How women felt about their sterilization — a follow-up of 368 patients in a general practice

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SUMMARY. As a sequel to a questionnaire survey of sterilized patients in a general practice, 368 women were interviewed to assess outcome. Two hundred and ninety-two (79.3 per cent) were pleased with the operation and 76 (20.7 per cent) expressed regrets, though more than half of these (56.6 per cent) said they thought they would have chosen the operation again in the same circumstances. Of the women who were 30 years or over at time of operation, 14 per cent expressed regrets, compared with 39 per cent who were sterilized under 30 years of age ($p<0.001$). The regretful women were also more likely to have had clinical indications for operation, major contraceptive problems before operation, a history of attempted suicide and were less likely to have discussed vasectomy ($p<0.05$). The main changes reported after sterilization were a worsening in menstruation for 154 (42.2 per cent) and improvement in sex life for 133 (36.2 per cent) and in family life for 137 (37.2 per cent).

Introduction

INCREASED public knowledge that sterilization techniques have improved and adverse reports of oral contraceptives seem to be leading younger women with small families to seek sterilization. It is particularly important that sterilization counselling should be adequate for such women so that the risk of subsequent regret in this young low-parity group is minimized.

Aims

The aims of this paper are to make some estimate, based on interviews, of how sterilized women feel about the choice they made and to examine the circumstances of those who regretted the operation, with a view to improving future management.

The patients

This survey was carried out in a group practice of about 9,000 patients in the Scottish new town of Glenrothes. Patients were identified by a personal survey of all the case-notes (2,123) held in the practice for women aged between 20 and 50. Thereafter all new referrals for sterilization were noted, and the records of new patients joining the practice during the study were searched. Not all patients who had been sterilized had a reference to it in their records, as I discovered when unsuspected cases were found in the course of a questionnaire administered to a sample of the population to estimate the prevalence of sterilization (Wright, 1978).

Using these methods, 387 sterilized women were identified and sent a postal questionnaire about their social, medical and obstetric history (Wright, 1980). Ten patients did not respond and two others refused to co-operate. The 375 patients who returned completed questionnaires were invited to attend for interview. There were no refusals, but seven patients had left the district, leaving 368 whom I interviewed using a standard pro forma. I asked patients if they had regrets about their operation and explored the reasons for any regret. I also asked about menstruation, sex life and family life after sterilization, whether they had had problems before the operation and whether they thought there had been changes since.

Statistical methods

The method used to calculate probability values is described in the appendix.

Results

Patients were asked whether they had felt any regrets in the immediate post-operative period, whether they felt any regrets at the time of the interview and whether, placed in the same circumstances, they thought they would again choose to have the operation.

Four distinct groups emerged, as shown in Table 1. This grouping was supported by the patients' answers to

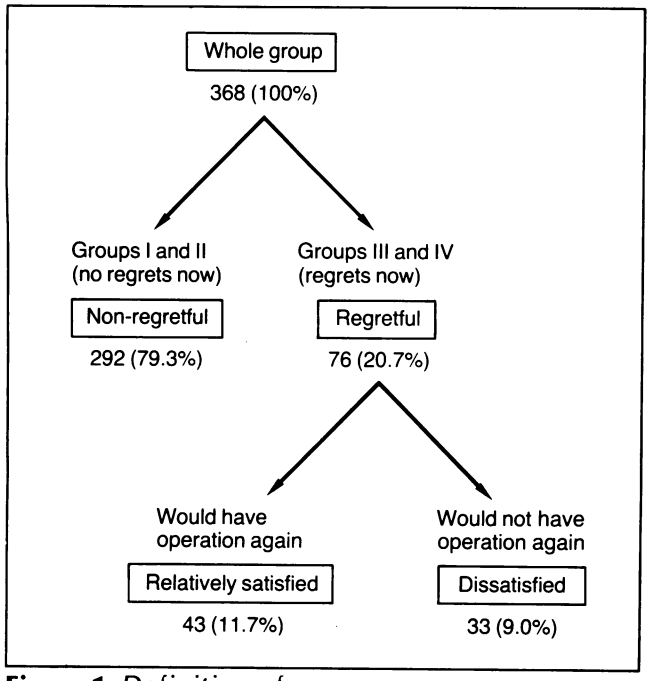

Figure 1. *Definition of groups.*

Table 1. Regrets after sterilization.

Group	Regrets	Number (per cent)
I	No regrets	253 *(68.7)*
II	Transient post-op. regrets	39 *(10.6)*
III	Late regrets only	51 *(13.9)*
IV	Persistently regretful since operation	25 *(6.8)*
Total		368 *(100)*

the question whether or not they thought they would choose to have the operation again if placed in the same circumstances (Figure 1). In all, 292 patients (79.3 per cent) were fully satisfied with their operation and had no regrets at the time of interview.

Patient characteristics

Various characteristics of the sterilized women were examined in an attempt to determine specific factors related to regret.

Parity

For the satisfied patients, the mean number of living children was 2.9; for the regretful it was 3.0. This result was not statistically significant.

Age at operation (Table 2)

There was a strong association between regret and age at operation. Fourteen per cent of women who were sterilized over the age of 30 expressed regrets, compared with 39 per cent of women who had the operation under the age of 30. The difference is highly significant ($p<0.001$).

Table 2. Regrets—age at operation.

Age	Percentage with regrets	Number
Under 30 years	*39*	38/98
30 years or over	*14*	38/270

Difference in percentages $p<0.001$.

Table 3. Regrets—other clinical factors.

Factor	Percentage with regrets	Number
Clinical (that is, non-social) indications*	*28*	33/119
Social indications for sterilization	*17*	43/249
Vasectomy not considered by couple*	*24*	54/222
Vasectomy considered	*15*	22/146
Husband disapproved of sterilization	*28*	10/36
Husband approved	*20*	66/332
Prior contraceptive problems*	*27*	39/142
No prior contraceptive problems	*16*	37/226

*Difference in percentages $p<0.05$.

Timing of operation

A higher proportion of women sterilized at termination of pregnancy or within one month of delivery were regretful (28 per cent) than of those whose sterilization was unconnected with a pregnancy (18 per cent). The difference was not statistically significant. Patients who had had both termination and sterilization were asked to distinguish their regret at being sterilized from their feelings about their termination.

Other significant clinical and personality factors

These comparisons are summarized in Tables 3 and 4. There were no significant social class or educational differences between the regretful and non-regretful patients.

Reasons given for regret (Table 5)

Most gave more than one reason for their regret, and some gave as many as four. The series was divided into two groups, the relatively satisfied who expressed regrets but thought they would have the operation again if placed in the same circumstances, and the dissatisfied who were regretful and would not have the operation again (see Figure 1).

Examples of the "severe social problems" referred to in the Table are a patient who cared for a 16-year-old severely handicapped child, a patient whose last baby was severely epileptic and required constant supervision and a patient whose husband had severe disabling multiple sclerosis. These problems were additional to the responsibilities of caring for other children.

Table 4. Regrets—personality indicators.

Indicator	Percentage with regrets	Number
Cigarette smokers	*25*	45/183
Non-smokers	*17*	31/185
Patients with religious belief	*19*	35/186
Non-believers	*23*	41/182
Patients with history of attempted suicide*	*41*	14/34
No history	*19*	62/334

*Difference in percentages $p<0.05$.

Table 5. Reasons given for regret.

Reason	Numbers (per cent) giving reasons: Relatively satisfied (n=43)	Dissatisfied (n=33)
Advised sterilization for 'clinical' reasons (did not choose operation)	14 *(32.5)*	6 *(18.2)*
Advised sterilization for severe social problems (did not choose operation)	2 *(4.6)*	5 *(15.2)*
Wanted another child (same consort)	12 *(27.9)*	9 *(27.2)*
Met another man and wished his child	3 *(6.9)*	7 *(21.2)*
Strong maternal feelings, jealous of pregnancy in others	12 *(27.9)*	7 *(21.2)*
Sex problems/loss of libido	1 *(2.3)*	3 *(9.1)*
Felt loss of femininity*	2 *(4.6)*	8 *(24.2)*
Marital problems	3 *(6.9)*	3 *(9.1)*
Miscellaneous	6 *(13.9)*	7 *(21.2)*

*Difference in percentages significant $p<0.05$.

Table 6. Menstruation, sex life and family life after sterilization—patient's view of change.

	Menstruation	Sex life	Family life
Worse	154 *(42.2)*	52 *(14.1)*	20 *(5.4)*
No change	164 *(44.9)*	183 *(49.7)*	211 *(57.4)*
Better	47 *(12.9)*	133 *(36.2)*	137 *(37.2)*
Total	365* *(100)*	368 *(100)*	368 *(100)*

*Two patients had hysterectomy sterilization and one did not answer this question.

Sex problems and loss of libido were mentioned only by the older women (age range at operation 32-43, age at interview 34-50). All but one of the nine women giving "loss of femininity" as a reason for regret were 30 or over at the time of operation (range 30-36 at operation, age at interview 37-44). Guilt was mentioned as a reason for regret only once in each group. Insufficient time to consider the operation was mentioned only once in the relatively satisfied group and twice in the dissatisfied. A feeling that the patient was too young when the operation was performed was quoted once by the relatively satisfied and three times by the dissatisfied.

Case histories

Case no. 202

Interval operation at 25 years. Divorced. Means to remarry and wishes to bear him a child. Has enquired about reversal operation and feels that 25 years is too young for sterilization.

Case no. 209

Interval operation at 32 years. Feels she has been "changed completely", "psychologically changed". Her bad temper upsets the family. Sex is no longer exciting.

Case no. 171

Sterilized at the time of therapeutic abortion when she was 27 years. Husband wanted no more children but she would have liked a girl. She now feels that she was too young to be sterilized and that it was wrong to do the two operations at the same time.

Case no. 382

Sterilized in the puerperium at 30 years. Had strong pressure from cardiologist. Cried all day after the operation. "Eaten up with jealousy because of my sister's pregnancy."

Case no. 227

Sterilized at the age of 29 years after delivery. Her baby died shortly after.

Changes after sterilization—the patient's view (Table 6)

At interview, patients were asked about menstruation, sex life and family life after sterilization. The largest group had observed no change. The main trends were a worsening in menstruation for 154 (42.2 per cent) and improvement in sex life for 133 (36.2 per cent) and in family life for 137 (37.2 per cent). Menstrual problems before sterilization were reported at interview by 101 of the 368 patients (27.4 per cent), sex problems by 94 (25.5 per cent) and family problems by 96 (26.1 per cent). Worsened menstruation was reported by 75 (36.8 per cent) of the 204 patients who had not been using oral contraceptives before the operation and by 79 (49.1 per cent) of the 161 patients in whom oral contraception had been withdrawn at sterilization. This difference was statistically significant ($p<0.05$).

Discussion

Has dissatisfaction with sterilization been underestimated?

The true prevalence of regret after sterilization is not known and published studies are not comparable because they use different criteria, methods of evaluation, types of patients and follow-up intervals. Barglow and Eisner (1966) commented on the "marked disagreement

among various authors about the statistical incidence of poor emotional outcome of tubal ligation". Schwyhart and Kutner (1973), reviewing 22 studies done between 1949 and 1967, quote rates of regret from 1.3 to 18 per cent and show that a low response rate produces a significant bias towards a low regret rate. One paper (Lu and Chun, 1967), quoting 1.3 per cent regrets, had only a 34 per cent response; in another (Black and Sclare, 1968), quoting 3.6 per cent regrets, only 35 per cent of identified patients had been interviewed. Some more recent papers (Khorana and Vyas, 1975; Kopit and Barnes, 1976; Whitehouse, 1969), with response rates around 75 per cent, show from 8.0 to 14.4 per cent of patients feeling regretful or ambivalent. The circumstances of general practice and continuing contact with the family tend to produce a high response rate in surveys of this kind. In the present study 76 women (20.7 per cent) expressed regrets at interview, though more than half of these (56.6 per cent) thought they would have the operation again in the same circumstances, presumably accepting sterilization as their only available solution despite reservations and regrets.

Patients with regrets

About 11 per cent of patients (Table 1, Group II) showed transient mood disturbances shortly after their sterilization and this percentage was remarkably consistent, whether or not the sterilization was done at termination, in the puerperium or unrelated to a pregnancy. This may represent, as Bourgeois (1976) suggests, a *"travail de deuil"* or bereavement reaction in a certain personality type. The patients (13.9 per cent) who became dissatisfied only some time after the operation (Group III) did so usually because of unforeseen changes in circumstances, often breakdown of marriage. Winston (1977), in his study of women seeking reversal of sterilization, found that "remarriage was the chief reason for the request for reversal". Group IV is small but important as it represents patients persistently regretful and often bitterly resentful. Their regret is less often due to change in circumstances after the operation and should be more predictable.

From this series it seems that about one-third of patients can expect an improvement in sex life and family life after sterilization. Sex problems after operation in the regretful patients were confined to the older women and seemed less related to the operation than to age at interview. Menstruation is likely to be more troublesome after sterilization in about half of women and this study supports the view of Chamberlain and Foulkes (1976) that this deterioration may be partly related to withdrawal of oral contraception before the operation.

Guidelines

These are summarized in Figure 2. Younger women with smaller families and no clinical indications are now

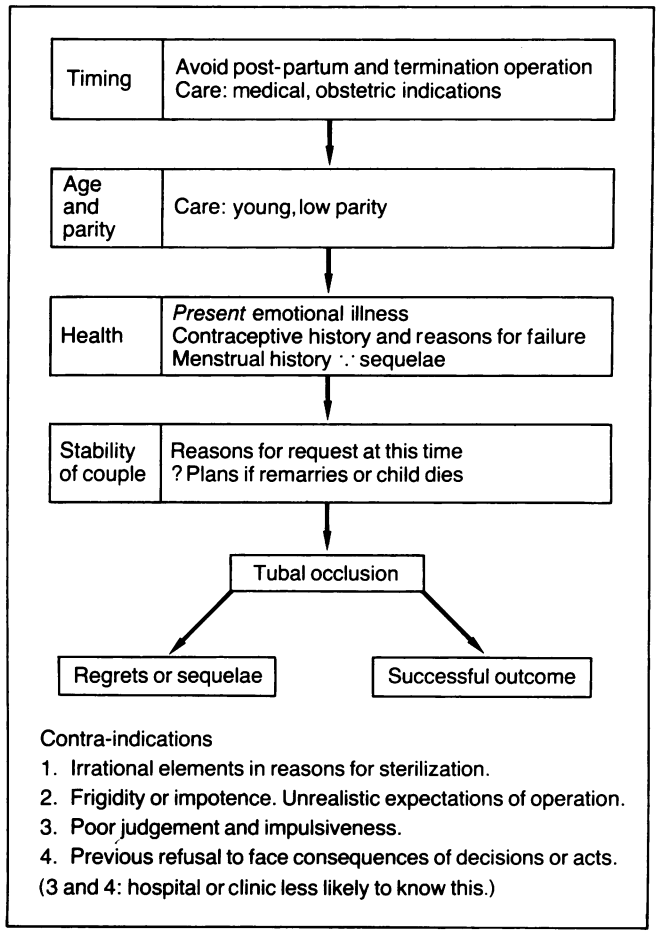

Figure 2. *A scheme for assessment.*

requesting sterilization, and a disease model, with preset criteria of age and parity, is less useful in assessing and advising the patient (and her husband). Several authors (Nichols, 1973; Sim *et al.*, 1973) list personality and psychiatric contraindications and Baudry and colleagues (1971) detail their interview technique. However, in-depth psychiatric or personality assessment before sterilization is no guarantee of eventual satisfaction and is probably impossible logistically. The general practitioner is often well placed to provide suitable counselling as he or she usually knows a good deal about the individual, the marriage and the family. It would certainly seem that "there is no evidence that psychiatrists, social workers or others need to be *routinely* involved" (Smith, 1979).

Most authors are agreed that adverse emotional sequelae may be minimized if sterilization is avoided in younger women. Campanella and Wolff (1975), in their retrospective study of emotional reactions, found more complaints of deterioration in general health and sexual relationships in younger than in older women.

The counselling procedure which I have followed is illustrated in Figure 2. I am convinced that it is worth while to look carefully at why sterilization is requested at a particular time. This is especially so when the woman is in her twenties and of low parity. Patients

who vehemently and perhaps impulsively demand sterilization may bitterly regret their decision and join the group of unhappy and unstable women who just as vehemently wish for a reversal a few years later.

This paper confirms that the majority of women are well satisfied with the advantages that sterilization brings, but that a significant minority are regretful and sometimes bitterly resentful. The best chance of a happy outcome exists when the patient has made her own, unhurried decision after discussion and on the basis of family size alone.

Appendix

Where probability values are quoted, proportions are being compared—for example, the proportion of women expressing regrets in the two groups, separated according to age at operation. Having calculated these percentages and having stored the results in the calculator memory, the null hypothesis can be simply tested by going on to calculate the standard error of the difference between the two stored percentages. The probability value is derived by dividing the observed difference between the percentages by the standard error of the difference (Swinscow, 1976). This method has been chosen in preference to a χ^2 test, mainly for simplicity. As Swinscow points out, the results are the same.

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How safe is general practitioner obstetrics?

Selection of low-risk women according to a good booking policy is not of itself sufficient. It is also important to identify clearly conditions which may occur after initial booking, that is during pregnancy and labour, which are associated with increased risk to mother or infant, requiring referral and probably transfer to consultant care, and to ensure that such transfers occur easily. The fact that such a booking and transfer policy can result in the transfer of 45 per cent of general practitioner booked cases, at no additional risk to mother or infant, is not a condemnation of the booking policy but an indication of good, integrated obstetric care.

Source: Taylor, G. W., Edgar, W. & Neal, D. G. (1981). *How Safe is General Practitioner Obstetrics?* An independent study. West Berkshire Health District.

Enemas and labour

Two hundred and seventy-four women admitted for delivery of singleton infants were studied for the effects of a preparatory enema on faecal contamination, duration of labour and the incidence of infection in the new-born. Altogether 149 of the women were given an enema and 125 were not. There was virtually no difference in the outcomes measures, particularly in the length of labour.

The findings suggest that, when preparing for normal labour, the enema should be reserved for women who have not had their bowels open in the past 24 hours and have an obviously loaded rectum on initial pelvic examination.

Source: Romney, M. L. & Gordon, H. (1981). Is your enema really necessary? *British Medical Journal,* **282**, 1269-1271.