

FEMALE STERILIZATION

(A Study on 124 Sterilized Cases)

by

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Introduction

A good number of studies to find out the health and psychological sequelae after female sterilization are available in the American literature, and studies have also been done in Sweden, Denmark, Japan, Switzerland and other countries (Kaij and Malmquist, 1965). But in a few cases only, the wives who were operated were followed up at their homes. In India, studies on female sterilization are meagre, and studies on follow up of wives after sterilization at their homes are hardly any. The present study was conducted in the city of Calcutta and Howrah by home visits to wives who had been sterilized, to find out whether any sequelae had taken place in respect of their health, conjugal relations and in particular whether they were developing any mental symptoms leading to mental

ill-health. Such a study is helpful in evaluating the place and importance of female sterilization amongst the various methods of family limitations.

Material and Methods

Names, addresses and dates of operation of 255 wives operated through the Family Planning Clinics and Obstetric and Gynaecological wards of the Calcutta Medical College and R. G. Kar Medical College, Calcutta, during 1965 and 1966, residing in Calcutta and Howrah, were obtained. Due to several difficulties only 124 wives could be studied.

The data were collected by the first author (S.K.D.G.) by home visiting as per schedule. The schedule contained questions on age, religion, occupation and socio-economic aspects. Questions on contraceptive methods used prior to the operation, source of information about the operation, the main reason for undergoing the operation and any sequelae after the operation affecting the health, menstrual history, harmony of marital relation, development of symptoms leading to mental ill-health were included. Questions were directed

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mainly on personality problems as recommended by Barnes and Zuspan (1958), Harvey Evers (1960) and De (1961).

The schedule was pretested on 10 families and after a few alterations on questions on mental symptoms it was found that the wives co-operated very well. The interval between date of operation and date of interview in the group of 124 wives studied ranged from 11 months to 3 years; 11 months to 1 year in the case of 3 wives, 1 to 2 years in 76 wives and 2 to 3 years in the case of 45 wives.

Observations

(1) *Socio-economic conditions of the families.* According to the Social Classification suggested by Prasad (1961), only 6 (4.84 per cent) belonged to the upper class (Rs. 100.00 and above per capita income per month). Fourteen wives (11.29 per cent) belonged to upper middle class (Rs. 50-99). The rest, 104 (83.87 per cent), belonged to the very poor (below Rs. 15), poor (Rs. 15-29) and lower middle (Rs. 30-49) class, poor constituting nearly half of the total wives studied.

(2) *Educational status of the wives and husbands.* Illiterate and just literate wives constituted 27.42 per cent of the total, 21.78 per cent were High School and 50.80 per cent were educated upto Primary or Junior High School. 10.48 per cent husbands were either illiterate or just literate, 21.77 per cent had Primary or Junior High School level, 53.23 per cent were High School and 14.52 per cent had University education.

(3) *Occupation of wives and husbands.* The women studied were mostly housewives (92.74 per cent),

only 7.26 per cent had other occupations like that of ayah (maid servant), private nurse, etc. 41.73 per cent of the husbands had small scale business, 20.97 per cent were factory workers, 14.62 per cent clerks, 5.64 per cent day labourers, 1.61 per cent shop-assistants, 1.61 per cent school teachers and the remaining 14.52 per cent included miscellaneous workers, like motor drivers, police personnel, peons etc.

(4) *Age of wife at operation.* More than half of the wives studied (66.13 per cent) were in the age-group of 25.34 years. There was one wife, aged 19 years, who was mother of two children, one son and one daughter. The mean age of the wives was 30.39 years, with a s.d. of 5.15 years.

(5) *Number of children living at the time of operation.* The average number of living children at the time of operation was 4.84 in the present study, males and females being 2.5 and 2.3 respectively. Only three wives (2.42 per cent) had only female children living at the time of operation. 79.03 per cent of the wives had 4 or more living children, 13.71 per cent had 3 children living and the rest, 7.26 per cent, had two living children at the time of the operation.

(6) *Contraceptive methods and materials used prior to operation.* Majority (70.98 per cent) were not using any contraceptive method prior to the operation. 14.52 per cent couples used condom, 5.64 per cent had loops inserted which had to be removed due to complications. Coitus interruptus was used by 1.61 per cent of the wives. Foam tablets and spermicidal jelly was each used by 3.22 per cent of the wives and foam tablets and spermicidal jelly both were

used by 0.81 per cent of couples studied.

(7) *Source of information about tubal sterilization.* Sixty-seven (54.03 per cent) got the information about the operation from relatives, neighbours or friends. Out of these, 59 (88.04 per cent) had their first information from other females who had undergone the operation previously.

(8) *Main reason and indication for the operation.* Economic condition was the commonest (62.09 per cent) reason, followed by health reason (18.55 per cent), to limit the family (12.10 per cent) and obstetric reason (7.26 per cent).

(9) *Stage at which the operation was performed.* Nearly half of the wives had interval sterilization. Puerperal sterilization was done in 48 (38.71 per cent), and 9.68 per cent had sterilization done together with other obstetric and gynaecological operations.

(10) *Change in health and vigour.* The condition of general health and vigour worsened after the operation in the case of 77 (62.09 per cent) wives. Eleven wives (8.87 per cent) were feeling better after the operation and 36 (29.04 per cent) noticed no such change.

(11) *Change in menstrual history after operation.* Forty-nine (39.51 per cent) wives developed menstrual disorders after the operation and as large as 53.22 per cent of the wives did not develop any such change. It is of interest to note that menstruation which was irregular before the operation become regular after the operation in the case of 7.27 per cent wives.

(12) *Disharmony of conjugal relations after operation.* Harmony in conjugal relations after the operation was enquired into and it was found that 17 wives (13.71 per cent) had developed disharmony in conjugal relations. But in the majority of the wives (85.48 per cent) harmony of conjugal relations was not disturbed. There was one wife who had disharmony of conjugal relations before the operation and there was no change in this disharmony.

(13) *General satisfaction with the operation.* 88.71 per cent of the wives studied were fully satisfied with the operation, 7.26 per cent partially satisfied and 4.03 per cent were dissatisfied with the operation and repented for having had the operation.

(14) *Development of mental symptoms after the operation.* Eighty-seven (70.16 per cent) wives were judged to have developed one or more mental symptoms. In 24 (19.35 per cent) the symptoms were of mild degree, viz. slight impairment of memory and mental irritability. But 63 (50.81 per cent) had one or more symptoms leading to an anxiety state or mental depression. However, somatic complaints were found to be more marked in the case of 28 wives out of the total of 87 wives. Thus, excluding the wives whose somatic complaints were more marked, a total of 59 (47.58 per cent) had developed one or more symptoms leading to mental ill-health after the operation.

(15) *Satisfaction with the operation according to harmonic change in conjugal relations.* It was seen that the maximum percentage (29.41 per cent) of the wives dissatisfied with the operation or only partially satisfied were those who had developed

disharmony of conjugal relations after the operation (Table 1). The association between development of satisfaction with the operation and the harmonic change in conjugal relations was found to be statistically significant ($X^2 = 5.73$, d.f. = 1, $P < .02$).

(16) *Satisfaction with the operation according to change in the general health and vigour.* It was seen that the maximum (16.88 per cent) of the wives dissatisfied or only partially satisfied with the operation

were those whose general condition of health and vigour had worsened after the operation (Table 2). The association between development of satisfaction with the operation and change in the general feeling of health and vigour after operation was found to be statistically significant ($X^2 = 6.35$, d.f. = 1, $P < .02$).

(17) *Development of two or more symptoms of anxiety state or mental depression (unassociated with marked somatic complaints) in relation to change in harmony of conjugal rela-*

TABLE I
Satisfaction with the operation according to harmonic change in conjugal relations

Harmonic change in conjugal relation after the operation	Number of wives	Number dissatisfied or only partially satisfied with the operation	Number satisfied with the operation	Percentage of partially satisfied or dissatisfied wives
Harmony or conjugal relations not disturbed	106	9	97	8.49
No change of disharmony which was present before operation	1	—	1	—
Disharmony of conjugal relations developed	17	5	12	29.41
Total	124	14	110	11.29

TABLE II
Satisfaction with the operation according to change in the general feeling of health and vigour

Change in the general feeling of health and vigour after operation	Number of wives	Number dissatisfied or only partially satisfied with the operation	Number satisfied with the operation	Percentage of partially satisfied or dissatisfied wives to number of wives in the group
Better after operation	11	—	11	—
Worse after operation	77	13	64	16.88
No change	36	1	35	2.78
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tions. Forty (32.26 per cent) wives were found to be developing two or more symptoms of anxiety state or mental depression unassociated with marked somatic complaints. The classification of these 40 wives according to harmonic change in conjugal relations after the operation showed that as many as 64.70 per cent of the wives developing such symptoms were those who had developed disharmony of conjugal relations after the operation (Table 3). Further

analysis showed that the association between development of two or more such mental symptoms and harmonic change in conjugal relations was statistically significant ($X^2 = 8.04$, d.f. = 1, $P < .01$).

(18) *Development of two or more symptoms of anxiety state or mental depression (unassociated with marked somatic complaints) in relation to change in menstrual history after the operation.* Table 4 shows that the highest percentage (42.86 per cent)

TABLE III

Development of two or more symptoms of anxiety state or mental depression in relation to change in harmony of conjugal relations

Harmonic change in conjugal relations after the operation	Number of wives	Number developing symptoms	Number not developing any-symptoms	Percentage of wives developing symptoms to number of wives in the group
Harmony of conjugal relation not disturbed	106	29	77	27.26
Disharmony of conjugal relations developed	17	11	6	64.70
No change of disharmony present before the operation	1	—	1	—
Total	124	40	84	32.26

TABLE IV

Development of two or more symptoms of anxiety state or mental depression in relation to change in menstrual history after the operation

Change in menstrual history after operation	Number of wives	Number developing symptoms	Number not developing any symptoms	Percentage of wives developing symptoms to the total number of wives in the group
Developed menstrual disorder after operation	49	21	28	42.86
No change in menstrual history after operation	66	16	50	24.24
Menstruation regular after it became which was irregular before operation	9	3	6	33.33
Total	124	40	84	32.26

of the wives developing mental symptoms was in the group of wives who had developed menstrual disorders after the operation. But 33.33 per cent of the wives developing such symptoms were those whose menstruation, which was irregular before operation, had become regular after the operation, and 24.24 per cent noticed no change in the menstrual history. The statistical analysis, however, showed that the association between development of two or more such mental symptoms and change in the menstrual history was statistically significant ($X^2 = 4.16$, d.f. = 1, $P < .05$).

Discussion

Earlier works of Saigal (1963) and Sikand *et al.* (1968) in India reveal a higher percentage of cases of female sterilization belonging to the low socio-economic strata of society. This is very much true in the present study where 83.87 per cent of the wives studied came from the very poor, poor and lower middle-class.

The percentage (27.42) of illiterate and just literate wives is much smaller in the present study than in the study of Sikand *et al.* (*loc. cit.*) who reported 93.0 per cent as illiterate or just literate wives in their study.

Average number of living children at the time of operation was 4.84 in the present study compared to 4.27 in the study of Pandit (1961) and 5.00 in the study of Sikand *et al.* (*loc. cit.*). These studies give an idea of the number of children desired by wives before undergoing the operation. It is also seen from the present study that both male and female children are almost equally desired (mean number of male and female living child-

ren being 2.5 and 2.3 respectively). This finding is also similar to the findings of Pandit (*loc. cit.*) in Baroda and Sikand *et al.* (*loc. cit.*) in Delhi.

In the present study the mean age of the wives studied was 30.39 years which approximates with the finding of Pandit (*loc. cit.*) at Baroda, who found the mean age of such wives to be 31.09 years. Almost similar was the finding of Norris (1964) in America, the mean age of the wives at operation in his study being 31.8 years. Sikand *et al.* (*loc. cit.*) in Delhi found a still higher mean age of 32.5 years at the time of operation.

The commonest indication to undergo the operation in the present study was economic reason accounting for 62.09 per cent. This is similar to the finding of Saigal (*loc. cit.*) in Gujarat where he found that 59.0 per cent had undergone the operation due to economic reason. The findings of Pandit (*loc. cit.*), Bisney *et al.* (1967) and Sikand *et al.* (*loc. cit.*) also give a high percentage (between 90-96) due to economic reason.

In the studies of Indian workers till now the change in general health and vigour was not mentioned. Adams (1964) in America found that only 1.2 per cent of cases in his first and 6.0 per cent in the second series reported deterioration in the general health. The present study shows a very high proportion (62.09 per cent) of operated wives reporting deterioration in the general condition of health and vigour. Hence, regular health check-up for a prolonged period of the operated wives is needed.

Regarding menstrual changes, in the present study 39.51 per cent of the wives had developed menstrual

disorders. This finding is not very much different from the findings of Mehta and Mehta (1958) who found this to be in 31.0 per cent and Bisney *et al.* (*loc. cit.*) who found this to be in 45.5 per cent of their cases. However, Pandit (*loc. cit.*) found this in 17.36 per cent of cases only. It is, however, apparent from these studies that the occurrence of menstrual irregularities after the operation cannot be ruled out completely.

13.71 per cent wives developed disharmony of conjugal relations after the operation. Paniagua *et al.* (1964) in their study in Puerto Rico found a similar finding (14.1 per cent). Bhagwani *et al.* (1968) in Delhi found 7.0 per cent of their cases developing family unhappiness after the operation.

In the present study 4.03 per cent of the wives regretted having had the operation. Bhagwani *et al.* (*loc. cit.*) in Delhi found 3.65 per cent of the cases regretting the operation. Paniagua *et al.* (*loc. cit.*) in Puerto Rico also found that 5.3 per cent wives studied had dissatisfaction with the operation. Norris (*loc. cit.*) in America, also had a similar finding. Adams (*loc. cit.*) in America, however, found this in only 2.9 per cent and 1.4 per cent in his first and second series respectively.

The present study reveals a statistically significant association between harmonic change in conjugal relation after operation and the development of partial satisfaction or dissatisfaction with the operation. Statistically significant association was also found between the change in the general feeling of health and vigour after operation and the development of

partial satisfaction or dissatisfaction with the operation.

A considerably large number (47.58 per cent) of wives were found to be developing one or more mental symptoms after the operation. Pandit (*loc. cit.*) in Baroda found only 2.9 per cent developing such symptoms. Bisney *et al.* (*loc. cit.*) also reported only a small percentage (3.24 per cent) developing such symptoms. In the study of Bhagwani *et al.* (*loc. cit.*) in Delhi 12.8 per cent wives were developing anxiety, insomnia and lack of concentration in the opted group, while in the persuaded group such complaints were found to be in only 10.0 per cent wives. It is to be noted that in none of these studies, wives were followed up at their homes as in the present study. The present study reveals statistically significant associations (i) between the change in conjugal harmony after operation and development of mental symptoms, and (ii) between the change in the menstrual history after operation and development of mental symptoms.

Summary and Conclusion

(1) One hundred and twenty-four wives out of 255 operated for tubal ligation, residing in Calcutta and Howrah, were contacted by home-visits to find out their health and sequelae after the operation.

(2) 83.87 per cent wives came from very poor, poor and lower middle class of the society.

(3) Average number of living children at the time of operation was 4.84 and the mean age of the wives at the time of operation was 30.39 years.

(4) 62.09 per cent wives reported

deterioration of general health and vigour, 39.51 per cent developed menstrual disorders and 13.71 per cent developed disharmony of conjugal relations after the operation. 4.03 per cent of the wives repented for having had the operation and 47.58 per cent had developed one or more symptoms leading to anxiety neurosis or mental depression.

(5) Development of only partial satisfaction or dissatisfaction with the operation was found to be associated with a harmonic change in conjugal relations after the operation and change in the general feeling of health and vigour.

(6) Development of mental symptoms was found to be associated with change in conjugal harmony and change in the menstrual history after the operation.

(7) It is concluded that the wife to be operated should be thoroughly examined by a psychiatrist before the operation and there should be regular health check-up and treatment of ailments after the operation. Efforts should be made to explore the possibilities of maintaining conjugal peace and harmony after the operation.

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