase their sexual activity. (Author)

The Influence of Contraception on Adolescent Sexual Behavior

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Both the professional and the lay public realize that today sexuality is a significant aspect of adolescence. It is unfortunate that this realization has occurred primarily because teenage pregnancy is a major health and social problem. An analysis of current information presents the following description of adolescent sexuality (Alan Guttmacher Institute [AGI], 1976). Over half of the approximately 21 million Americans aged 15-19 are estimated to have experienced coitus--almost seven million young men and over four million young women. And of the approximately eight million 13- and 14-year-old boys and girls, almost two million are believed to have experienced sexual intercourse. Teenage sexual activity is currently a fact of American life which cuts across socioeconomic and racial groups. As can be seen from these figures, the probability of an adolescent engaging in coitus increases sharply with age. There is also some indication that sexual activity is commencing at younger ages.

The current level of such activity is significant because teenagers are the age group which suffers most heavily from the adverse physical and psychosocial consequences of unprotected coitus. There are over a million pregnancies among teenage women every year, about four-fifths of which are nonmarital conceptions (Zelnik & Kantner, 1978). Teenage marriages, many of which are precipitated by a nonmarital conception, are at high risk of failure (National Center for Health Statistics [NCHS], 1973). Over 600,000 births annually (about one-fifth of all U.S. births)

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are to teenage women and over a third of these occur out of wedlock (NCHS, 1978). Moredver, one-third of all the legal abortions performed in this country are obtained by teenagers (Center for Disease Control, 1978). Clearly, there is a very significant amount of unwanted fertility among American adolescents.

The negative consequences of teenage childbearing have been well-documented along a variety of dimensions concerned with the quality of life such as the following (e.g., AGI, 1976; Furstenberg, 1976). First, teenagers are subject to higher rates of physical and psychological pregnancy complications and maternal mortality. Second, infants of adolescent mothers are subject to higher rates of prematurity, low birth weight, serious physical and intellectual impairment, and mortality. And third, teenage parents and their children are more likely to be psychosocially, educationally, and economically disadvantaged, and to experience an unstable family situation. Early childbearing and adoption of the maternal role (regardless of marital status, the vast majority of teenage mothers keep their babies at home with them) reinforces that role and restricts the development of the woman's non-familial potential because her education, work experience, and even her personality development may well have been cut short.

Most adolescents would avoid pregnancy and parenthood if they could. Given the current pattern of adolescent sexuality, this can only come about through the effective practice of fertility control. Currently, however, over half the teenage population at risk of

unintended pregnancy is not receiving family planning services (Jaffe & Dryfoos, 1976).

An important obstacle is that some adults, including government policy makers, are disturbed by the idea of teenage sexuality. While they may understand that programs of sex education and contraceptive health care can prevent unintended pregnancy, they also believe that such programs will encourage adolescent sexual activity which they oppose on the basis of their personal value system.

In 1971, Black and Sykes examined a variety of evidence concerning the relationship between incidence of nonmarital intercourse and availability of oral contraception. While they noted that their analysis is suggestive rather than definitive because of the lack of suitable data, they did show that the evidence available at that time indicated that oral contraception was not a major cause of nonmarital coitus. And there is some data available from the same time period which indicates that there is no relationship between availability of subsidized family planning services and initiation of coital activity by unmarried adolescents (Moore & Caldwell, 1977). The facts that even the present level of contraceptive services for teenagers is a response to adolescent sexual activity and that there are large numbers of nonmarital conceptions among teenagers lend support to Black and Sykes' conclusion. In addition, the great majority of adolescents who come to clinics for birth control are already sexually experienced (Reichelt, 1976).

Being able to obtain prescription contraception is, therefore, evidently not a factor which stimulates young women to begin their sexual careers. The question that remains is does obtaining prescription birth control affect the coital behavior of sexually experienced, unmarried, teenage women? An answer to this question was sought by conducting a longitudinal study which assessed adolescent sexual behavior prior to and one year after receiving birth control pills from a teen center in a large midwestern city.

Procedure

When the young woman came to the teen center for her physical examination, she first had a private conference with a counselor. This conference accomplished a variety of important functions. The counselor obtained information concerning the client's prior health history; the teenager was able to ask questions she had concerning topics such as contraception and the procedures involved in the physical examination (most of the young women had not previously had a pelvic examination); and the teen was able to discuss her own sexuality in a confidential, relaxed, and nonjudgmental environment.

At the end of a year, each teen had to return to the clinic for an annual physical examination if she wanted to have her prescription renewed. During this visit she again had a conference with a counselor. As part of both the initial and annual conferences which were conducted during the period of the study, the counselor obtained

information from the young woman concerning her sexual and contraceptive behavior. The data were obtained using short, structured interview schedules. Because some of the same information was obtained at both the initial and annual interviews, it is possible to determine if the teens' sexual behavior changed during the year they were receiving birth control pills from the clinic.

This report is based upon initial and annual interviews conducted with 213 women under the age of 18 who received oral contraceptives from the teen center. The sample consists of all those initially interviewed teenagers who completed one year as a clinic patient during the study period. Due to the very small amount of missing data, percentages reported are adjusted for missing data (i.e., based on only those subjects who answered the particular item).

Results

The Sample

At the time of the annual interview, the 213 young women range in age from 13 to 17 with the majority of them being either 16 or 17 year-old high school students. The sample is slightly over three-fifths white, and the majority of the adolescents are from the middle and lower-middle socioeconomic classes as determined from the head of household's education and occupation (Hollingshead, 1957).

A notable aspect of the sample is that although the teen center is located in the city, approximately two-fifths of the young women

live in the surrounding metropolitan area and travel to the city in order to receive services from the clinic. This long distance commuting is one indication of the previously referred to difficulty adolescents often encounter in obtaining comprehensive, contraceptive health care.

Coital Frequency

Of the 213 young women, 207 of them are coitally experienced by the time of the annual interview. Table 1 shows that 89% of the 207 are currently active which means that they have had intercourse

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Insert Table 1 about here

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during the two months prior to the interview. Note that in this and subsequent tables, there is an increase in the size of the data-producing sample for certain variables from 196 at the initial interview to 207 at the annual interview. This results from the fact that 11 of the 17 young women who were virgins at the time of the initial interview began their sexual careers during the year of the study. In other words, although 17 of the young women were planning ahead by obtaining birth control pills before beginning sexual relations, 6 of them never did initiate coital activity.

During the year the teenagers had effective contraception available to them, their mean frequency of coitus increased from 4.3 to 6.8 times per month, t (186) = 5.27, $p < .001$. Even with this moderate increase in coital frequency, at the time of the

annual interview half of the young women are experiencing intercourse once a week or less (see Table 1). The variable patterning of adolescent sexual activity is indicated by the moderate correlation ($r = .45$ $p < .001$) between monthly frequency of intercourse at the time of the initial and annual interviews. This variability is present even though both frequencies are based upon the two month period immediately preceding the interview so that responses are not unduly affected by week to week fluctuations in coital activity.

Coital Partners

The fact that there has been some increase in frequency of intercourse during the year raises the question of whether or not this increase is accompanied by a change in the number of partners with whom the young women are active. Table 2 presents the data concerning

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Insert Table 2 about here

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current number of sex partners. The most noticeable change which occurred during the year is the 4.5 percentage point decrease in the number of inactive teens and the concomitant increase in the number of teens active with one partner. This change in the number of sexually experienced young women who are currently active illustrates both the sporadic nature of adolescent coital activity and that some who received clinic services were anticipating their resumption of sexual activity.

Focusing attention on the young women who are currently sexually

active reveals that at both points in time, nine-tenths of these teens are active with only one partner so that at both interviews the average number of current partners for the active teens is 1.1 partners. Thus, the moderate increase in coital frequency is not accompanied by an increase in the mean number of current partners.

In order to obtain a more complete understanding of the young women's pattern of involvement with partners during their sexual careers, several additional questions were included in the interview. It is readily apparent from the left side of Table 3 that

Insert Table 3 about here

almost all of these adolescent women are usually involved with only one partner. Note that for a small percentage of the teens, their periods of sexual inactivity are greater than their periods of sexual activity so that they are usually not active with any partner. As was true for the data on current number of sex partners, there is no change in the mean number of usual partners. At both the initial and annual interviews, the mean number of usual partners is 1.0.

The middle column of Table 3 concerns the one year period preceding each of the interviews. A decrease has occurred so that in the year prior to the annual interview, two-thirds of the young women have been active with only one sex partner. Mean number of partners decreased from 2.2 to 1.8 (t [135] = 1.95, p = .05) from

one year to the next.

The final question asked about partners concerned the total number of different partners the young women have ever had intercourse with. The last column of Table 3 shows that there has been some increase in total number of partners. The mean total number of partners has increased from 2.7 to 3.3 (t [185] = 2.98, p = .003) which is understandable in that by the time of the annual interview, all the young women have been sexually active for an additional year. However, even by the time of the annual interview, almost three-fifths of the sample have had only one or two partners ever.

Birth Control Usage

A series of questions concerning contraceptive behavior was included in the annual interview to determine the consistency with which the teenagers used the birth control they received from the clinic. Of the total sample of 213 young women, 87.5% are currently using birth control pills, 2.9% are using other methods of contraception (typically condoms and/or spermicides), and 9.6% are not using anything.

Some of the teens discontinued the birth control they received from the clinic for varying periods of time during the year. This information is presented in Table 4 which shows that while the

Insert Table 4 about here

majority of the adolescent women consistently used their contraceptive pills, three-tenths of the sample did discontinue their prescription birth control for one or more months during the year. Typically, this was for three months or less although the range includes the entire year so that the mean period of nonuse for the discontinuers is 3.5 months. The small proportion of the sample that discontinued birth control usage for more than half a year is composed of two equal subgroups: those who discontinued because they were not sexually active, and those who remained active and thus became pregnant.

Notice that the discussion of contraceptive behavior is based upon the total sample of 213 rather than excluding the six virgins as was the case when the data on sexual behavior were being presented. One would think that the virgins should be excluded from both presentations. Interestingly, however, four of the six virgins continued to use the birth control pill the entire year, one never began using the pill, and the other used the pill for six months.

For each teen who stopped using the pill during the year, the primary reason for her discontinuance is shown in Table 5.

Insert Table 5 about here

Almost two-fifths of those who discontinued indicate that they did

so because they were sexually inactive and so did not need birth control during that period of time. About a quarter of the group discontinued the pill when they experienced side effects. The side effects experienced were primarily physical ones and all of them would be classified as minor complications of pill use, with nausea being the most common complaint. Psychological side effects such as irritability and mild depression were usually reported in conjunction with a physical complaint.

The third most common reason cited for discontinuance is not being able to get to the clinic to pick up the birth control pills. Given the distance some of the teens traveled to attend the clinic, it is easy to understand how difficulty could arise in having sufficient time and/or transportation available during the clinic hours, especially if the teen was attending without informing her parents.

Of the group of 64 adolescent women who ever discontinued the birth control they received from the clinic, it was noted that 37.5% did so because they did not need contraception as they were not sexually active. Some other birth control method (typically the condom and/or spermicides) was used by 23.4% of the group to replace the pill during the period of discontinuance, while 39.1% did not utilize any alternative method. Five pregnancies resulted from remaining sexually active while discontinuing the prescription contraception and not replacing it with an alternative method.

In addition to these five pregnancies, six other pregnancies were reported by the young women as having been concluded during the year between the initial and annual interviews. Three of the pregnancies were already established at the beginning of the year and three were the result of contraceptive failure during the year. Eight of the 11 pregnancies were resolved by abortion, one miscarried, and two of the young women gave birth and kept the child.

The data presentation concerning birth control usage began by noting that at the time of the annual interview, 12.5% of the total sample of 213 are not currently using the birth control pills they had received from the clinic. Then why do they return for their annual health examination? As one would suspect, the answer to this question is a reflection of the major reasons for their discontinuing in the first place. That is, they returned primarily because they were planning or resuming sexual activity or because they want to try to overcome difficulties they had in using their prescribed pills by trying an IUD or a different pill.

Discussion

The overall picture which emerges is that during the year the young women used oral contraception, they showed a very moderate increase in frequency of coitus which was not accompanied by an increase in their current number of sex partners. Given the opportunity to obtain prescription contraception, these young women demonstrated good continuity of usage. Even among those who discontinued the

clinic birth control for a period of time, the majority did so on a reasoned basis and either used an alternative method of contraception or were sexually inactive.

The most direct answer to the question of what influence, if any, obtaining oral contraception has upon the behavior of sexually experienced, unmarried, adolescent women would be obtained from a study utilizing a random sample from this population and a true experimental design where half the sample is given access to the birth control and the other half of the sample is denied access. For both practical and ethical reasons, this is not a feasible approach. But by synthesizing the results of the current study with other available data, it is possible to formulate an empirical answer to the question.

During the year of the study, the young women showed no increase in number of current partners, usually being sexually active with only one male. There was a small increase in total number of partners ever which is most reasonably attributed not to the influence of oral contraception, but to the fact that the teens have been sexually active for an additional year and that adolescent women exhibit a pattern of "serial monogamy" in their sexual behavior (Reichelt, 1976). This interpretation is further supported by data obtained by Vener and Stewart (1974) and Zelnik and Kantner (1977) from more general samples of adolescent women who were not selected on the basis of their use of contraception. Both of those studies

report cross-sectional data obtained at two different points in time which reveal that over time there is an increase in the total number of partners ever.

During the year of the study, average frequency of intercourse increased from 4.3 to 6.8 times per month. Vener and Stewart do not present data on frequency of coitus, while Zelnik and Kantner report no increase in frequency. Even if the entire increase in coital frequency could be attributed to the use of oral contraception (which it cannot) the influence of the contraception is not dramatic. That 11% of the sample were inactive at the [redacted] of the annual interview (and in fact, a few of the teens were still virgins) is an indication that possession of effective contraception does not result in any compulsion to engage in sexual activity.

A variety of research on both sexual knowledge and use of contraception, as well as statistics on nonmarital conceptions, indicates that lack of knowledge and/or lack of contraception are not strong deterrents to sexual activity. Adolescents who come to clinics for birth control are usually sexually active, and the results of this study indicate that their sexual behavior is not markedly changed as a result of obtaining contraception. Adding in other recent data on adolescent coital behavior such as Zelnik and Kantner's (1977) report that most of it now occurs in the home, leads to agreement with Black and Sykes' (1971) earlier conclusion. That is, it is the psychosocial factors rather than the availability of

contraception which are the primary determinants of nonmarital sexual behavior. However, adolescents may have difficulty fully understanding why they engage in sexual behavior (e.g., for physical pleasure, as an expression of emotional closeness, as a response to peer pressure) and the complex short and long term implications of their behavior. Helping teenagers gain an understanding of the meaning of their sexual behavior and helping them achieve the longer future-time perspective which facilitates good contraceptive practice is an exciting challenge for family counseling professionals.

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Table 1

Current Monthly Frequency of Intercourse at Time of Initial and Annual Interviews

Frequency	Initial[a]	Annual[b]
Not currently active	15.4%	10.9%
1 or less	22.7	13.5
2	12.9	10.0
3	10.8	6.5
4	10.8	9.5
5	3.6	8.5
6	4.6	3.0
7	1.0	3.5
8	3.1	8.0
9	1.5	0.5
10	3.6	7.0
11 or more	9.8	19.0

Note. Percents do not total 100.0 due to rounding.

[a] n = 196.

[b] n = 207.

Table 2

Current Number of Sex Partners

at Time of Initial and Annual Interviews

Partners	Initial	Annual[b]
Not currently active	15.4%	10.9%
1	75.5	82.3
2	7.7	5.4
3	1.5	1.5

Note. Percents do not total 100.0 due to rounding.

[a] n = 196.

[b] n = 201.

Table 3

Numbers of Sex Partners:

Responses from Initial and Annual Interviews

Partners	Usual No.		No. Past Year[c]		Total No. Ever	
	Initial[a]	Annual[b]	Initial[a]	Annual[b]	Initial[a]	Annual[b]
0	3.6%	2.0%				
1	93.8	94.1	53.4%	67.3%	44.8%	38.4%
2	2.1	3.0	23.6	15.3	16.5	19.7
3	0.5	1.0	9.4	7.4	18.0	14.1
4			5.2	3.0	7.2	7.6
5			2.1	2.5	2.6	6.1
6 or more			6.3	4.5	10.8	14.1
	100.0	100.1	100.0	100.0	99.9	100.0

Note. Percents may not total 100.0 due to rounding.

[a] $n = 196$.

[b] $n = 207$.

[c] This question was worded differently at the two interviews. The initial interview question asked for the greatest number of partners in any one year while the annual interview question asked for the number of partners during the past year. However, the questions are more similar than the phrasing indicates because at the time of the initial interview, the sample's average period of sexual activity was one year.

Table 4

Number of Months Clinic Birth Control Was Not Used

No. of Months	Percent[a]
Always used	69.3
1	9.3
2	7.8
3	4.4
4	1.5
5	1.5
6	2.4
7-12	3.9

Note. Percents do not total 100.0 due to rounding.

[a]n = 213.

Table 5

Primary Reason for Discontinuing

Clinic Birth Control

Reason	Percent[a]
Not having coitus	37.5
Experienced side effects	23.4
Could not get to clinic for pills	17.2
Forgot to take pills	4.7
Concurrent medical treatment required discontinuance	4.7
Feared side effects would occur	3.1
Other[b]	9.4

[a] $n = 64$.

[b] A heterogeneous group of answers, no one of which was given by more than one respondent.