

# A Study of Hysterectomy in a Family Practice

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This paper reports on a study of women in a family practice who have undergone hysterectomy as compared with a group of matched controls.

Significant differences were found in the greater number of major surgical procedures (other than hysterectomy) and the reporting of chronic and recurrent symptoms for the study group. Study group women were also found to have a greater number of identified intrapersonal and family problems. There was no significant difference, however, in the number of identified chronic organic problems. Differences which did not reach statistical significance suggest that women in the study group may be more likely to be living without a male partner, to be using long-term medication, and to be smokers.

A most important finding was that the group of women who had undergone hysterectomy had also had 2.6 times the number of major surgical operations than the controls, excluding the hysterectomy. There were no differences between the two groups with respect to a number of other factors studied, eg, education, religion, history of psychiatric admission, obesity.

Studies of the incidence of major surgical procedures reveal that hysterectomy is internationally among the most frequently performed. In 1968 in a comparison of in-hospital surgical rates between Canada, England, and Wales only tonsillectomy (considered a minor surgical procedure) and cholecystectomy<sup>1</sup> were performed more frequently than hysterectomy. Furthermore, studies in the United States (1973) indicate that hysterectomy is the most commonly performed major surgical pro-

cedure. Since surgical rates for hysterectomy are significantly higher in North America compared to the United Kingdom, and since there is no evidence that there is any higher morbidity or mortality from uterine pathology in the United Kingdom, it may be reasonably assumed that nonmedical factors influence the decision, in some cases, to perform the procedure.

It is also well established that women undergo more surgical operations than men, even when one excludes procedures biased to sexual organs such as prostatectomy, cesarean section, inguinal hernia repair, and mastectomy. However, given that 51.6 percent of major surgical procedures listed for women are accounted for by hysterectomy, mastec-

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tomy, and cesarean section,<sup>2</sup> it is obvious that females are more at risk for surgery because of their sexual anatomy.

Other questions about the medical indications for hysterectomy are raised by statements that at least a third of hysterectomies are either clearly unnecessary, or unsupported and symptomatic only.<sup>3,4</sup>

Dr. Jesse Rust (1974) states that<sup>5</sup>:

There are very few hysterectomies that are absolutely necessary. Nearly all are performed because in the judgement of the gynecologist, such is the best way to solve the patient's present problems and to eliminate future ones. We must recognize the fact that good judgement among individual gynecologists varies, for there must be more than one way to treat most problems. We must also recognize that some patients are particularly desirous of hysterectomy for one reason or another.

Complications are not uncommon. In a variety of studies,<sup>2,6,7</sup> researchers have reported physical complication rates from 30 to 45 percent and postoperative psychological complications as high as 48.8 percent.<sup>8-10</sup> Published fatality figures for vaginal and abdominal hysterectomy are 0.2 percent and 0.1 percent, respectively.<sup>2</sup>

The cost of surgical intervention is also an increasingly conscious issue. In their study of health care costs under prepaid insurance plans in New York State, Trussel and Van Dyke determined that surgical claims comprised 20 percent of the claims presented, but 50 percent of dollars paid.<sup>4</sup> The average hospital bill alone for an uncomplicated hysterectomy in Cava's study was \$824.54<sup>11</sup> in 1974. Today this would not cover the cost of a hospital room for the week.

Given the continuing concern that hysterectomy may be unnecessarily frequent, expensive, and hazardous, this investigation was conducted to try to determine whether patient factors, other than purely surgical, could be identified. The authors reviewed data available from one teaching family practice to determine whether or not differences could be found between those women who had undergone hysterectomy, and controls who had not had this procedure. The hypothesis was that differences between the two groups of patients would be measurable.

## Methods

Profile cards (Figure 1) are available for all active patients of one teaching family medical practice in London, Ontario. These cards serve as

the basis for a system of registration, recording, and retrieval of patient data which is described in detail elsewhere.<sup>12</sup> (*Brennan M, Spano L: The B.J.S. patient profile card: A system of classification, registration and retrieval of patient data for family practitioners. London, Canada, 1975*). This study was greatly facilitated by the implementation of this system in the practice concerned.

Women known to have had hysterectomy represent 11.2 percent of all women in the practice over 15 years and 5.6 percent of women who would have been regarded at-risk for pregnancy (15 to 44 years).

The 42 patients in the practice who were recorded as having had hysterectomy and 42 age and sex-matched controls were drawn from the register. Characteristics coded on the profile cards were compared for both groups, including the following parameters: (1) demographic status; (2) chronic organic problems; (3) chronic and recurrent symptoms; (4) significant historical data; (5) long-term medications; (6) psychosocial problems; (7) involvement with allied health care professionals; and (8) life-style risk features.

The chart of each subject and control was reviewed to determine that: (1) each subject's chart included a historical record of past illnesses and operations; and (2) each subject had made a visit for care within 18 months and a total of not less than two visits.

Two control subjects were replaced because histories were incomplete and unavailable. Information obtained from the patient history was usually documented by medical records retrieved from the original source of care.

Major surgical procedures were defined as:

"Important and serious operations involving risk to life."<sup>13</sup> Procedures classically accepted as major or minor are observed.<sup>1</sup> For the purpose of this study appendectomy, laparotomy, cesarean section, and anterior/posterior repair were included among major operations; tonsillectomy, dilatation and curettage, and tubal ligation were included with minor procedures.

Chronic and recurrent symptoms were defined as: Any sensation presented by a patient as a source of concern, which he/she defines as organic discomfort, which persists or recurs more than twice over a period of not less than three consecutive months, and which does not appear to have any basis in identifiable organic disease.







Table 1. Prevalence of Psychosocial Problems Identified for Women Who Have Had Hysterectomy Compared to Controls		
Psychosocial Problems	Hysterectomy N=42	Control N=42
Women with intrapersonal problems only	6	5
Total women with intrapersonal problems	21	14
Women with family problems only	10	6
*Total women with family problems	25	15
Women with both intrapersonal and family problems	15	9
*All women with intrapersonal problems, family problems or both	31	20
*P<.05 chi-square		
Women with social problems	6	9
Women with material problems	4	3

three (54.7 percent) hysterectomized women lived without a male partner at the time of the study compared to 18 controls (42.8 percent). However, if the three controls who were single are deducted from that group, only 38.5 percent of controls, who had ever been married, were living without a male partner as compared to 54.7 percent of study group women.

Sixteen women (38 percent) in the study group and ten (23.8 percent) of the controls were supported by some means of government assistance.

The educational achievement of the two groups of women was comparable at between nine and ten years of schooling.

No differences were found in religious affiliation, with Protestant or Catholic being the commonly named denominations.

#### *Life-Style Risk Features*

Health risk features recorded showed 15 women in the study group to be smokers, as compared to 8 of the patients in the control group. Other differences, namely obesity and drug abuse, are not significant, but were less frequent in the control group. Alcohol abuse was recorded in only three patients, all of whom were in the hysterectomy group.

#### *Review of Some Aspects of Past History*

Seven of the study group women had a history of psychiatric admission as compared to five of the controls.

In looking at sex-related historical aspects, only one of the study group was known to have had a therapeutic abortion, while three of the control group were recorded as having had this procedure. Two of the study group and six of the controls were recorded as having had tubal ligation, and the number known to have had venereal disease were two and none, respectively.

#### *Psychosocial Problems*

Intrapersonal<sup>12</sup> and family problems were found to be more frequent for women in the study group. Only 11 hysterectomy women compared to 21 controls were free from major intrapersonal and/or family problems. Table 1 illustrates the prevalence of psychosocial problems.

#### *Therapeutic Aspects*

There were two major therapeutic components studied: involvement with allied health care professionals, and use of long-term medications. Despite the higher prevalence of psychosocial prob-



**Table 2. Prevalence of Chronic and Recurrent Symptoms Without Identified Organic Etiology**

Chronic and Recurrent Symptoms	Hysterectomy		Control	
	N=42	%	N=42	%
Total number of symptoms	30		8	
*Number of women with any symptoms	20	47.6		9.5
*P<.001 chi-square				
Distribution:				
Number of symptoms recorded per patient				
0 symptoms	22		38	
1 symptom	13		2	
2 symptoms	5		1	
3 symptoms	1		0	
4 symptoms	1		1	

lems, patients in the hysterectomy group were not more likely to be involved with allied health care professionals, although a social worker, clinical psychologist, and public health nurse were available to the practice in addition to community resources. Eleven women in the study group, and 18 in the control group were known to be involved with an allied health care professional.

Analgesics prescribed by the physician were recorded as being used for three or more months by four women in the hysterectomy group as compared with none in the control group, while psychotropic agents were recorded as having been prescribed for nine and six women, respectively. Polypharmacy (three or more prescribed agents) was identified for seven study group women and four controls. None of the above findings were statistically significant.

### *Chronic and Recurrent Symptoms*

The most common chronic and recurrent symptoms are gastrointestinal symptoms, headache, and muscle and joint pain. Twenty women in the study group complained of such symptoms, compared to four controls. The total number of symptoms in this category recorded for hysterectomy subjects was 30; for controls, 8. These differences are highly significant. Results are summarized in Table 2.

### *Number of Chronic Organic Problems Recorded*

The number of identified *chronic organic problems* recorded is closely comparable for both groups with 62 problems being recorded for the study group and 64 for the controls. Twenty-seven women (64.3 percent) and 32 women (76.2 percent) in the study and control groups, respectively, were identified as having one or more organic problems of over three months duration.

Further, no body system (including reproductive) is more likely to be involved than another for either hysterectomy or control women. The only specific diagnosis which findings suggest may be more prevalent among hysterectomy subjects is rheumatoid arthritis (two hysterectomy women vs no controls). This is an insufficient number from which to draw any conclusion. The prevalence of diagnosed osteoarthritis was identical for both groups at 14.3 percent.

### *History of Major Surgical Procedures*

Women with a history of hysterectomy were also demonstrated to have had a significantly greater number of other major surgical procedures. *Excluding hysterectomy*, the average number of *major surgical procedures* was 1.67 for hysterectomy subjects against 0.64 for controls. Twenty-



Table 3. Number of Major Surgical Procedures Excluding Hysterectomy Performed on Hysterectomized and Control Women		
Major Surgical Procedures	Hysterectomy N=42	Control N=42
Total number major surgical procedures (excluding hysterectomy)	70	27
Average	1.67*	0.64
*P<.001, t-test		
Distribution:		
Number of major surgical procedures: (excluding hysterectomy)		
No procedures	8	21
1 procedure	13	16
2 procedures	13	4
3 procedures	4	1
4 procedures	1	0
5 or more procedures	3	0

one controls have had no major surgical operation against eight study subjects who have had no procedure except hysterectomy. Table 3 summarizes the findings. Women in the study group, therefore, have had four times the number of major surgical procedures as controls, and 2.6 times as many excluding hysterectomy.

**Discussion**

Demographically, the study results are closely comparable to those conducted in the past. Age at hysterectomy (39.7 years) was identical to Cava's study in 1975,<sup>11</sup> and the median of 40 years was the same for Burnett in Winnipeg in 1962.<sup>5</sup> Demographic characteristics are quite similar with no significant differences evident with respect to religion or education.

There are no significant differences revealed in the number of identified chronic organic problems between women in the hysterectomy and control groups (including problems of the reproductive system) in this study. It is therefore unlikely that hysterectomized women are more or less burdened by chronic illness. They do, however, report a significantly higher prevalence of chronic and recurrent symptoms (without evidence of organic cause), suggesting that they tend to identify themselves as suffering from somatic complaints

with the consequent discomfort and characterization of the sick role.<sup>14</sup>

Some features not statistically significant warrant mention. The profiles of hysterectomized women indicate that they experience a greater number of intrapersonal and/or family problems. Despite this evidence, the hysterectomized women are not more likely to be involved with an allied health care professional, therapist, or have a history of psychiatric admission. The study suggests (though cells are small and therefore insignificant) that hysterectomized women may use more physician-prescribed, long-term analgesic medication, psychotropic medication, and polypharmacy.

One similarly inconclusive finding was that a greater number of the study group women, all of whom had been married, were living without a male partner as compared to control group women, three of whom had never been married. One explanation for this observation may lie in divorce and separation which is more common in the hysterectomy group. They are also less likely to consolidate a new relationship; for example, they may separate again, reject common-law unions, or maintain widowhood. Perhaps the loss of, lack of, or failure of a male relationship is an important factor.



The fact that smokers are overrepresented among women in the hysterectomy group remains unexplained. Personality or life-style-based interpretations may arise as hypothetical explanations of this difference.

A most important finding is the fact that women who undergo hysterectomy are women who have been surgically treated for other problems as well. Differences are highly significant, with hysterectomized women reporting more than 2<sup>1/2</sup> times the number of *major* surgical procedures as controls excluding hysterectomy. Since no explanation for polysurgery could be found in the prevalence of chronic organic problems for these women, this phenomenon should be examined in other terms. It may well be that failing an effective response to medical management of persistent symptoms, the patient advances toward a surgical solution. Sanford Wolf states: "When hysterectomy is performed because of a complaint whose real basis is underlying psychopathology, the condition is unlikely to improve, and may worsen."<sup>9</sup> Perhaps this comment applies to these findings.

Several observers of human behavior have described how unexpressed intrapersonal struggle is frequently manifest in somatic complaints often attached to the anatomical region or organ which symbolizes the conflict. Thus, conflicts which surround the feminine role and sexual expression are likely to implicate the sexual organs.<sup>15-17</sup>

It has perhaps not been suitably emphasized that surgeons may be left little alternative to surgery at the point that certain problems present, and do not carry the sole responsibility for preventing unnecessary operations. Nonetheless, the authors maintain that physicians can expand their scientific responsibility to question the currently accepted indications for hysterectomy. Of special interest is the more recent evidence that simply increasing surveillance of hysterectomies can serve to dramatically reduce the rate of this procedure.<sup>18</sup>

Although this study supports the hypothesis that differences do exist between women who undergo hysterectomy and those who do not, the authors are at pains *not* to define these as precursors, concomitants, or sequelae. Rather, the purpose is to introduce information about health care patterns and characteristics of women who come to hysterectomy. Much remains to be prospec-

tively studied. Retrieval of broad data, through a system such as the one available for this study,<sup>12</sup> (*Brennan M, Spano L: The B.J.S. patient profile card: A system of classification, registration and retrieval of patient data for family practitioners, London, Canada, 1975*) can bring increased depth to the understanding of human health processes.

It is the authors' opinion that physicians can approach the female patient with attitudes that are more open, inquiring, educational, and surgically conservative, thereby expanding their preventive activities and further diminishing the demand for, and frequency of, hysterectomy.

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