

MORBIDITY FOLLOWING FEMALE SURGICAL STERILISATION IN A RURAL POPULATION

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Voluntary surgical sterilisation as a method of birth control has been popular in India and male and female sterilisation has been accepted by millions of people in the last two decades. One can examine this method of birth control from several aspects, such as medical, ethical, demographic, sociological, psychological or psycho-sexual, etc. The medical aspects mainly concern the safety, effectiveness, physical and psycho-sexual sequelae and the study reported here is an attempt to examine these aspects in a sample of rural women who accepted this method of birth control.

Material and Methods

The study was conducted in the Raipur Rani Block in District Ambala covering an area which included 32 adjoining villages. All women currently residing in the area who had their sterilisation a year or more prior to the study formed the study group. An equal number of controls were selected from the same area, taking care to exclude as many of the

variables as possible by taking them from the same range of age, parity, socioeconomic status and environment and who had their last childbirth at approximately the same duration as of the study cases and (a) who used no contraceptives, (b) whose husbands had vasectomy done or were using condom for birth control. There were 100 women in the area who had undergone sterilisation at least one year prior to the study and 100 suitable subjects were selected as controls. These women were contacted at their residence and a precoded protocol completed after personal interview by the first author (S. K.). A complete physical examination including bimanual vaginal examination was carried out. While filling up the protocol the complaints offered spontaneously were recorded separately from those which were elicited after leading questions. Case records of 98 out of these 100 women who had been operated upon were available from the Primary Health Centre and were perused to obtain information regarding the type of operation, anaesthesia and immediate postoperative morbidity.

Observations

The interval between operation and interview was more than one year in all cases. In 71 cases it was between 1-2

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years and in 23 upto 4 years. Other relevant information regarding the two groups is shown (Tables I and II).

TABLE I

Distribution of Subjects According to Age of Women

	20-24	25-30	31-35	Over 35	Total
Study group	1	56	25	18	100
Control	0	60	21	19	100

TABLE II

Distribution of Subjects According to Obstetric History

	Study group	Control Group
No. of term deliveries		
Upto 3	4	19
4-6	52	46
7	49	35
Last childbirth		
Within one year	0	0
2-3 years ago	67	64
Over 3 years ago	33	36
Previous contraceptives used		
I.U.C.D.	52	0*
Vasectomy	2	36
Conventional	1	16
Others	1	0

* Cases who used I.U.C.D. were deliberately discarded from control series.

The place of operation was at the Primary Health Centre in 93 cases, and at Civil or District Hospitals outside the block in seven cases. In 98 cases the records of the operation were available. All operations were abdominal, 24 postpartum, 72 interval procedures and two had the operation in the first trimester of pregnancy. Modified Pomeroy's method under spinal anaesthesia was performed in all the 98 cases. Among the 98 operated cases where the records

were available immediate postoperative complications were headache in 25% (24 cases), fever in 1 case and wound sepsis in the form of stitch abscess in 8% (7 cases). In two cases pulmonary tuberculosis was detected some months after the operation.

Upto the time of the study 60 women from the study group reported to the health centre for various complaints like weakness, backache, excessive vaginal discharge, lower abdominal pain, menorrhagia and dysmenorrhoea. From the control group 21 women attended the health centre since the last childbirth with somewhat similar complaints.

Decision for Sterilisation and Subsequent Attitude Towards the Operation

Among the study group, the decision for operation was voluntary in 22 cases, on suggestion by relatives or friends in 49 and 29 were motivated by medical or paramedical personnel from the health centre. They first heard about the operation from trained dai in 19 cases, Doctor in 6 cases, hospital employees (relatives) in 27 cases and through mass media sources in 7 cases.

None of the 100 women in the study group regretted having had the operation. However, 44% from the study group attributed their ailments to the operation and 16% from the control group to their last childbirth. Ninety-three women from the operated group had recommended the operation to others, and two were adamant that they would never recommend it to others. Among the control group 56 women were ready to undergo the operation after they had the desired number of children.

Symptoms elicited or spontaneously offered in the two groups are shown below—the period referred to being

from the date of last childbirth or the operation in the two groups. symptoms from the above list are tabulated below.

	Study group (100)	Control group (100)	
<i>Menstrual pattern</i>			
Lactational amenorrhoea	6	12	
<i>Duration of flow</i>			
Same	66	71	
Increased	19	11	
Decreased	9	6	
<i>Amount of flow</i>			
Same	60	69	
Increased	22	6	p<0.01
Decreased	12	13	
<i>Length of cycle</i>			
Same	71	71	
Prolonged	6	5	
Shortened	17	12	
<i>Dysmenorrhoea</i>			
Developed/increased	31	11	p<0.01
Developed/decreased	1	1	
Difficulty on doing routine work during periods	4	2	

Thus, it is seen that in the operated group increased bleeding at periods and dysmenorrhoea occurred in a significantly higher percentage of women.

The symptoms, both spontaneously offered and elicited were classified into (a) psychosomatic—including weakness, irritability, palpitation, giddiness, pain in joints, flatulence, itching, weak eyes, etc. not obviously related to the operation (b) gynaecological alteration in menstrual pattern, dysmenorrhoea, dyspareunia, low backache or lower abdominal pain; vaginal discharge, etc. and (c) sexual health—increase or decrease of libido, frequency of coitus, etc.

The incidence of some of the common

	Study group	Control group
Weakness	38	28
Gastrointestinal symptoms	13	19
Vaginal discharge	17	14
Low backache	36	27
Lower abdominal pain	5	5
Dyspareunia	3	3

There were no significant differences in the percentage of symptoms when the elicited and spontaneous responses were compared in the two groups.

Pelvic examination findings

One case in the operated group and eight in the control group refused pelvic examination. The findings are tabulated below.

	Study group (99)	Control group (92)
<i>Cervix</i>		
Healthy	81	82
Erosion	16	7
Suspicious	2	3
<i>Uterus</i>		
Mobility restricted	20	22
Size normal	98	92
Slightly larger	1	0
<i>Adnexal mass</i>		
Unilateral	0	1
Bilateral	1	0
Nil	97	91

Thus, no significant differences were observed between the two groups. There were no failures of the operation among the study group.

The morbidity data in the operated group were further analysed in relation

to features like literacy status, motivation, previous contraceptive experience and total number of living children by using a scoring system. No significant relationships were found between these features and the subsequent morbidity patterns.

Sexual health

The details of sexual health in 99 cases of the operated group (one woman was divorced after the operation) and for 100 cases in the control group are tabulated below:

Sex desire		
Same	71	79
Increased	13	8
Decreased	15	13
Frequency of coitus		
	50	79
	36	8
	13	13

$p < 0.01$

The observations relate to the period after last childbirth in the control group and after operation in the study group. Frequency of coitus increased significantly in the operated group.

Discussion

Perusal of current literature on the morbidity following sterilisation in the female indicates the basic difficulties inherent in such studies in that the studies are not comparable, as regards selection of samples, most are retrospective, control groups of non-sterilised subjects are not usually included and intervals from operation to study are extremely variable: Dawn, (1966) reviewed 42 sterilised women who reported with symptoms to the clinic 5-17 years after operation and used another group of 40 women (24-47

years of age) with spontaneous infertility 5-15 years following last childbirth as controls. The cases with symptoms following sterilisation were those who reported to the clinic and hence could not have reflected the true morbidity prevalent if the whole series of sterilised women had been followed up. Chakravarty (1966) used a control group with functional menorrhagia between 25-35 years of age to compare the incidence of menorrhagia in the two groups. In the present study the controls have been drawn from the same area having been matched regarding age, parity, literacy status, interval since last childbirth, etc. The methodology used in the present study is also different in that one of the investigators personally contacted both the study and control groups and the study group included all the operated women living in a particular area from where the controls were also selected. Among the studies reported in literature, (i) patients were sent request cards to attend hospital for follow up and the responses were only 35% (Shah and Kasbekar, 1969), 25.9% (Ghatikar *et al.*, 1969), 63.45% (Pandit, 1961) (ii) specially designed questionnaires sent to patients to which again not all responded and there was lack of information which can be obtained only by personal interview and examination (Rao, 1968, Rakshit, 1966) (iii) operated cases reporting to the clinics after varying intervals whose complaints have been analysed (Dawn, 1966; Chakravarty, 1966). Reported results from outside India (Panigua, 1964; Gun, 1971; Muldoon, 1972, and Chinnatamby, 1963) have also more or less the same limitations as those of Indian workers.

One of the problems which confront investigators in this field is to determine the long term sequelae and how one can

definitely relate such symptoms as menorrhagia, etc. occurring 5-15 years later to the operative procedure and not to spontaneously occurring events in the life of a woman. In the author's opinion prospective long term studies using selected controls supported by endocrinological and other investigations may help to evaluate some of the gynaecological complications which may follow this operation.

Summary and Conclusions

1. The present study is an attempt to evaluate the medical, surgical and psychosexual sequelae of surgical sterilisation in the female in a group of rural women along with controls from the same area.

2. The observations in the operated group pertain to one to four years after the operation and a similar period after last childbirth in the controls. The information was obtained by personal interview by one of the authors.

3. The morbidity data were analysed under immediate postoperative morbidity and late events under the main headings of psychosomatic, gynaecological and sexual health features.

4. The morbidity data in the operated group was analysed with reference to literacy status, motivation, previous contraceptive experience and number of living children.

5. Analysis of the data revealed no significant differences between the study group and control group with reference to symptoms like leucorrhoea, backache, dyspareunia, weakness, etc.

6. Statistically significant differences were observed between the two groups in the incidence of menorrhagia and dysmenorrhoea.

7. No failures were observed in the operated cases during the period studied.

8. Detailed prospective studies supported by laboratory investigations regarding menstrual disorders are necessary for proper evaluation and understanding of such disorders and their etiological relationship to the operation of surgical sterilisation.

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