Vasectomy

Who Gets One and Why?

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Questionnaire data are reported for a sample of 173 men who received vasectomy. Areas covered include background, reasons for obtaining vasectomy, and contraceptive history prior to vasectomy.

Introduction

The most dramatic change in contraceptive practice in the United States over the past several years has been the sharp increase in voluntary sterilization, and particularly in vasectomy. Westoff,[1] using data from the 1970 National Fertility Study, estimated that one-quarter of all older couples, i.e., wife between 30 and 44 years, practicing contraception had been sterilized, with about an even split between vasectomy and tubal ligation. According to a statement from the Association for Voluntary Sterilization[2] citing a survey by Lea, Inc., the number of vasectomies performed in the United States reached three-quarters of a million in 1970. A similar figure was given in the National Disease and Therapeutic Index Review,[3] which estimated that 700,000 vasectomies were performed in the United States in 1970 by private practice physicians alone, compared to 200,000 in 1969. Further, indications were that the figures for 1971 would be even higher. Given these trends, the estimate of over 1 million vasectomies in the United States for 1972[4] seems entirely reasonable. As a consequence of the great increase in vasectomy, the proportion of male sterilizations to the total sterilization for a given year has gone from an estimated 40 per cent 10 years ago to over 75 per cent currently.

Why has this sudden increase in the popularity of vasectomy taken place? A number of interrelated reasons might be given. Among these are the greater freedom of explicitness in public and private discussions of sexual matters; recent widespread publicity in the mass media about vasectomy, which leads to less misinformation about and more favorable attitudes toward the procedure and its consequences; the greater number of physicians and clinics providing vasectomies; and finally, concern about possible long term adverse effects of the pill.

Previous Studies

Poffenberger,[5] using office records, reported background characteristics of 2,007 vasectomy patients of a California physician for the period 1956—1961. The sample

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was predominantly blue collar and younger (average age 31.8) than most other vasectomy samples. Landis and Poffenberger[6,7] obtained questionnaire data from a subsample of 330 of these men. Areas covered in the questionnaire included reasons for vasectomy, prior fears and concerns of the men and their wives about vasectomy, and marital and sexual adjustment after vasectomy. Among the major reasons cited for vasectomy were: (1) had all the children they could afford (64 per cent), (2) contraceptives interfered with sexual pleasure (21 per cent), and (3) did not trust contraceptives (18 per cent). Of the group, 39 per cent reported that the wife had become pregnant while they were using a contraceptive.

In a similar study Ferber et al.[8] interviewed 73 men who had sought the assistance of the Association of Voluntary Sterilization in finding a physician to perform a vasectomy. All subjects had had the operation within 5 years of the interview. The interview schedule included reasons for vasectomy; source of information; influences on the decision; perceived effects of vasectomy on physical health, sexual behavior, and psychosocial adjustment; and postoperative attitudes toward vasectomy. As in the Landis and Poffenberger studies, economic reasons were given most often (51 per cent) while 28 per cent cited previous contraceptive failure as a reason for choosing vasectomy.

In a series of studies initiated in the early 1960s, Rodgers, Ziegler, and their associates obtained extensive data on samples of vasectomy recipients in the San Diego area. For a sample of 48 subjects, questionnaires and the Minnesota Multiphasic Personality Inventory (MMPI) were given preoperatively. One of the main reasons given for obtaining a vasectomy was dissatisfaction with the diaphragm and condom, the principal methods used at that time.[9] In a follow-up of the same group 1 year later, it was found that, although almost all respondents expressed satisfaction with their vasectomy, as most other studies have also shown, there appeared at the same time to be evidence of change in the MMPI profiles toward increased maladjustment.[10]

A second sample of subjects studied over a 4-year period by the Rodgers and Ziegler group consisted initially of 42 vasectomy couples and 42 couples who were beginning use of the pill. Among the large variety of measuring instruments used were separate interviews with husbands and wives, the California Personality Inventory, the MMPI, and a semantic differential scale for contraceptive methods. Although initially there were few differences between the two groups on the personality measures, after 1 year the vasectomy couples appeared to exhibit stronger stereotypic sex roles, with the male being assertive and the female compliant and more concerned with children; the vasectomy group also showed decreased marital adjustment.[11] However, after 4 years, no significant differences were found between the groups on sexual frequency and behavior, changes in sexual problems, emotional adjustment, or changes in marital satisfaction.[12]

As most of the important vasectomy studies were conducted before the advent of widespread use of the pill and before the rapid increase in vasectomy, it was felt that current data about vasectomy were needed. The present study was undertaken to provide an up-to-date profile of a current sample of vasectomy seekers and possibly to shed some light on the reasons why male sterilization is currently being chosen by so many as the contraceptive of choice. The results focus on (1) main reasons for obtaining vasectomy, (2) sources of information about vasectomy, and (3) prior contraceptive history particularly as related to choice of vasectomy.

Method

Subjects

Patients of a urologist (author H.Y.L.) who performs vasectomies in suburban Detroit were subjects for this study. His office assistant distributed the questionnaires to the patients, generally on the day of surgery, and provided stamped, self-addressed envelopes for the return of the instrument. In all, 300 questionnaires were distributed in this fashion of which 173 usable questionnaires (58 per cent) were returned. No special procedures were used to increase the return rate. At the time of the survey, 1971, only two physicians in the Metropolitan Detriot area were performing a substantial number of vasectomies. The clientele of the physician cooperating in this study is primarily middle class suburban. No assumption is made that this constitutes a random sample of all vasectomy patients; rather it is a sample of patients obtaining vasectomies from this particular physician. However, where possible, comparisons are made with other studies in discussion of the results to assess the generalizability of these data.

Questionnaire

Content areas for the questionnaire were identified by examining the literature on vasectomies, so that comparable data would be available. The final form of the questionnaire contained items in the following content areas: demographic information, reasons for the vasectomy, sexual behavior, attitudes of the wife, contraceptive history, sources of information, selected dimensions of the life situation, the decision-making process, and the extent to which the subject would be willing to discuss or recommend vasectomy to others. A cover page to the questionnaire indicated the institutional affiliation of the researchers, guaranteed anonymity, and instructed the respondents to answer questions as they would have prior to surgery if they had already had the vasectomy. In the event that the respondent was not married, he was instructed, on the cover page, to supply the requested information for his sexual partner if he were sexually active.

Results and Discussion

Characteristics of Respondents*

The 173 men ranged in age from 21 through 52 with a median of 36. Two-thirds (68 per cent) had education beyond high school and 71 per cent were employed in executive-managerial or other white collar positions. Median income was about $15,000. All but one were white and all but four were married. In religious affiliation 43 per cent were Protestant, 22 per cent Catholic, 15 per cent Jewish, and 18 per cent indicated no religion. Number of children ranged from zero to eight, with a mean of 2.9. The youngest child ranged in age from 1 month to 23 years; one-third (35 per cent) were less than 2 years old. Median length of time that vasectomy was considered was about 36 weeks.

All in all the present sample is quite comparable to those studied in the past; the notable exception is the Landis and Poffenberger[6,7] sample which tended to be lower in socioeconomic status and in age than other vasectomy samples. Those authors attribute the differences in their sample to the location of the vasectomy clinic.

Two other recent studies of men who have had a vasectomy contain information useful in evaluating the representativeness of the present sample. The profile of clients during the first 2½ months of a newly opened vasectomy clinic in Washington, DC, was examined. The PRETERM vasectomy clinic opened in March, 1972, and its first 122 clients were nearly identical with the present sample in terms of age, marital status, number of children, and education.[13] No other data were supplied for the Washington sample but the similarity on the reported variables is reassuring in that our sample is not atypical of men seeking a vasectomy in the recent past.

Adiwikarta[14] studied 52 men seeking a vasectomy through a recently opened Planned Parenthood League vasectomy clinic in Detroit. His subjects were slightly younger (median age = 34) and of slightly lower education, income, and occupational status than our sample. The average number of children in his sample was 3.2 and 29 per cent of the couples had a youngest child aged less than 2 years. Religious affiliation was similar to our sample. Vasectomy was considered for a year or more by 67 per cent of his sample. Differences in socioeconomic class between the Planned Parenthood League sample and ours are not surprising; they may reflect differences between private physician and clinic populations generally. The fact that Adiwikarta's subjects were of a lower class and younger but still had as many children is consistent with the Landis and Poffenberger[7] sample. It may well be, as suggested by Rodgers and associates,[9] that lower class families have more problems with spacing of children; i.e., they reach their desired family size earlier.

Source of Information

One section of the questionnaire dealt with sources of information regarding contraception in general and vasectomy in particular. The most interesting finding is the role that friends play in gaining information about contraception in general (53 per cent) and in being the initial source of information about vasectomy (46 per cent). Additional information about vasectomy was most frequently obtained from the physician who was to perform the surgery (50 per cent). Other than that, health personnel were rarely cited as sources of information. Magazines were indicated as a fairly frequent source of information by these subjects for both contraception in general (35 per cent) and for information about vasectomy (23 per cent for initial information and 31 per cent for additional information about vasectomy).

Again, our sample does not appear to be atypical in this respect since Adiwikarta[14] reported that 48 per cent of his sample was first told about vasectomy by friends and various types of reading materials were sources of initial information about vasectomy for 33 per cent of the men. Additional information gathered by Adiwikarta suggests that the friends were very likely to have had a vasectomy themselves; 94 per cent of his sample reported knowing someone with a vasectomy and 51 per cent said they knew at least three such persons. When asked whether they had discussed vasectomies with these friends, 87 per cent said "yes." An earlier study[5] also suggested the importance of friends in recruitment to vasectomy.

Reasons for Wanting a Vasectomy

Another section of the questionnaire listed reasons for wanting a vasectomy with instructions to indicate whether each reason was "very important," "somewhat important," or "not important" by checking the appropriate response category. Table 1 summarizes the results of this section, expressed in percentages. As shown there, 75 per cent or more of the subjects endorsed as "very important" reasons a desire for a permanent and/or effective contraceptive and one that does not interfere with sexual pleasure; the same proportion said it was "very important" to them to be able to enjoy sexual relations without fear of conception, and they do not want any more children. Space was also provided for other reasons to be given and 22 (13 per cent) men responded. Of these, six men indicated that there were family histories of hereditary or congenital problems and six others specifically mentioned the pill. Only 41 per cent indicated that economic reasons were of some importance; these men were more likely to earn less than $15,000 annually ($\chi^2$ (1 df) = 27.51, $p < 0.05$).

The role of the wife in the decision regarding vasectomy was identified by several items in the questionnaire. As seen in Table 1, 74 per cent said that an important reason for obtaining a vasectomy was that "my wife wants me to have a vasectomy" although only one-half of these

* Data available from office records for the nonrespondents showed no significant differences for age, marital status, or number of children. Only with respect to occupation was a significant difference ($0.05 < p < 0.01$) found; the nonresponse group had more skilled blue collar workers (45 per cent versus 33 per cent) with fewer in the other four categories, including blue collar unskilled.

TABLE 1—Percentage Endorsing Reasons for Wanting a Vasectomy (N = 173)

Reason	Very Important	Somewhat Important	Not Important	No Response
I want a permanent contraceptive.	83	8	8	1
I want an effective contraceptive.	87	5	6	2
I want to enjoy sexual relations without fear of conception.	83	10	6	1
I want a contraceptive that does not interfere with sexual pleasure.	75	14	10	1
I don't want any more children.	75	13	9	3
My wife does not want any more children.	69	13	14	4
My current contraceptive method is unsatisfactory.	53	24	20	3
For health reasons, my wife should not bear any more children.	30	15	52	3
For economic reasons, we should not have any more children.	18	23	54	5
My wife wants me to have a vasectomy.	37	37	23	3
I am concerned about population growth.	33	36	29	2

men said it was a "very important" reason. Other questions not included in Table 1 were also relevant to the role of the wife in the decision. In response to the question, "To what extent is your wife urging you to have vasectomy?" 49 per cent said "greatly" or "very greatly" and another 38 per cent said "slightly" or "very slightly." When asked whether the wife agreed with their plans to obtain a vasectomy, 89 per cent said "yes," while 69 per cent indicated that the wife most influenced their decision to have a vasectomy. However, 95 per cent of the men indicated that they themselves had made the decision to have a vasectomy and 85 per cent would "greatly" or "very greatly" recommend vasectomy to others. The wives in Adiwikarta's[14] study were similar to these wives; 91 per cent of the men said that their wives agreed with the decision and 64 per cent said that the wife helped with the decision to obtain a vasectomy. Thus, it would appear that, while the wife generally supported and encouraged the decision, she was not coercive.

Contraceptive History

Responses dealing with contraceptive methods used prior to vasectomy are given in Table 2. For both the "ever use" and "now use" categories, the pill and condom were by far the most frequently checked methods; these two methods were also the ones which would most likely be used if the respondent did not have a vasectomy. Aside from the vasectomy, the pill was seen as interfering least with the sexual pleasures of either husband or wife. On the other hand, the condom was most frequently checked as bothersome (78 per cent) and the pill most frequently as being harmful or potentially harmful to the wife's health (83 per cent).

In Table 3 the percentages of couples in the present sample who were users of the various contraceptive methods just prior to vasectomy are compared with percentages of a national sample using the same methods as indicated in the 1970 National Fertility Survey.[1] The national percentages were recalculated by the writers after eliminating those categories of couples in the national survey not appropriate to the present sample, e.g., couples in which the wife was pregnant or trying to become so and couples in which the husbands and wives had been sterilized. The national figures for whites alone were used for comparability with the present sample. A goodness-of-fit chi square using the national proportions as expected values was significant (χ^2 (8 df) = 39.48, $p < 0.01$).

The main differences between the national sample and the present one in contraceptive usage were that the vasectomy couples were apt to use what Rodgers et al.[15] termed the "male" methods, i.e., condom and withdrawal, and were less apt to use the pill and rhythm. With regard to the small number using rhythm, it should be noted that, following the Westoff procedure, respondents giving more than one method as currently used were classified as using the most effective one; thus, although 10 per cent checked rhythm as being used now (Table 2), only 2 per cent were using rhythm alone or in combination with an even less effective method (Table 3).

Along with other reasons for obtaining vasectomy (Table 1), respondents were asked to rate the importance of dissatisfaction with current contraceptive method. The percentage checking each importance category for users of each of the methods is given in Table 4. It is evident that dissatisfaction with method was most important to those using withdrawal and rhythm. In general, dissatisfaction with method did appear to be a factor in the decision to have a vasectomy, as over one-half of all respondents cited dissatisfaction as "very important." Only for three of the "female" methods (pill, IUD, and foam, cream, or jelly) did substantial numbers rate dissatisfaction with method as "not important."

TABLE 2—Contraceptive History for Men Obtaining Vasectomies: Entries are Percentage Checking Given Item (N = 173)*

Which of these contraceptives:	Pill	IUD	Diaphragm	Foam, Cream, or Jelly	Condom	Rhythm	Withdrawal	Douche	Vasectomy	Tubal Ligation	Abstinence	Other	No Response	Modal Number Checked	(% Checking Modal Number)
Have you heard about?	99	89	98	91	95	98	94	92	98	80	84	5	0	11	(62)
Have you and your wife *ever* used:	73	15	35	39	77	38	39	18	–	–	23	0	0	3	(24)
Are you using *now?*	23	5	8	11	33	10	13	1	–	–	5	1	4	1	(73)
Have you and your wife found ineffective?	5	3	10	11	12	23	14	7	–	–	3	6	42	0	(42)
Do you feel have been or might be harmful to your wife's health?	83	17	5	4	1	3	4	1	–	6	6	1	12	1	(61)
Have been bothersome to you?	9	2	17	21	78	16	27	3	–	–	13	1	8	1	(42)
Have been bothersome to your wife?	50	8	32	28	41	15	21	10	–	–	12	1	6	1	(35)
Would least interfere with your sexual pleasure?	35	5	2	4	5	2	0	1	50	12	1	1	1	1	(82)
Would least interfere with your wife's sexual pleasure?	43	9	6	3	1	2	1	4	47	10	0	1	4	1	(82)
Would you use if you did not have a vasectomy?	23	11	12	11	30	8	8	2	–	7	4	0	5	1	(81)

* Each entry is percentage of 173. Some respondents indicated more than one method; last column gives information regarding modal number checked.

Reasons for dissatisfaction, of course, will depend on method. From Table 2, row 4, it can be seen that rhythm was found to be ineffective by 23 per cent of the 173 couples whereas 38 per cent (row 2) had actually used this method; consequently, rhythm was checked as ineffective by well over half the number who had used it. Similar comparison of rows 4 and 2 of Table 2, for diaphragm, for foam, cream, or jelly, for douche, and for withdrawal shows that each of these methods was found to be ineffective by about one-third of the number of "ever-users." The condom was found bothersome to themselves by essentially the same number of men who had used this contraceptive; withdrawal and abstinence were viewed as bothersome to over half the number of men who had used these methods. Almost all of the methods were rated by more than half the respondents as bothersome to the wife, with diaphragm being so viewed by the largest percentage of "ever-users." Finally, while the pill was viewed as actually or potentially harmful to the wife's health by an overwhelming majority of the men (83 per cent), the pill and vasectomy are seen as the methods least interfering with the sexual enjoyment of both husband and wife.

From the analysis of responses concerning contraceptive experience the following picture emerges. First of all, most of the 173 couples had used the pill at one time (73 per cent), although only 23 per cent were using it just prior to vasectomy. Thus, the majority of couples had experienced the convenience of the pill; also, very few found it ineffective. Many pill users presumably switched to other methods because of reasons related to actual or feared side effects and dangers to the wife's health. These other methods, however, notably the condom and withdrawal, proved bothersome and/or ineffective. Therefore, the search for a method that, like the pill, was effective, did not interfere with sexual pleasure, and yet posed no health hazards to the wife ended with the decision to have a vasectomy.

Some additional support for the argument that perceived health hazards of the pill are an important reason for the sharp increase in vasectomy, comes from the fact that the proportion of current pill users who feel that the pill is actually or potentially harmful is about the same as for former pill users, 92 and 94 per cent, respectively. Interestingly, of those who *never* used the pill, only 55 per cent checked that it might be harmful to the wife's health.

Finally, analysis of the contraceptive history data reported in the Adiwikarta[14] study points to much the same conclusion concerning the relation between actual or perceived harmfulness of the pill and decision for vasectomy. Of the 51 couples, 19 were using the pill at the time of the vasectomy and 20 additional couples had used it at one time. Of those 20 women who had discontinued the pill, 15 gave as reasons for discontinuance either specific side effects or doctor's advice. In addition, four of the 19 current "pill users" reported that their doctor advised them to discontinue taking the pill. Thus, of the 39 "ever-users" of the pill, 19, or almost half, discontinued for health reasons.

For both the Adiwikarta sample and ours, then, it would appear that perceived or actual difficulties with the pill were a major factor in choice of vasectomy. The generality of this conclusion is enhanced by the fact that on a number of background variables these two samples are quite dissimilar.

TABLE 3—Contraceptive Usage Prior to Vasectomy for Present Sample Compared with a National Sample of White Married Couples

Method	Current Sample: After reassignment of multiple responses per Westoff[1] N	%	Current Sample: After elimination of inappropriate responses N	%	National Sample* (%)
Pill	39	23	39	26	40
IUD	9	5	9	6	9
Diaphragm	14	8	14	9	7
Foam, Cream, or Jelly	10	6	10	7	7
Condom	52	30	52	35	18
Rhythm	3	2	3	2	8
Withdrawal	11	6	11	7	3
Douche	1	1	1	1	3
Other	34†	19	10‡	7	5
Total	173	100	149‡	100	100

* Adapted from 1970 data for all white couples excluding those nonusers who are "pregnant, postpartum, or trying to get pregnant" or are "sterile and subfecund" and excluding "wife sterilized" and "husband sterilized" from those using contraceptives. (See Table 2, p. 10, of Reference 1.)

† Includes other single responses, multiple responses involving methods other than pill, IUD, diaphragm, or condom, as well as those responding inappropriately or not responding at all. Inappropriate responses include those saying "vasectomy" rather than method prior to surgery as requested.

‡ Same as in previous note but excluding inappropriate and no responses.

TABLE 4—Importance of Dissatisfaction with Current Contraceptive Methods, by Method Used Just Prior to Vasectomy (N = 173)

Reason: My current contraceptive method is unsatisfactory.	Percentage of all	Percentage by Method Now Used*: Pill	IUD	Diaphragm	Condom	Foam, cream, jelly	Rhythm	Withdrawal
Very important	53	54	11	50	44	37	72	78
Somewhat important	24	13	22	43	37	37	11	13
Not important	20	28	56	7	16	26	11	4
No response	3	5	11	0	3	0	6	4
No. using method just prior to vasectomy		39	9	14	57	19	18	23

* Douche, abstinence, and other methods not listed showed small frequencies of usage in this study. Includes multiple responses; i.e., an individual may have checked more than one method.

Summary and Conclusions

From this study a picture of the male seeking vasectomy at this clinic emerges. He is white, middle class, well educated, and married only once. He is likely to be in his mid-thirties with two or three children. Almost all who had used the pill or were currently using it felt that it was actually or potentially harmful to their wives. More than three-quarters of the couples had used the condom; about that percentage considered it bothersome. Relatively few couples had used an intrauterine device. They list as the most important reasons for vasectomy their desire for an effective contraceptive and one that does not interfere with sexual pleasure, i.e., they want to enjoy sex without fear of conception.

The present sample of 173 men who had a vasectomy

appears to be comparable to most others reported in the literature with regard to background characteristics. A main difference from previous groups seems to be in the major reasons cited for obtaining a vasectomy. Whereas earlier studies tended to emphasize economic considerations as paramount, men in the present sample more strongly endorsed reasons associated with sexual pleasure and freedom from anxiety about possible conception.

The concern with sexual freedom is somewhat characteristic of our current society but it is too glib merely to dismiss this difference in that fashion. The entire issue of sexual freedom may be tied in with the pill. Prior to the advent of widespread use of the pill in the early 1960s, couples had no effective contraceptive methods that were not at the same time either bothersome or inconvenient. The pill changed all this by proving to be both an effective and convenient contraceptive in that its application was separated entirely from the sex act. Use of the pill allowed couples the freedom to enjoy sex without fear until the concerns about side effects of the pill arose in the late 1960s. Then couples looked for another contraceptive which would be as convenient and effective as the pill, but safe. The IUD and surgical sterilization are the only alternatives providing the same freedom as does the pill; sterilization removes the fear of possible threat to health. The major disadvantage of surgical sterilization is that it is permanent, or should be considered so by those electing it. Since the men in this study indicated that they wanted no more children, they apparently were willing to trade off permanency for convenience and safety.

Further research directions are planned which will include obtaining more direct information regarding sequencing of use of contraceptive methods and reasons for change. These data will provide a firmer basis for the inferences made in this study. Also, a follow-up of these same subjects is planned to evaluate their long term satisfaction with the decision to have a vasectomy and to identify any possible changes that vasectomy may have made in their life situation.

References

1. Westoff, C. F. The Modernization of U.S. Contraceptive Practice. Fam. Plann. Perspect. 4:9—12, 1972.
2. Association for Voluntary Sterilization News. New York, Summer, 1971.
3. Vasectomies. National Disease Therapeutic Index Review 2:10, 1971.
4. Grosswirth, M. Who's Afraid of Vasectomy? Saturday Review 55:38—40, 45—47, 1972.
5. Poffenberger, T. Two Thousand Voluntary Vasectomies Performed in California: Background Factors and Comments. Marr. Fam. Living 25:469—474, 1963.
6. Landis, J. T., and Poffenberger, T. The Marital and Sexual Adjustment of 330 Couples Who Chose Vasectomy as a Form of Birth Control. J. Marr. Fam. 27:57—64, 1965.
7. Landis, J. T., and Poffenberger, T. Hesitations and Worries of 330 Couples' Choosing Vasectomy for Birth Control. Fam. Life Coordinator 15:143—147, 1966.
8. Ferber, A. S., Tietze, C., and Lewit, S. Men with Vasectomies: A Study of Medical, Sexual, and Psychosocial Changes. Psychosom. Med. 29:354—366, 1967.
9. Rodgers, D. A., Ziegler, F. J., Rohr, P., and Prentiss, R. J. Sociopsychological Characteristics of Patients Obtaining Vasectomies from Urologists. Marr. Fam. Living 25:331—335, 1963.
10. Rodgers, D. A., Ziegler, F. J., Altrocchi, J., and Levy, N. A Longitudinal Study of the Psycho-social Effects of Vasectomy. J. Marr. Fam. 27:59—64, 1965.
11. Ziegler, F. J., Rodgers, D. A., and Kriegsman, S. A. Effect of Vasectomy on Psychological Functioning. Psychosom. Med. 38:50—63, 1966.
12. Ziegler, F. J., Rodgers, D. A., and Prentiss, R. J. Psychosocial Response to Vasectomy. Arch. Gen. Psychiatry 21:46—54, 1969.
13. PRETERM Newsletter. June 25, 1972, pp. 1—4.
14. Adiwikarta, S. Socio-economic Class and Candidates for Vasectomy: Their Attitudes and Experiences. Master's thesis, Wayne State University, Detroit, 1972.
15. Rodgers, D. A., Ziegler, F. J., Prentiss, R. J., and Martin, P. L. Comparisons of Nine Contraceptive Procedures by Couples Changing to Vasectomy or Ovulation Suppression Medication. J. Sex Res. 1:87—96, 1965.

SEVENTEENTH BIOLOGICAL SAFETY CONFERENCE

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