The Choice of Sterilization Procedure Among Married Couples

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Surgical sterilization is playing a growing role in contraception among married couples. Both vasectomy and tubal ligation can be done as outpatient procedures. Neither procedure has overwhelming advantages over the other. This study sought to determine why one member of a couple, rather than the other, decided to undergo the sterilization procedure.

There do not seem to be any significant demographic differences between those couples who choose vasectomy and those who select tubal ligation. Men may undergo vasectomy because they feel it is the easier procedure. A significant number of women also feel that vasectomy is easier, yet for various reasons they are motivated to undergo tubal ligation. In many couples, the choice is made because one partner will not consider becoming sterilized, and this is twice as likely to be the husband. Family physicians can play an important role in assisting couples to choose the best alternative.

Current advances in the techniques of surgical sterilization have greatly increased the popularity of tubal ligation and vasectomy as contraceptive techniques. Both have become safe and effective procedures that can be done in the convenient and economical setting of an outpatient surgical facility.[1] This is in contrast to the growing concern over the safety of effective methods of birth control, such as oral contraceptives and the IUD, and changing public policy regarding abortion.

Neither tubal ligation nor vasectomy offers major advantages or disadvantages that would make the choice of procedure clear-cut. Primary care physicians can assist in the decision making process by their knowledge of the risks and benefits of the procedures as well as of the particular needs of the individual couples.

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The purpose of this study was threefold. First there was an attempt to determine patients' perceptions of their sterilization procedure compared with the procedure that could have been performed on their spouses. In addition, factors that influenced patients to undergo the procedures chosen were identified. Finally, the groups of patients who are currently undergoing elective vasectomy and tubal ligation were characterized among major demographic criteria. This information may help physicians effectively assist couples in choosing an appropriate sterilization procedure.

Materials and Methods

For a two-month period of time, questionnaires were distributed to married patients who presented to the Wilmington Medical Center for elective outpatient vasectomy and laparoscopic tubal ligation. Patients requesting postpartum tubal ligation were excluded because this is not an outpatient procedure analagous to vasectomy. The

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limited number of patients whose vasectomies were done in private physicians' offices were also not included because of technical difficulties in data collection. The Wilmington Medical Center provides outpatient surgical facilities for a metropolitan area of over 300,000 people. Virtually all tubal ligations and a majority of vasectomies in the community are performed at this center.

On the questionnaire patients compared their assessment of their upcoming procedure with the procedure that could have been performed upon their spouses. Comparisons were made in the areas of risk, cost, pain, potential disfigurement, and recovery time. Patients were also questioned about reversibility of the procedure, prior responsibility for birth control, and influences upon their selection of a sterilization procedure, and whether the spouse had refused to consider sterilization, as well as the length of time married, number of children, and if this was the first marriage. Finally, demographic factors such as age, religion, income, and educational background were covered.

The first part of the questionnaire compared patients' perceptions of their procedure with the one that might have been performed on their spouses. Responses of "more," "same," or "less" were assigned relative values of 3, 2, and 1, respectively. Responses of the two groups of patients were analyzed for statistical significance by the Student's t test. The responses to the rest of the questionnaire were analyzed by the chi-square method.

Table 1. Profiles of Patients Electing Outpatient Sterilization

Demographics	Vasectomy (n=29)	Tubal Ligation (n=57)
Age (years)		
Median	35	32
Oldest	60	48
Youngest	26	21
Race (%)		
White	96	91
Black	4	7
Other	0	2
Religion (%)		
Protestant	46	45
Catholic	33	36
Jewish	0	4
Other or none	21	19
Total family income (%)		
Under $10,000	0	5
$10,000 to $19,999	11	23
$20,000 to $29,999	48	38
Over $30,000	41	34
Education (%)		
Junior high	5	2
Senior high	33	50
College	40	39
Graduate school	22	9
Marriages		
Median duration (years)	9	10
First marriage (%)	76	91
Median number of children	2	2

Note: No significant differences between the two groups in all categories.

Results

At the end of a two-month period completed questionnaires were received from 29 vasectomy and 57 tubal ligation patients. A comparison of patient profiles (Table 1) did not reveal any significant differences between the two groups. Vasectomy patients had a median age of 35 years, whereas that of tubal ligation patients was 32 years. Both groups had a median number of two children. The differences in years married and numbers of first marriages were also not statistically significant. Patients were predominately white, either Protestant or Catholic, and in middle to upper income brackets.

When contrasting perceptions of their procedures to comparable ones for their spouses, the two groups did show significant differences. In comparing risk, cost, disfigurement, pain, and recovery time, vasectomy patients tended to respond with "less," whereas tubal ligation patients responded with "same" or "more." The differences in all categories were statistically significant (Table 2).

Spouses of tubal ligation patients were more likely to have strong feelings against having a sterilization procedure. Forty-two percent of tubal ligation patients (24 of 57) stated that their husbands had refused to consider having a vasectomy. Only 21 percent (6 of 29) of vasectomy patients claimed that their wives had refused to consider having a tubal ligation. This was statistically significant ($P < 0.05$).

Table 2. Comparison of Patients' Perceptions of Vasectomy and Tubal Ligation

	Vasectomy (n=29)			Tubal Ligation (n=57)		
Category	More	Same	Less	More	Same	Less
Risk	0	4	25	21	25	11
Cost	0	10	19	30	24	3
Disfigurement	2	10	17	15	31	11
Recovery time	1	6	22	19	25	13
Pain	1	7	21	11	35	11

Relative values assigned: less=1, same=2, more=3
$P<0.05$ in all categories

In addition, a significantly greater percentage of vasectomy patients felt that their procedure was reversible ($P < 0.05$). Twenty-eight percent of men having had vasectomies (8 of 29) were confident of the reversibility of the procedure, while only 9 percent of tubal ligation patients (5 of 57) felt that their operation was reversible. Less than 10 percent of all couples stated that they used no prior birth control method.

There were no differences between the two groups concerning what most influenced individual choices of sterilization procedure. The patient's spouse, friends, and public information were most frequently cited as being influential. Patients were given the opportunity to cite the influence of their family physician, yet less than 10 percent of both groups claimed that a family physician had any bearing upon their choice.

Discussion

The entire field of birth control is currently undergoing a complete reassessment. Oral contraceptives and intrauterine devices are quite effective, but they have become associated with numerous risks and side effects. Mechanical barrier techniques using diaphragms, condoms, and spermicides are safe but less effective and less convenient. Current political and social pressures are harbingers of a downward trend in the availability and acceptance of abortions. Nevertheless, there remains a continued demand for safe and effective methods of contraception.

Sterilization has been described as an ideal contraceptive technique, and it has gained increasingly widespread acceptance over the past decade. In 1975 approximately 30 percent of couples using contraception employed sterilization.[2] The most recently available statistics indicate that vasectomies constitute 17 percent of sterilization operations, whereas 83 percent are tubal ligations.[3] Both are now safe procedures that can be done in outpatient surgical facilities. Each procedure has its own particular advantages and disadvantages.

Vasectomy is a simple technique that may be performed in as little as 15 minutes and should cause no loss of time from work. Recent improvements in technique have decreased the incidence of infection, hematoma, and sperm granuloma formation. The rate of failure is now less than 1 per 100 procedures and may be minimized by fascial interposition between the cut ends of the vas.[4]

Much has been said concerning impotence following vasectomy, but there is no physiological basis for this. This complication may be prevented by better selection of patients. Those men with psychological disorders or sexual maladjustments may be identified and excluded by careful history. The consequences of sperm antibody formation after vasectomy are not yet clearly defined. Studies in monkeys have suggested a possible link between sperm antibodies and accelerated atherosclerosis. However, there is no present evidence of any relation to human disease. If reanastomosis is attempted, the presence of sperm antibodies gives a negative effect on the chances of regaining fertility.[5]

Laparoscopic tubal ligation is also a safe procedure, but it involves a more complicated tech-

nique, the risks of general anesthesia, and the use of an operating room. Nevertheless, it is still quite suitable as an outpatient procedure. Contraindications to this procedure include previous abdominal surgery, umbilical hernia, and any other medical problem that poses a less than acceptable anesthesia risk. Obese patients are also at a disadvantage, although this is not absolute. The failure rate of laparoscopic tubal ligation is about 1 in 400.[6]

Much less has been written concerning postoperative sexual dysfunction or psychological sequelae in tubal ligation patients than in vasectomy patients. This may reflect greater motivation on the part of women toward prevention of pregnancy. The responsibility for birth control usually rests upon the woman, and tubal ligation may signify a release from further responsibility. This may lead to positive psychological effects.[7,8]

The most significant findings in this study were that women are undergoing tubal ligation even though they feel that it would be easier for their husbands to have a vasectomy. Many factors can be suggested to account for this. Contraceptive practice today is primarily based on modification of female fertility. Most methods in widespread use require that the woman take primary responsibility for its effectiveness. Therefore, it seems logical that this would be carried over into sterilization practice. Perhaps tubal ligation signifies a step taken in order finally to relieve a woman of this responsibility. Women must also bear the larger part of the physical and psychological burden of an unplanned pregnancy. All of these factors may contribute to the reasons why women are motivated to undergo tubal ligations even though they may believe that vasectomy is an easier procedure.

Only a small number of men appear to be receptive to a sterilization procedure that is simple, safe, effective, and economical. Even in developing nations, tubal ligations are far more popular than vasectomies.[9] Many men continue to believe that sterility equals impotence, which is an impression based on myth. This misinformation could be remedied through public information, including sex education curricula.

In patients participating in this study, the role of the family physician in influencing the choice of procedure was small. Personal bias, the experience of friends, and the impact of current public information far outweigh that of the medical profession in influencing this decision making process. This may reflect a reluctance among physicians to approach sterilization with their patients. The knowledgeable family physician can include sterilization in any discussion of contraception and provide patients with the facts concerning the available procedures.

Conclusion

The convenience and effectiveness of female contraceptive techniques have minimized the male role in birth control. Women appear to be motivated to undergo tubal ligation even though they may perceive it to be a more involved procedure than a vasectomy. Men who do undergo vasectomy also feel that it is the easier of the two procedures. Yet, many men still refuse to even consider vasectomy as an acceptable method of contraception.

There are a multitude of factors involved in the choice of a sterilization procedure. Family physicians are in a unique position to influence this decision through knowledge of both the individual needs of a couple and technical aspects of the surgical procedures. Increased involvement by family physicians may help to correct some of the myths and assist couples to make a knowledgeable and mutually satisfactory choice.

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