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IMPACT OF THE ABORTION EXPERIENCE ON CONTRACEPTIVE ACCEPTANCE

By

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IMPACT OF THE ABORTION EXPERIENCE ON CONTRACEPTIVE ACCEPTANCE

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Abstract

IMPACT OF THE ABORTION EXPERIENCE ON CONTRACEPTIVE ACCEPTANCE

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This report reviews contraceptive practices of abortion patients before and after abortion. Data on socio-demographic characteristics, contraceptive methods, and the abortion procedure were recorded for 5883 consecutive patients at PRETERM, Washington, D.C., a free-standing clinic. Data were computer processed and analyzed at the International Fertility Research Program, Research Triangle Park, North Carolina. Each woman admitted to PRETERM for an induced abortion was given detailed contraceptive counseling. The counselor presented the advantages, disadvantages, and risks of each method of contraception and encouraged the patient to choose the method that she felt was best suited to her needs. Of the patients requesting abortion, 52.0 percent had used no method of contraception during the month of conception. Analysis of demographic groups by age, parity, race, and marital status, however, showed that among nulligravid women less than 20 years of age, 78.5 percent of the Caucasoid and 83.3 percent of the Negroid patients had used no contraceptive method during the month of conception. After the abortion, 92.9 percent of the patients followed up from 7 to 90 days after the abortion were using contraceptives. Oral contraceptives and IUDs were the methods most frequently accepted (58.5% and 22.1%, respectively). This study shows how computer analysis of demographic data helps clinics identify high risk groups of women who need reproductive and contraceptive counseling and services. It also demonstrates that contraceptive counseling at the time of abortion is highly effective in reaching these selected populations.

I. INTRODUCTION

Socio-demographic characteristics of 5883 patients who had induced abortions at PRETERM, Washington, D.C., a free-standing clinic, were studied to determine whether these characteristics could help the clinic identify patients most in need of reproductive and contraceptive counseling and services. The effects of contraceptive counseling on the acceptance of contraception after an abortion, were also studied. Data were collected at PRETERM and computer processed and analyzed at the International Fertility Research Program, Research Triangle Park, North Carolina.

II. MATERIALS AND METHODS

PRETERM, Washington, D.C., collected data in a consistent manner on standardized forms designed by the International Fertility Research Program (IFRP). The forms were processed through the Clinic Data Service, a system developed by the IFRP for monitoring family planning programs. The 5883 cases in this study include all abortion patients treated at PRETERM from April 1 to December 31, 1975.

Counseling Process

During her first clinic visit, each patient is asked to complete the portion of her medical chart pertaining to medical, social, and demographic history. Although an effort is made to get the patient to respond to all items in the questionnaire, she is not required to provide social data such as religion, marital status, and employment. While she is in the reception area, she may be invited to join a group counseling session in which the issues of abortion are discussed. In the group sessions, information on alternatives to abortion, the abortion procedure, and the effectiveness, advantages, and disadvantages of available contraceptives is presented in a manner designed to reduce the patient's anxiety. (See Appendix A for the fact sheet on various forms of contraception that PRETERM gives each patient.)

Each patient is assigned an individual counselor and must have at least one interview with her. The counselor reviews birth control methods in more detail and helps the patient to make the best decision about her present pregnancy, future sexual behavior, and contraceptive practice. The counselor tries to be sympathetic, informative, and as impartial as possible in order to allow the patient to air her feelings and work out her own informed decisions.

Clinical Procedure

Abortions at PRETERM are performed by vacuum aspiration. No routine analgesics, sedatives, or tranquilizers are used. Valium, syntocinon, and methergin are occasionally indicated during the procedure. Methergin tablets and antibiotics are given routinely after the abortion. Analgesics are administered if patients request medication for pain. The no-touch aseptic technique is employed. A bimanual pelvic examination is repeated immediately before the abortion procedure to confirm uterine size and position and to evaluate the adnexae. Patients are routinely given a paracervical block of 10 to 20 ml of 1% mepiracaine. After the uterus is sounded, the physician dilates the cervix as much as necessary with Pratt dilators. Plastic cannulae are routinely used in the vacuum aspiration procedure; the size is based on the estimated duration of pregnancy. The operator examines all aspirated tissue. A curette check is routinely performed when the evacuation is thought to be complete.

After the procedure, patients are watched in a recovery lounge for at least an hour. During this time, the staff checks the patient's vital signs instructs them on postabortal care, and reviews with them how to use the contraceptive they have chosen. All subjects are requested to participate in the follow-up service that the clinic offers at no additional charge. Follow-up information is also obtained by telephone, patient-referral forms, or physicians' letters. The recommended interval for the follow-up contact is between seven days and four weeks after the abortion; after 90 days patients were considered lost to follow-up. In this study the rate of follow-up was 59.8 percent.

Information Retrieval

A standard IFRP form was used to collect information on patient characteristics, and medical, operative, and follow-up data. The clinic used the

confidential patient identification section strictly for linking its patient records with the IFRP form. Six data columns are available for optional, clinic-specific information. PRETERM used these to record the name of the physician who performed the procedure, any previous abortion(s) the patient had had at PRETERM, and the patient's method of payment, ethnic group, locality, and referral source. After the abortion, a research assistant transferred the information obtained before the abortion and the operative information to the pregnancy termination form. PRETERM held the forms for 90 days so that follow-up information could be added. The clinic retained one copy of the two-ply form and sent the other copy to the IFRP. Monthly shipments of completed questionnaires were mailed to the IFRP for computer editing. Contingency checks were performed and responses were cross-checked for consistency. The computer program automatically changed inconsistent responses to the code meaning "unknown" information. When editing for a given shipment was completed, a printout was produced that listed the number of blanks or out-of-range responses coded on each of the 74 items on the form and the frequency distribution of contingency errors. This printout was available to the clinic for monitoring the coding.

Study Design

Distributions of contraceptives used during the month of conception and at the follow-up contact were compared for the total population treated at PRETERM for the duration of the study. Subsets of the population were identified according to race (Caucasian or Negroid), marital status (never married, currently married, or formerly married), residence (urban or rural), previous pregnancies (none or some), and age cohorts (see Figures 1 and 2) so that distributions of contraceptive acceptance before and after the abortion could be compared for these subsets of the population. Caucasian women treated at PRETERM, Washington, D. C. were predominantly from suburban areas, and Negro women were predominantly from the District of Columbia. Differences observed between these two groups of women, however, were probably the result of difference in socioeconomic status. Contraceptive behavior patterns before and after the abortion were recorded only for women who requested induced abortions; therefore, inferences from any of the results can only be extrapolated on a comparable population.

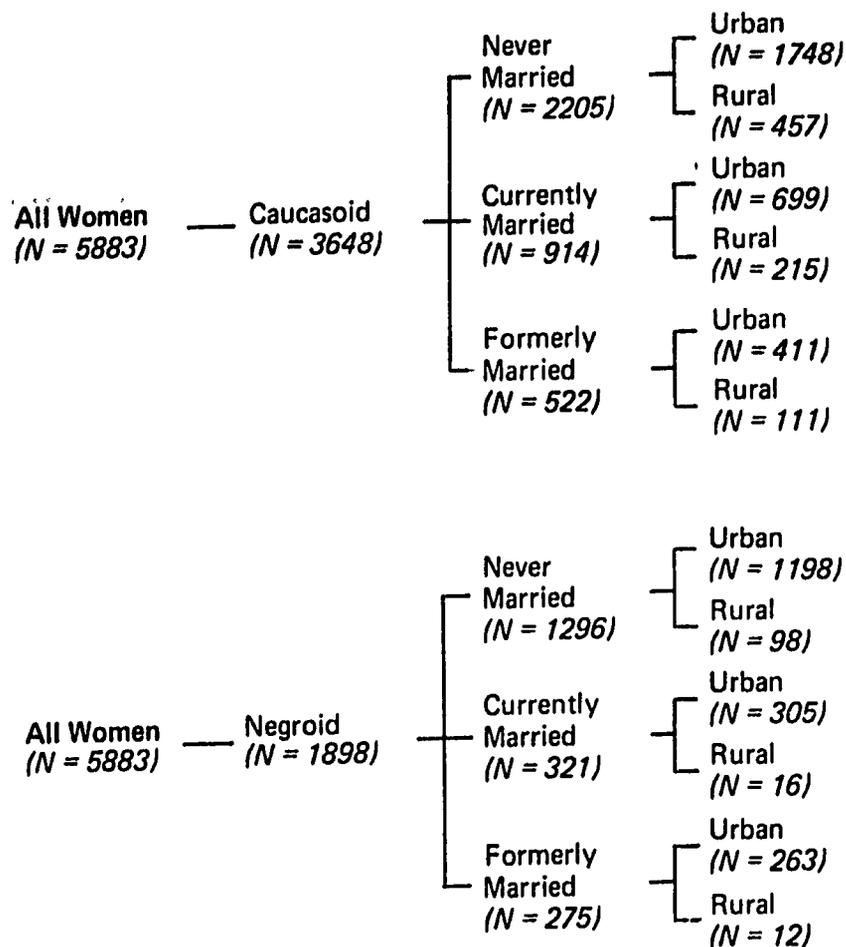


Figure 1. Race, Marital Status, and Residence Subsets of the Patient Population.

Chi-squared tests were used to compare distributions of contraceptive acceptance for subsets of the population; the probability of rejecting the hypothesis that the subsets were no different (α) with respect to distributions of contraceptive acceptance was 0.05.

Subjects

Table I shows selected socio-demographic characteristics of the patients. Almost two-thirds (62.7%) of the patients were never married; the mean age was 22.5 years; and the mean number of years of completed education was 12.7. The mean number of living children was 0.27; the mean number of additional children wanted was 1.10. Table II is a frequency matrix of number of living children by additional children wanted. Response was voluntary; information on the number of living children was missing for 1455 women, and information on the number of additional children wanted was missing or unspecified (the women had not decided) for 1370 women. Of the women responding to both items (3058),

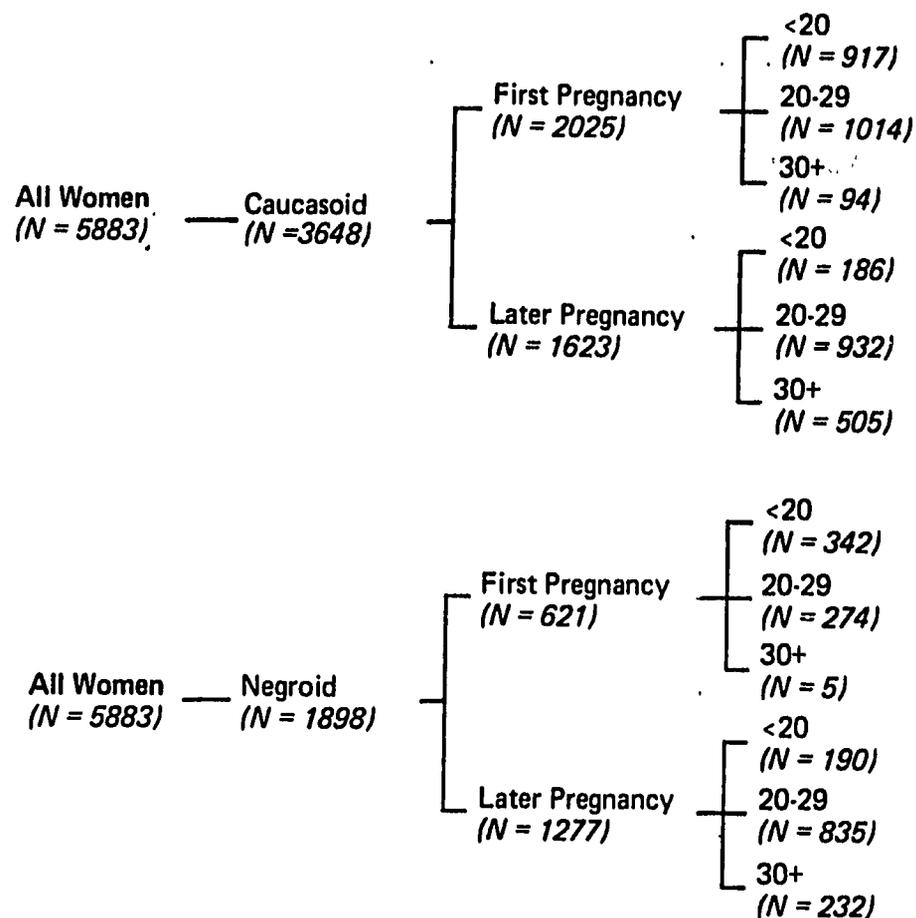


Figure 2. Race, Pregnancy and Age Subsets of the Patient Population.

TABLE II
CONTRACEPTIVE METHODS USED
BEFORE (N = 5877) AND AFTER (N = 3518) THE ABORTION

Living Children	Additional Children Wanted											
	0		1		2		3+		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	513	13.8	226	6.1	1197	32.3	741	12.7	1302	35.1	3709	83.8
1	188	46.9	124	30.9	30	7.5	13	3.2	46	11.5	401	9.1
2	162	76.1	24	11.3	11	5.2	1	0.4	15	7.0	213	4.8
3+	92	87.5	5	4.8	1	1.0	0	0	7	6.7	105	2.3
Total	955	21.6	379	8.7	1239	28.0	485	11.0	1370	30.9	4428*	100.0

* The table includes only women for whom information was available on number of living children.

TABLE I
SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS OF 5883 ABORTION PATIENTS

Patient Characteristics	Caucasian		Negroid		Total	
	No.	%	No.	%	No.	%
Marital Status						
Married*	917	25.1	322	17.0	1362	23.2
Formerly married	522	14.3	275	14.5	821	14.0
Never married	2205	60.5	1296	68.3	3689	62.7
Unknown	4	0.1	5	0.2	11	0.1
Education (Years Completed)						
0-6	30	0.8	5	0.2	42	0.7
7-9	177	4.9	106	5.6	301	5.1
10-12	1745	47.8	1092	57.5	2977	50.6
13 or more	1514	41.5	539	28.4	2158	36.7
Unknown	182	5.0	156	8.2	405	6.9
Mean	12.9		12.3		12.7	
Gainful Employment						
Yes	2215	60.7	1035	54.5	3434	58.4
No	1426	39.1	855	45.0	2434	41.4
Unknown	7	0.2	8	0.5	15	0.3
Race						
Caucasoid	3648	100.0	0	0.0	3648	62.0
Negroid	0	0.0	1898	100.0	1898	32.3
Mongoloid	0	0.0	0	0.0	115	1.9
Unknown	0	0.0	0	0.0	222	3.8
Religion						
Protestant	1311	35.9	985	51.9	2395	40.7
Catholic	652	17.9	212	11.2	902	15.3
Jewish	92	2.5	1	0.1	97	1.6
Other**	62	1.7	27	1.4	118	2.0
None	149	4.1	64	3.4	237	4.0
Not given	1382	37.9	609	32.1	2134	36.4
Previous Induced Abortions						
0	2677	73.4	1155	60.9	4368	74.3
1	729	20.0	542	28.6	1167	19.8
2+	240	6.5	198	10.4	343	5.8
Unknown	2	0.1	3	0.1	5	0.1

* Includes common law marriages.

** Includes Buddhist, Hindu, Muslim, and Orthodox religions.

78.8 percent wanted and had two or fewer children; 16.8 percent of this group wanted and had no children.

III. RESULTS

Contraceptive Behavior Before the Abortion

Fifty-two percent of the women treated at PRETERM reported using no contraceptive during the month of conception. Of the remaining women, 18.7 percent reported using oral contraceptives, 12.6 percent, diaphragm, foam, or jelly; 8.6 percent, condoms; 4.3 percent, IUDs; 3.5-percent, rhythm or withdrawal; and 0.3 percent, tubectomy or vasectomy.

Table III shows contraceptive methods used before the abortion by race for women of all ages, and Tables IV and V show methods used by women with no previous pregnancies who were 20 to 29 years of age and less than 20 years of age. Regardless of race, younger women are significantly less likely to use contraceptives: 80 percent of those less than 20 years of age used no contraceptive methods during the month of conception. This difference is even more apparent when the younger, nulliparous women are compared with women who have had previous pregnancies. Figure 3 shows that both Negroid and Caucasian women less than 20 years of age with no previous pregnancies were almost twice as likely not to have used contraceptives as older women or women who had had a previous pregnancy.

Women who had had previous pregnancies were more likely to have used contraceptives before the abortion than women treated for first pregnancies in both racial groups: 60.4 percent of the Caucasian women treated for first pregnancies compared to 37.4 percent treated for later pregnancies were using no contraceptives, and 67.9 percent of the Negro women treated for first pregnancies compared to 47.2 percent treated for later pregnancies were using no contraceptives. Women who were never married (followed by women who were formerly and currently married) were the least likely to have used contraceptive methods.

Conventional methods* were more frequently used by currently married women than by formerly or never married women of both races. Among Negro patients, marital status did not appear to affect the use of oral contraceptives, but

*Includes condoms, rhythm, withdrawal, diaphragms, foams, and jellies.

TABLE III
**CONTRACEPTIVE BEHAVIOR
 DURING THE MONTH OF CONCEPTION BY RACE (ALL AGES)**

	None		Withdrawal/ Rhythm		Condom		Foam/ Diaphragm/ Jelly		IUD		Orals		Tubectomy/ Vasectomy		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasian	1827	50.2	154	4.2	381	10.4	544	15.0	174	4.8	549	15.0	14	0.4	3643	65.8
Negroid	1024	54.0	37	2.0	99	5.2	172	9.1	66	3.5	494	26.0	3	0.2	1895	34.2
Both	2851	51.5	191	3.4	480	8.7	716	13.0	240	4.3	1043	18.8	17	0.3	5538	100.0

TABLE IV
**CONTRACEPTIVE BEHAVIOR BEFORE THE ABORTION BY RACE
 FOR WOMEN 20-29 YEARS OF AGE WITH NO PREVIOUS PREGNANCIES**

	None		Rhythm/ Withdrawal		Condom		Diaphragm/ Foam/Jelly		IUDs		Orals		Tubectomy/* Vasectomy		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasian	455	45.0	55	5.4	122	12.0	171	16.9	50	4.9	159	15.7	1	0.1	1013	78.8
Negroid	135	49.5	8	3.0	15	5.6	28	10.3	9	3.4	77	28.2	0	0.0	272	21.2
Both	590	45.9	63	4.9	137	10.7	199	15.5	59	4.6	236	18.4	1	0.1	1285	100.0

* Column deleted from X² calculations.

TABLE V
**CONTRACEPTIVE BEHAVIOR BEFORE THE ABORTION BY RACE
 FOR WOMEN LESS THAN 20 YEARS OF AGE WITH NO PREVIOUS PREGNANCIES**

	None		Rhythm/ Withdrawal		Condom		Diaphragm/ Foam/Jelly		IUDs*		Orals		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasoid	719	78.5	38	4.1	73	8.0	36	3.9	4	0.4	47	5.1	917	72.8
Negroid	285	83.3	3	0.9	10	3.0	8	2.3	0	0.0	36	10.5	342	27.2
Both	1004	79.7	41	3.3	83	6.6	44	3.5	4	0.3	83	6.6	1259	100.0

* Column deleted from X² calculations.

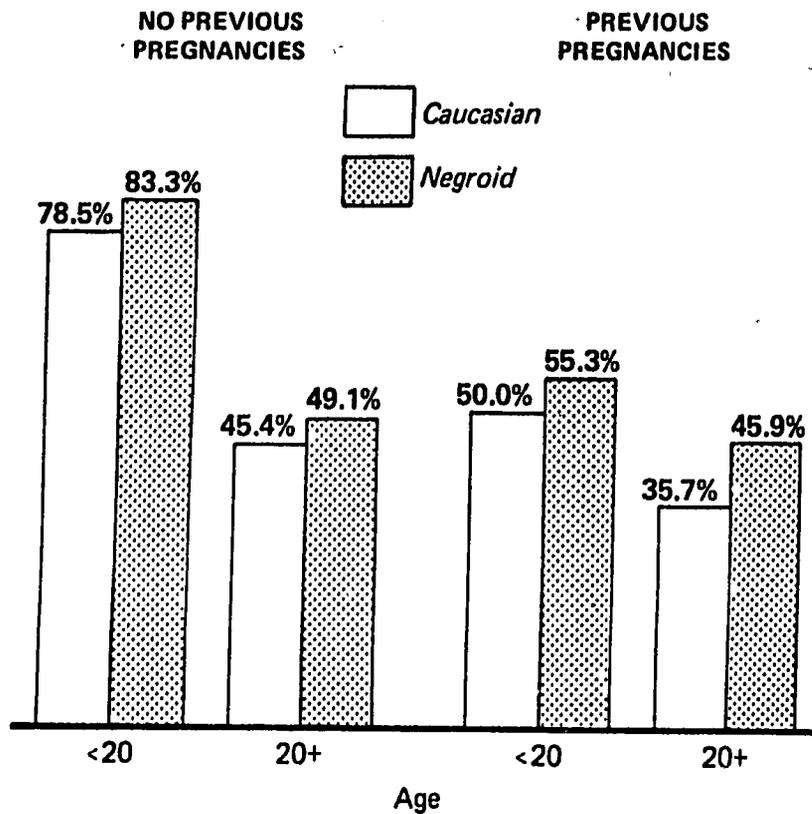


Figure 3. Percent Women Using NO Method of Birth Control Before the Abortion by Age, Race, and Whether or Not They Had Had Previous Pregnancies

among Caucasian patients, formerly married women were the most likely and never married women the least likely to have used orals. Negro women were twice as likely to be using orals and less likely to be using conventional methods of contraception than Caucasian women (Table III).

Contraceptive Behavior After the Abortion

Two major changes were noted in contraceptive use after the abortion. First, the number of patients in all categories who selected a contraceptive method increased dramatically (Table VI). Of the patients for whom follow-up information was available, only 7.1 percent were not using contraceptives; 58.5 percent chose orals; and 22.1 percent chose IUDs (Figure 4). Second, patients generally selected a more effective contraceptive method. Table VI shows the shifts from one method to another and the loss to follow-up by method used during the month of conception. Percents shown for method shifts were based on the number of patients using a given method during the month of conception; percents for loss to follow-up by method used during the month of conception

TABLE VI
CONTRACEPTIVE METHODS USED
BEFORE (N = 5877) AND AFTER (N = 3518) THE ABORTION

Method Used in Month of Conception	Method Used at Follow-Up																	
	None		Rhythm/Withdrawal		Foam/Diaphragm/Jelly		Condom		IUDs		Orals		Tubectomy		Vasectomy		Lost to Follow-Up	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
None	164	10.3	2	0.1	93	5.8	16	1.0	293	18.2	1029	63.8	5	0.3	8	0.5	1441	24.5
Withdrawal/rhythm	5	4.1	0	0.0	20	16.3	3	2.4	27	22.0	67	54.4	0	0.0	1	0.8	83	1.4
Foam/diaphragm/jelly	14	3.0	0	0.0	136	28.8	8	1.7	147	31.1	163	34.6	2	0.4	2	0.4	268	4.6
Condom	26	8.4	0	0.0	28	9.0	17	5.5	62	19.9	171	54.9	4	1.3	3	1.0	196	3.3
IUD	7	4.8	0	0.0	13	8.9	1	0.7	58	39.7	60	41.1	5	3.4	2	1.4	109	1.8
Orals	14	2.5	0	0.0	14	2.5	2	0.4	125	22.5	397	71.3	2	0.4	2	0.4	539	9.2
Other*	0	0.0	0	0.0	1	9.1	1	9.1	1	9.1	4	36.3	1	9.1	3	27.3	12	0.3

* Includes tubectomy, vasectomy, depo Provera, and aspirin.

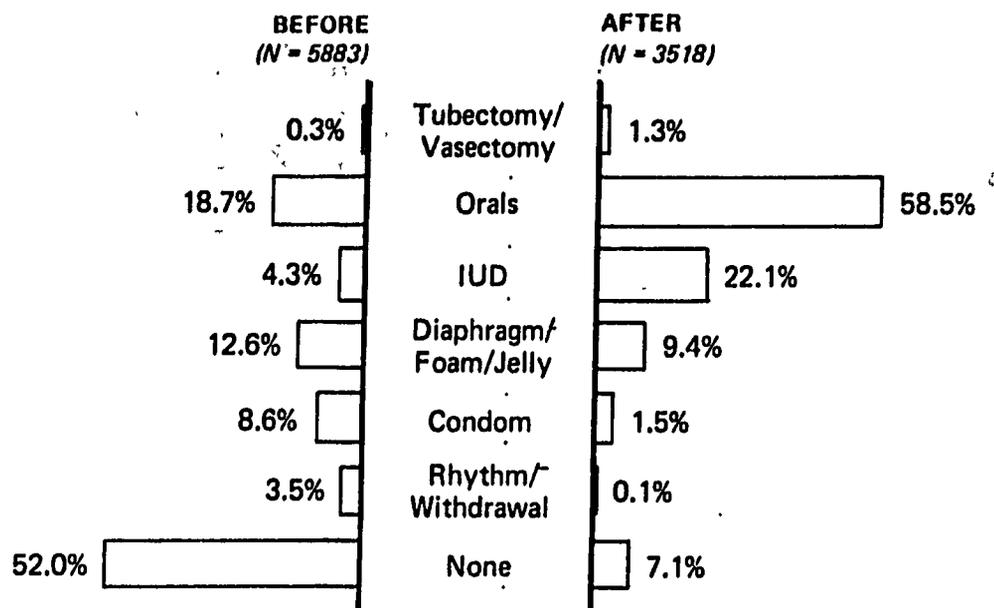


Figure 4. Contraceptive Behavior Before and After the Procedure.

were based on the total population. Patients using diaphragms, condoms, or orals were more likely to continue using the same method than other patients were likely to accept these methods. Patients using IUDs before the abortion were as likely to use either IUDs or orals after the abortion.

It is important to observe that the loss-to-follow-up patterns conformed to the total population and were highest among patients who had reported using no method of contraception during the month of conception (24.5% of the total population). The contraceptive behavior during the month of conception was not significantly different for women lost to follow-up or returning for follow-up.

For all subsets of patients studied there were significant shifts in contraceptive acceptance after the abortion. Figure 4 compares contraceptive methods used before and after the abortion. Tables 7 through 11 show the distributions of patients accepting various methods of contraception after abortion by race, previous pregnancies, and by race for two age groups of women who had not previously been pregnant. Figure 5 shows the relationship of age to the choice of method: younger women more frequently selected orals after abortion while older women tended to select IUDs and diaphragms (with foams and jellies). There were no observed differences based on race or number of previous pregnancies.

TABLE VII
CONTRACEPTIVE BEHAVIOR AFTER THE ABORTION BY RACE

	None		Rhythm/ Withdrawal*		Condom		Diaphragm/ Foam/Jelly		IUDs		Orals		Tubectomy/ Vasectomy		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasian	180	9.0	1	0.0	31	1.5	214	10.6	417	20.6	1146	56.8	31	1.5	2020	66.1
Negroid	34	3.3	0	0.0	14	1.3	76	7.3	259	25.0	648	62.4	7	0.7	1038	33.9
Both	214	7.0	1	0.0	45	1.5	290	9.5	676	22.1	1794	58.7	38	1.2	3058	100.0

* Column deleted from X^2 calculation.

TABLE VIII
CONTRACEPTIVE BEHAVIOR AFTER THE ABORTION FOR CAUCASIAN WOMEN
WITH AND WITHOUT PREVIOUS PREGNANCIES

	None		Rhythm/ Withdrawal*		Condom		Diaphragm/ Foam/Jelly		IUDs		Orals		Tubectomy/ Vasectomy		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
First Pregnancy	129	10.4	1	0.1	6	0.5	112	9.0	211	16.9	782	62.8	3	0.3	1244	61.6
Later Pregnancy	51	6.6	0	0.0	25	3.2	102	13.1	206	26.6	364	46.9	28	3.6	776	38.4
All Cases	180	8.9	1	0.1	31	1.5	214	10.6	417	20.7	1146	56.8	31	1.5	2020	100.0

* Column deleted from X^2 calculation.

TABLE IX
 CONTRACEPTIVE BEHAVIOR AFTER THE ABORTION FOR NEGROID WOMEN
 WITH AND WITHOUT PREVIOUS PREGNANCIES

	None		Condom		Diaphragm/ Foam/Jelly		IUDs		Orals		Tubectomy/ Vasectomy*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
First Pregnancy	17	4.5	5	1.3	15	4.0	58	15.3	283	74.9	0	0.0	378	36.4
Later Pregnancy	17	2.6	9	1.4	61	9.2	201	30.5	365	55.2	7	1.1	653	63.6
All Cases	34	3.2	14	1.3	76	7.3	259	25.0	648	62.5	7	0.7	1031	100.0

* Column deleted from X² calculations.

TABLE X
 CONTRACEPTIVE BEHAVIOR AFTER THE ABORTION BY RACE
 FOR WOMEN 20-29 YEARS OF AGE WITH NO PREVIOUS PREGNANCIES

	None		Condom		Diaphragm/ Foam/Jelly		IUDs		Orals		Tubectomy/ Vasectomy*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasian	55	8.0	3	0.4	79	11.4	146	21.1	405	58.7	3	0.4	691	80.0
Negroid	9	5.2	2	1.2	10	5.8	36	20.8	116	67.0	0	0.0	173	20.0
Both	64	7.4	5	0.6	89	10.3	182	21.1	521	60.3	3	0.3	864	100.0

* Column deleted from X² calculations.

TABLE XI
CONTRACEPTIVE BEHAVIOR AFTER THE ABORTION BY RACE
FOR WOMEN LESS THAN 20 YEARS OF AGE WITH PREVIOUS PREGNANCIES

	None		Diaphragm/ Foam/Jelly		IUDs		Orals		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Caucasian	7	10.0	3	4.3	14	20.0	46	65.7	70	41.2
Negroid	3	3.0	3	3.0	21	21.0	73	73.0	100	58.8
Both	10	5.9	6	3.5	35	20.6	119	70.0	170	100.0

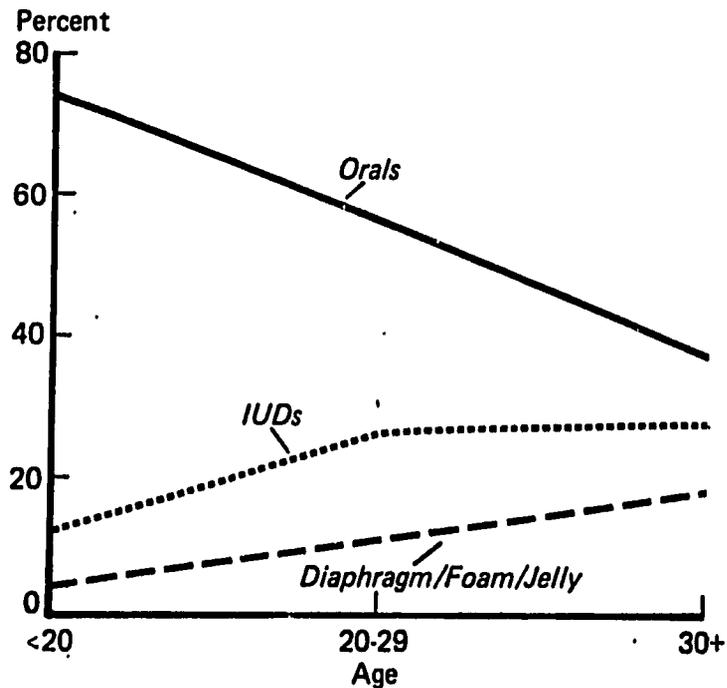


Figure 5. Percentage of Women Accepting Orals, IUDs, and Diaphragms After the Abortion by Age.

After the abortion, Caucasian women were more likely than Negro women to be using no method of contraception (9.0% of the Caucasian group and 3.3% of the Negro group). Caucasian women more readily accepted sterilization. Orals and IUDs had high acceptance rates in both groups but rates were higher in the Negro group (Table VII). The differences in types of contraceptives accepted by Caucasian and Negro patients were statistically significant.

Patients of both races who had had previous pregnancies were more likely to accept IUDs and diaphragms (with foams or jellies) over orals and sterilization, while patients who had not had previous pregnancies were more likely to accept orals (Tables VIII and IX). Formerly married patients of both racial groups most frequently accepted IUDs. Sterilization methods were accepted predominantly by currently married Caucasian patients.

Subsets of patients from the two racial groups who were as similar as possible in age, marital status, number of previous pregnancies, and residence were studied. While differences in contraceptive acceptance patterns before the abortion were statistically significant for these homogeneous subsets, the differences in the distributions of contraceptive acceptance after the abortion were minimized and were often not statistically significant (Tables X and XI).

IV. DISCUSSION

Information from this study is being used by clinic personnel in counseling patients on suitable contraceptives. The contraceptives the patient used before the abortion are a key to what she will choose after the abortion. The contraceptive she chooses is related to the information she receives as well as her previous experience: it is therefore important that the counselor tailor the content and the manner in which she presents contraceptive information to each patient's particular situation. Differences in contraceptive acceptance after the abortion among subsets of the population were minimized by such individualized counseling at PRETERM. Although some statistically significant differences still existed, information on the various methods was presented, in general, in a manner that allowed the patient to make her own informed decision.

In a study of abortion cases in Yugoslavia, Andolsek¹ reported that 42 percent of the women were not using contraception in the month of conception. Similarly, Beard² reported that 59 percent of the British women he studied were using no contraception at conception, and Hogue³ reported that 61 percent of the women included in pregnancy termination studies conducted in 19 clinics located in various countries from the United States to Asia were not using contraception

during the month of conception. In line with these studies, 52 percent of the women aborted at PRETERM were using no contraceptives in the month of conception.

While many women do not use contraceptives simply because they do not know about them or because they are not readily available, Diamond, et al.⁴, in a study of sexuality, birth control and abortion, shows that the process of deciding whether to use contraception and which contraceptive to use is complex and cannot be easily analysed. Bracken, et al.⁵, demonstrated that religion, frequency of coitus, nature of the ongoing sexual relationship, age, and parity are significant variables. In this study, age and whether the patient has had previous pregnancies proved to be significant variables: approximately 80 percent of the women less than 20 years of age with no previous pregnancies had used no method of contraception. Contrary to the findings in this study, Bracken's study indicated that the use of effective contraceptives was much more widespread among Caucasian than among the Negro patients. This difference in findings may be the result of the different economic status of the women in the two studies.

There were few differences in contraceptive acceptance between the racial groups after the abortion; this suggests that informed patients of either race will make similar choices. Most authors, including Beard² and Hogue³ report substantial increases in the use of contraceptives after abortion, and Beard found that 86 percent of the patients followed up within two weeks of the abortion were using reliable methods, and 81 percent were continuing to use reliable methods one to two years later. Andolsek¹, on the other hand, reported that 48.8 percent of the Yugoslavian women followed up were not using contraceptives. This may be because Yugoslavia's socialized medical system covers the cost of abortion services.

In a small sample of New York women, the four leading reasons given for not using contraceptives were lack of information (47%), denial of the possibility of pregnancy (24%), apathy (10.5%), and fear of side effects (5.3%). This study and others including information on the effectiveness of contraceptive counseling after abortion^{6 7} argue for more widespread counseling services. Despite abundant evidence that abortion patients are receptive to contraceptive counseling and services, however, Lerner, et. al.⁸, found that many clinics and private hospitals in New York City provide no contraceptive services at abortion, while

others provided information but not methods. Daily, et al.⁹, in a study of repeat abortions in New York City, found that municipal hospitals provided contraceptive counseling at abortion, but 59 percent of the patients left the hospitals without receiving contraceptives. Since 30 to 43 percent of the patients in municipal hospitals do not return for follow-up, many women will not receive contraceptives.

Oppel, et al.¹⁰ noted that the later a woman applied for abortion the less likely she was to have used contraceptives during the month of conception. Our clinical impression agrees with Oppel's finding and we also found that women not using contraceptives before abortion tend to be young, nulligravidae. It is clear that, at least in Washington Metropolitan, younger patients would benefit from additional informational services and counseling.

REFERENCES

1. Andolsek, L. The Ljubljana Abortion Study. NIH Cent. for Pop. Res., 1974, 1971-1973, pp. 10-11.
2. Beard, R.W., Belsey, E.M., Lal, S., et al. Kings Termination Study 11: Contraceptive Practice Before and After Outpatient Termination of Pregnancy. Brit. Med. J., 108:418, 1974.
3. Hogue, C., Kleinbaum, D., Omran, A., et al. The Impact of Personal Characteristics on Post-Abortion Contraceptive Acceptance. Presented: 102nd Annual Meeting of the American Public Health Association, Oct. 20-24, 1974.
4. Diamond, M., Steinhoff, P., Palmore, J., and Smith, R. Sexuality, Birth Control and Abortion: A Decision Making Sequence. J. Biosoc. Sci., 5:347, 1973.
5. Bracken, M., Grossman, G., and Hachamovitch, M. Contraceptive Practice among New York Abortion Patients. Am. J. Obstet. Gynecol., 114:967, 1972.
6. Peterson, W. Contraceptive Therapy Following Therapeutic Abortion. An Analysis. Obstet. Gynecol., 44:853, 1974.
7. Margolis, A., Rindfuss, R., Coghlan, P., and Rochat, R. Contraception after Abortion. Fam. Plann. Perspect., 6:56, 1974.
8. Lerner, R., Bruce, J., Ochs, J., et al. Abortion Programs in New York City: Services, Policies, and Potential Health Hazards. Milb. Mem. Fund Quart., 52:15, 1974.
9. Daily, E., Nicholas, N., Nelson, F., and Pakter, J. Repeat Abortions in New York City: 1970-1972. Fam. Plann. Perspect., 5:89, 1973.
10. Oppel, W., Athanasiou, R., Cushner, I., et al. Contraceptive Antecedents to Early and Late Therapeutic Abortions. Am. J. Public Health, 62:824, 1972.

Appendix A

BASIC BIRTH CONTROL INFORMATION

The Pill*

- Works because the hormones prevent ovaries from releasing eggs.
- Theoretical effectiveness 99.9 percent; use effectiveness 80 percent.
- Some women experience unpleasant side effects; these ordinarily diminish or disappear after the first few months.
- PRETERM will give a starting supply; after that a doctor's prescription is necessary.

IUD

- Exactly how or why it works is unknown. Its presence in the uterus is presumed to prevent implantation of egg.
- Theoretical effectiveness 97 percent; use effectiveness after first year, 75 percent; after four or five years, 99 percent.
- May cause heavier menstrual flow and cramping, especially during first few months; strings must be checked regularly to be sure IUD is still in place.
- Can be easily inserted immediately after abortion because cervix is dilated; can be quickly removed by doctor when pregnancy is desired.

Diaphragm

- Covers cervix and provides physical barrier; jelly or cream used with it is spermicidal (kills sperm).
- Theoretical effectiveness 97 percent; use effectiveness 70-90 percent.
- Must be used each time and left in place at least 6 hours. No douching. No side effects.
- Doctor can fit patient for it immediately, before abortion.

Condom

- Sheath catches the sperm if it is put on after erection but before penetration.
- Theoretical effectiveness 95 percent; use effectiveness 85 percent. Can be used in combination with foam to increase effectiveness.
- May reduce sensation for some men; may enhance sensation for others.
- Can be purchased in any drug store without prescription and is often available in other outlets, including vending machines.

Foam

- Foamy spermicidal substance covers uterus.
- Theoretical effectiveness 95 percent; use effectiveness 75 percent; may be dislodged or dissolved during intercourse. Effectiveness can be

increased by use in combination with condom.

- Should be inserted immediately before intercourse with applicator, and left six hours. No douching.
- May be purchased in any drug store without prescription and may be available in health and beauty aids departments of supermarkets and specialty stores.

Creams and Jellies for Use Alone

- Spermicidal substance deposited at cervix with an applicator.
- Theoretical effectiveness 95 percent; use effectiveness about 60 percent; use effectiveness can be increased by use of condom.
- Foam is more effective, so try it first.
- Insert immediately before intercourse and leave at least six hours. No douching.
- May be purchased in any drug store without prescription.
- May cause irritation to penis or vagina.

Withdrawal

- Man withdraws penis from vagina before ejaculation.
- Theoretical effectiveness 85 percent; use effectiveness 70 percent. Man may miscalculate timing; lubricant emitted before ejaculation may contain sperm; sperm anywhere in vaginal area may enter vaginal passage by their own action, perhaps causing pregnancy.

Rhythm

- Trying to limit intercourse to those days when a woman thinks she is unlikely to conceive, usually the first few days after menstrual period and a day or two prior to the onset of menses.
- Theoretical effectiveness 85 percent; use effectiveness 60 percent. Ovulation and menstrual cycles may vary without woman's knowledge.

Douching

- *Not* a method of contraception. May increase likelihood of pregnancy by forcing sperm up into uterus.

Sterilization

- Laparoscopy for woman (sealing Fallopian tubes); vasectomy for men (cutting the vas deferens).
- Permanent method of contraception, should be considered nonreversible. Effectiveness nearly 100 percent.

* See *SIDE EFFECTS OF THE PILL, Medical Resource Materials.*

Appendix B

INTERNATIONAL FERTILITY RESEARCH PROGRAM PREGNANCY TERMINATION STUDY

No. _____

Circle Appropriate Numbers and Fill in Appropriate Boxes and Blanks.

PATIENT IDENTIFICATION:		1. Your Hospital or Clinic No. _____	2. Admission Date _____ <small>day month year</small>
3. Patient's Name _____ <small>family first maiden</small>		4. Husband's Name _____	
5. Address _____		Telephone _____	
6. Relative/Friend's Name _____		Telephone _____	
7. Address _____		Telephone _____	

STUDY IDENTIFICATION

8. Center Name _____ and Number

 1-3

9. Study Name _____ and Number

 4-6

10. Patient Order in Study

 7-10

PATIENT CHARACTERISTICS

11. Residence 1) urban local 2) urban outside area
3) rural local 4) rural outside area

 11

12. Age (years completed)

 12-13

13. Gainfully Employed 0) no 1) yes

 14

14. Race 1) Caucasian 2) Mongoloid 3) Negroid
8) other

 15

15. Religion 0) none 1) Buddhist 2) Catholic
3) Hindu, caste 4) Jewish 5) Muslim
6) Orthodox 7) Protestant 8) other

 16

16. Marital Status 1) never married 2) currently married
3) formerly married 8) other

 17

17. Patient's Education (school year completed)

 18-19

18. Husband's Education (school year completed)

 20-21

19. Total Live Births

 22-23

20. Children Now Living number of males (8 or more = 8)

 24
number of females

 25

21. Number of Additional Children Wanted

 26

22. Total Number of Previous Abortions

 27-28

23. Number of Spontaneous Abortions (8 or more = 8)

 29

24. Total Stillbirths (8 or more = 8)

 30

25. Contraceptive Method Mainly Used in Month of This Conception 0) none 1) IUD 2) orals 3) tubectomy
4) vasectomy 5) condom 6) withdrawal/rhythm
7) foam/diaphragm/jelly 8) other

 31

ADDITIONAL STUDIES (To be filled in upon request)

26. _____

 32-33

27. _____

 34-35

28. _____

 36-37

MEDICAL DATA

29. Estimated Duration of Pregnancy (menstrual age in weeks)

 41-42

30. Hematocrit 99) not done

 43-44

31. Hemoglobin in Grams 99) not done

 45-46

32. Pre-existing Medical Conditions 0) none 1) septic abortion 2) incomplete/inevitable abortion
3) threatened abortion 4) systemic 5) systemic with 1, 2 or 3 6) psychiatric only 7) pelvic only, specify _____ 8) other

 47

33. Patient Scheduled as 1) outpatient 2) inpatient

 48

34. Admission Temperature _____ °C _____ °F

 49

35. Anesthetic 0) none 1) analgesia only 2) local 3) regional 4) general 5) 1 plus 2 6) 2 plus 4 8) other

 50

REMINDER. Your study requires a follow up visit approximately one month after termination. Do not record visits less than 14 days after termination. Confirm post-discharge complications by review of medical records.

FOLLOW UP DATA

67. Follow up Outcome 1) clinic visit 2) home visit
3) moved 4) unable to locate 5) died, cause _____ 8) other

 51

68. Fertility Control Accepted or Used 0) none 1) IUD
2) orals 3) tubectomy 4) vasectomy 5) condom
6) withdrawal/rhythm 7) foam/diaphragm/jelly
8) other

 52

TERMINATION PROCEDURES

36. Dilatation and Curettage 0 1 2 3 4

 63

37. Vacuum Aspiration: Was Curette Check Performed. (Circle) no yes 0 1 2 3 4

 64

38. Intra-embryonic Injection 0 not used
1 single used
2 single repeated
3 combined first used
4 combined first used 0 1 2 3 4

 66

39. Hysterectomy 0 1 2 3 4

 67

40. Hysterotomy 0 1 2 3 4

 68

41. Prostaglandin type _____ route _____ 0 1 2 3 4

 69

42. Other _____ dose _____ 0 1 2 3 4

 70

43. Dilatation in Millimeters 00) not dilated

 71-72

44. Laminaria Used 0) no 1) yes, type _____

 73

45. Retained Products of Conception After First Procedure 0) no 1) yes 2) yes, patient discontinued treatment

 74

46. Re-evaluation of Estimated Duration of Pregnancy (see item 29) 0) no change 1) estimate increased 2) estimate decreased 3) no pregnancy 4) doubtful pregnancy 5) vesicular m.c.s 8) other

 75

47. Concurrent Surgery 0) none 1) IUD 2) tubectomy 8) other

 76

Operator's Name _____

COMPLICATIONS

48. Uterine Perforation 0) no 1) suspect 2) yes

 78

49. Cervical Laceration 0) no 1) yes, without suture 2) yes, with suture

 79

50. Excessive Blood Loss 0) no 1) yes

 80

51. Transfusion Given 0) no 1) yes, _____ ml

 81

52. Shock Related to Surgery 0) no 1) yes

 82

53. Fever 38°C / 100.4°F or Over, 24 Hours After Termination 0) no 1) yes 2) yes, requiring antibiotics

 83

54. Anesthesia Complications 0) none 1) apnea 2) vomiting 3) convulsions 4) shock 5) combination _____ 8) other

 84

55. Any Complication Requiring Additional Hospitalization 0) no 1) observation 2) medical treatment 3) laparotomy 8) other

 85

56. Other Complications _____

 86-88

57. Death 0) no 1) yes, cause _____

 89

58. Prophylactic Antibiotics Given 0) no 1) yes

 90

59. Prophylactic Oxytocics Given 0) no 1) yes

 91

60. Post termination Fertility Control Planned or Used. 0) none 1) IUD 2) orals 3) tubectomy 4) vasectomy 5) condom 6) withdrawal/rhythm 7) foam/diaphragm/jelly 8) other

 92

61. Admission Date

 93-95

62. Initiation Date

 96-98

63. Completion Date

 99-101

64. Final Discharge Date

 102-104

65. Nights in Hospital

 105-106

66. Time Between Initiation and Completion (99 hours or over = 98 59)

 hours minutes 107-108

69. Bleeding Requiring Curettage 0) no 1) yes

 109

70. Fever Requiring Antibiotics 0) no 1) yes

 110

71. Other Complications _____

 111-112

72. Readmission Related to Termination. 00) no number of nights

 113-114

73. Date of Follow-up Visit

 115-116

74. Completed Weeks From Discharge to Follow-up Recorded By _____

 117-118