

Perception of married women of reproductive age group toward permanent sterilization in a slum of Kolkata

Sembagamuthu Sembiah, Jayeeta Burman, Aparajita Dasgupta, Bobby Paul, Rajarshi Banerjee, Sweta Suman

Department of Preventive and Social Medicine, All India Institute of Hygiene and Public Health, Kolkata, West Bengal, India

Correspondence to: Jayeeta Burman, E-mail: drjayeeta86@gmail.com

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ABSTRACT

Background: In India, the study of permanent sterilization is still a neglected area. It is required to understand the level of knowledge and attitudes of women toward permanent sterilization and makes them more responsible toward meeting their reproductive goals. **Objectives:** The objective of this study was to assess the knowledge and attitude regarding permanent sterilization and also to find out the factors influence it, among women of reproductive age group (15–45) living in a slum of Kolkata. **Materials and Methods:** It is a community-based observational study conducted among 157 married women aged 15–45 in a slum of Kolkata for 2 months of duration (May–June 2017). Analyses were conducted with the SPSS software version 16.0. **Results:** Among 157 women, 59.9% had poor knowledge and 61.1% had unfavorable attitude toward permanent sterilization. 75.8% told that permanent sterilization is applicable for both male and female. According to 24.2%, it is only applicable for female. Women's occupation (OR = 3.9 [1.7–8.6]); duration of marriage (OR = 11.7 [4.6–29.9]); age at first childbirth (OR = 2.63 [1.8–3.8]); history of abortion (OR = 2.6 [1.2–5.8]); and use of contraceptive (OR = 2.24 [1.2–4.4]) were strongly associated with poor knowledge. Women's occupation (OR = 5.9 [2.6–13.9]); husband's occupation (OR = 3.2 [1.6–6.4]); history of abortion (OR = 2.4 [1.29–5.4]); and use of contraceptive (OR = 6.6 [3.1–14.3]) were associated with unfavorable attitude toward permanent sterilization. **Conclusion:** Knowledge and attitude regarding permanent sterilization were far from satisfactory among the study participants. As the influence of husband is significant in family planning issues, they should also be involved in family planning counseling as envisaged in RMNCH + A.


KEY WORDS: Perception; Permanent Sterilization; Reproductive Age Group

INTRODUCTION

Voluntary permanent sterilization is a well-established contraceptive procedure for couples desiring no more children. Although male sterilization is simpler, cheaper, and safer, it accounts for only 10–15% of all sterilizations as compared to 85% of female sterilization in India.^[1]

Women became the major acceptors of contraception with the introduction of new technology such as mini-lap and laparoscopic sterilization. Tubectomy had dominated the Indian family planning scene from 1977 to 78.^[1] Non-scalpel vasectomy (NSV) technique was introduced in India, in 1992, to increase male participation in family planning.^[2] Despite being a simple and safe method, NSV seems to have failed to achieve its goal.

In spite of the perceptible decline in total fertility rate (TFR) from 3.6 in 1991 to 2.3 in 2013, India is yet to achieve replacement level of 2.1.^[3] India is still gaining about 18 million people each year, with more than half its population within reproductive age.^[1] Certain palpable problems plague the Indian scenario. While the population of the country is

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approximately 134 crores, and every 6th person in the world is an Indian, the net land area is only 0.61/person. Given the Indian situation, it is noteworthy that the total population of Kolkata itself is 4.4 crores. The quantitative value (in %) of the current use of family planning method in urban areas of West Bengal (W.B) is 69% and TFR in W.B is 1.8. Female sterilization was introduced 40 years before, but still, only 35.7% in urban and 36.1% in rural area are being practiced and male sterilization was introduced before 25 years, but still, only negligible percentage in practice (0.3% in both urban and rural) according to NFHS-4 data.^[4] In India, the study of permanent sterilization (both vasectomy and ligation) in family planning is still an exploratory field of study as there are many misbeliefs such as reduction in physical and sexual ability, its post-operative complications, and religious concern.

Although Government has made many initiatives for slum dwellers, still they were unaware of the services. Hence, the studies main focus on slum dwellers, especially the women because the immediacy of making women meets their reproductive goals responsibly through the enhancement of their knowledge and awareness about permanent sterilization is strongly felt. In this context, this study was undertaken to understand the knowledge and attitude of women toward vasectomy and ligation. Objectives of this study were to assess the knowledge and attitude regarding permanent sterilization and also to find out the factors which influence it, among women of reproductive age group (15–45) living in a slum of Kolkata.

MATERIALS AND METHODS

It was a community-based observational study in cross-sectional design conducted among 157 married women aged 15–49 in a slum under the service area of Urban Health Centre, Chetla, Kolkata, W.B. Considering 82% prevalence of knowledge on NSV (in a study, which was conducted in a rural area of Bengaluru),^[3] sample size was calculated.

$N = Z\alpha^2 (p) (1 - p)/d^2$ (N = Sample size, $Z\alpha = 95\%$ confidence level, p = Prevalence = precision of estimate)

$(1.96)^2 \times 82 \times 18/37.8$ (suppose, relative error = 7.5%) = 150.

Considering 10% non-response rate, sample size = 165. Among them, eight was unavailable during visit (five was due to locked door and three was unwilling to participate in the study). Hence, the final sample size of the study was 157.

It was carried out from May to June 2017. Line listing was done from RCH register. The study population was then selected by simple random sampling (SRS) from the updated list of currently married women of 15–49 years of the slum area. A predesigned pretested schedule was prepared. The schedule was translated in Bengali (local language) and was translated in English, and the latter was retranslated into Bengali. The final Bengali questionnaire was unambiguous, simple to understand,

had semantic equivalence, and conformed to the objectives of the study. A pilot study was conducted in a nearby slum outside the service area on 30 women who were not included in the study population, and the schedule was modified according to the feedback. Face and content validity were ensured by the experts at the Department of PSM, AIIHPH, Kolkata. The Institute Ethics Committee had approved the study protocol. After appropriate modification, a total of 157 married women of reproductive age group (15–49 years) were interviewed. Dependent variables of the study are knowledge (good/poor) and attitude (favorable/unfavorable) toward permanent sterilization. Independent variables of this study are sociodemography (age, religion, caste, education, occupation of respondent and her husband, and monthly income); marital status (age at marriage and duration of marriage); reproductive history (number of children, age at first and childbirth, history, and type of abortion); and H/O current contraceptive use.

Ethical Issues

The study was conducted in accordance with the Declaration of Helsinki for ethical consideration. Every participant selected by SRS for study purpose had given written informed consent for participation in the study after explaining them the pure academic nature of the study and ensuring confidentiality.

Statistical Analysis

All analyses were conducted with the SPSS software version 16.0. Suitable descriptive statistics were used. Univariate logistic regressions were used to determine the factors associated with poor knowledge and attitude of permanent sterilization. Strength of association was assessed by odds ratio at 95% confidence interval with conventional $P < 0.05$ level.

Operational Definition

There were 10 questions each on knowledge and attitude toward permanent sterilization. Median has been taken as cutoff level for both.

Good and poor knowledge

Score \geq median is good knowledge and scores $<$ median - poor knowledge.

Favorable and unfavorable attitude

Scores \geq median - favorable attitude and $<$ median - unfavorable attitude [Table 1].

RESULTS

The study was conducted among 157 women of 15–45 years showed that 93 (59.2%) women were aged between 18 and 27 years, 52 (33.1%) and 12 (7.6%) women were 28–32 years and ≥ 33 years, respectively. 141 (89.8%) were Hindu.

Table 1: Distribution of study participants according to their knowledge of permanent sterilization (*n*=157)

Knowledge of permanent sterilization		
Items	Score	<i>n</i> (%)
Heard the term permanent sterilization		
Yes	1	157 (100)
No	0	0 (0)
Applicable for		
Both M and F	1	119 (75.8)
Only F	0	38 (24.2)
People lose sexual urge after permanent sterilization		
Yes	1	49 (31.2)
No	2	93 (59.2)
Do not know	0	15 (9.6)
Permanent sterilization prevent sexually transmitted disease		
Yes	1	27 (17.2)
No	2	79 (50.3)
Do not know	0	51 (32.5)
Up to how many days protected sex should be done after vasectomy		
Do not know/1 m/2 m	0	129 (82.2)
>3 m	1	4 (2.5)
3 m	2	24 (15.3)
Have you ever heard the term NSV		
Yes	1	118 (75.2)
No	0	39 (24.8)
Days needed to stay in hospital after NSV		
Do not know	0	53 (33.8)
≥1	1	13 (8.3)
No need	2	91 (58)
Any complication after vasectomy		
Yes	1	39 (24.8)
No	2	26 (16.6)
Do not know	0	92 (58.6)
Does it causes any future disease		
Yes	1	84 (53.5)
No	2	14 (8.9)
Do not know	0	59 (37.6)
Is any incentive given for permanent sterilization		
Yes	2	53 (33.8)
No	1	1 (0.6)
Do not know	0	103 (65.6)
Attainable total score	0–17	
Median	15	
Interpretation		
>15=Good knowledge		63 (40.1)
0–15=Poor knowledge		94 (59.9)

NSV: Non-scalpel vasectomy

64 (40.8%) and 17 (10.8%) were SC/ST and OBC. According to modified Kuppaswamy scale, 2016, 57 (36.3%) were from lower middle socioeconomic condition. 122 (77.7%) were housewife and 35 (22.3%) were working women. 70 (44.6%) of women's husband were unskilled worker, 29 (18.5%) were semi-skilled worker, and 58 (36.9%) were skilled worker. Mean duration of marriage was 2.69 years, 9.6% and 27.4% were married for <1 years and 1–5 years, 47.8% and 15.2% for 6–10 years and >10 years, respectively. Most of them married between 18 and 22 years of age. 18.6% and 73.2% of them were married at the age of 19 and 20 years. Mean age of marriage is 19.89; 20.4% had one children, 42.7% had two children, 15.9% had >2 children, and 21% had no child; 28% gave birth their first child at the age of 23 years, 26.8% at the age of 21 years, and 17.2% at the age of 20 years; 29.3% of women were 26 years old when they gave birth of their last child and 12.1% gave their last childbirth at the age of 23 years; 73.9% had a history of abortion, among them 63 (54.3%) had a history of spontaneous abortion, 41 (35.3%) had a history of induced abortion, and 12 (10.4%) had a history of both types of abortion. 56.7% of women used contraceptive method currently, among all the participants, 21% used condom, ligation was done by 23.6% of women, and 11.5% used OCP. 6% used CU-T as a contraception; 64.1% of women told that the decision for using method of contraception was taken by both husband and wife, 34.8% of women were using the method of contraception as per her husband's decision, and health workers influenced 1.1% of women to use contraceptive method. Among 157 women, 106 (67.5%) women told that permanent sterilization should be done after completing family. Among 106 women, 63.2% told that permanent sterilization is good for mother's health and 32.1% responded it decreases economic burden, 4.7% of women told that permanent sterilization is helpful for both. 14 (8.9%) women did not response.

37 (24%) women told that permanent sterilization should not be done after completing family. 27% of women told that permanent sterilization decreases both physical strength and sexual urge, whereas 2.7% of women permanent sterilization only decrease sexual urge.

94 (59.9%) women had poor knowledge and 63 (40.1%) had satisfactory knowledge about permanent sterilization. 96 (61.1%) had unfavorable attitude and 61 (38.9%) had favorable attitude [Table 2]. Poor knowledge is strongly associated with occupation of mother, duration of marriage, age at first childbirth, and H/O abortion, using contraceptive method [Table 3]. Unfavorable attitude is strongly related to occupation of mother, occupation of husband, H/O abortion, using contraceptive method, and socioeconomic status [Table 4].

DISCUSSION

In this study, 94 (59.9%) women had poor knowledge and 96 (61.1%) had unfavorable attitude. Mothers who were

Table 2: Distribution of study participants according to their attitude of permanent sterilization ($n=157$)

Attitude toward permanent sterilization		
Items	Score	n (%)
Permanent sterilization should be done after completing family	Agree-2	106 (67.5)
	Disagree-1	37 (23.6)
	Do not know-0	14 (8.9)
Permanent sterilization should be done only for female	Agree-1	57 (36.3)
	Disagree-2	100 (63.7)
	Do not know-0	0 (0)
Permanent sterilization makes men more promiscuous	Agree-1	61 (38.9)
	Disagree-2	66 (42)
	Do not know-0	30 (19.1)
Permanent sterilization is an effective form of family planning method	Agree-2	107 (68.2)
	Disagree-1	50 (31.8)
	Do not know-0	0 (0)
According to cultural believe permanent sterilization should not be done in our society	Agree-1	16 (10.2)
	Disagree-2	53 (33.7)
	Do not know-0	88 (56.1)
Permanent sterilization can decrease economical burden	Agree-2	86 (54.8)
	Disagree-1	56 (35.6)
	Do not know-0	15 (9.6)
Vasectomy decreases physical strength	Agree-1	28 (17.8)
	Disagree-2	72 (45.9)
	Do not know-0	57 (36.3)
Ligation decreases physical strength	Agree-1	67 (42.7)
	Disagree-2	89 (56.7)
	Do not know-0	1 (0.6)
I do not allow my husband to operate because vasectomy affects on his health	Agree-1	45 (28.7)
	Disagree-2	51 (32.5)
	Do not know-0	61 (38.8)
The permanent sterilization causes complication and severe side effects those are uncomfortable	Agree-1	51 (32.5)
	Disagree-2	92 (58.6)
	Do not know-0	14 (8.9)
Attainable total score median	0–20	
	14	
Interpretation		
Unfavorable attitude (0–14)		96 (61.1)
Favorable attitude (>14)		61 (38.9)

homemaker, their knowledge was poor, but attitude was favorable. However, those working women had good knowledge, they had unfavorable attitude. W.B is a male dominating state. Every decision is taken by male. For that reason, women who have a good knowledge has shown bad attitude. There are statistically association between knowledge and attitude, but biological feasibility is absent.

In this study, 157 women of reproductive age group were interviewed showed that the mean age was 27.25 (range: 20–37). Another similar study was done in rural area of W.B by Aparajita Dasgupta *et al.*, in 2015, with study population

Table 3: Univariate logistic regression of factors associated with poor knowledge of permanent sterilization ($n=157$)

Characteristics	Bad knowledge n (%)	OR (95% CI)
Occupation of mother		
Working woman	12 (34.3)	1
Housewife	82 (67.2)	3.9 (1.7–8.6)
Duration of marriage		
>5	42 (42.4)	1
Up to 5 years	52 (89.7)	11.7 (4.6–29.9)
Age at first childbirth (†)	-	2.63 (1.8–3.8)
Age (in years)		
≤26	53 (65.4)	1.6 (0.8–3.0)
>26	41 (53.9)	1
History of abortion		
No	10 (24.4)	1
Yes	63 (54.3)	2.6 (1.2–5.8)
Use of contraception		
Yes	46 (51.7)	1
No	48 (70.6)	2.24 (1.2–4.4)

OR: Odds ratio, CI: Confidence interval

of 100 married male aged 15–49, mean age 34 years.^[2] The awareness of female sterilization as per the DLHS-3^[65] was 97.4% in rural and 99.3% in urban, and male sterilization was 79.5% in rural, 89.2% in urban, and another study done in male population of rural Bengaluru^[3] showed 82.7% of the study population had heard about vasectomy. However, only 22% were ready to accept vasectomy as a contraception measure. In a study in rural area of W.B, 88% of respondents were aware of NSV as a method of permanent male sterilization.^[2] Whereas in the present study, all of the participants heard about the permanent sterilization and 75.2% of study population heard the term NSV as the study population was female slum dwellers. In the present study, 27% of women told that permanent sterilization decreases physical strength and sexual urge. In Bengaluru study, 72% of study participants told that vasectomy may cause weakness and 76% told that it decreases virility or libido (76%). In W.B study, only 8% of study participants told that it decreases sexual urge as the study was conducted in rural area. In the present study, 67.6% of women were afraid from any operation, whereas in rural area of W.B, 48% were afraid from surgical procedure as study participants thought that if any complication arises, it will be difficult to get required health service. In a study at Tirupati,^[6] awareness of family planning services present in 94.5% of women, whereas 5.5% was not aware. Reasons for non-willing for vasectomy were husband cannot afford to rest after vasectomy, fear of ill effects on husband's health, non-acceptance by husband, ease of tubectomy, fear of failure of vasectomy, and lack of knowledge vasectomy. In the present study, 94 (59.9%) women had poor knowledge and 63 (40.1%) had satisfactory knowledge about permanent sterilization. 96 (61.1%) had

Table 4: Univariate logistic regression of factors associated with unfavorable attitude toward permanent sterilization ($n=157$)

Characteristics	Unfavorable attitude n (%)	OR (95% CI)
Age		
≤26	54 (66.7)	1
>26	42 (55.3)	1.6 (0.82–3)
Religion		
Muslim	11 (68.8)	1.4 (0.4–4.3)
Hindu	85 (60.3)	1
Caste		
General/OBC	54 (58.1)	1
SC/ST	42 (65.6)	1.3 (0.72–2.6)
Occupation		
Housewife	66 (54.1)	5.9 (2.6–13.9)
Working woman	30 (85.7)	1
SES		
Lower middle	18 (31.6)	1
Upper lower	78 (78)	7.7 (3.7–15.9)
Occupation of husband		
Unskilled/unemployed	53 (75.7)	3.2 (1.6–6.4)
Skilled/semi-skilled	43 (49.4)	1
Duration of marriage (years)		
>5	60 (60.6)	1
≤5	36 (62.1)	1.06 (.54–2.07)
Using contraception		
Yes	39 (32.6)	1
No	57 (98.5)	6.6 (3.1–14.3)
History of abortion		
No	31 (71.6)	1
Yes	65 (56)	2.4 (1.9–5.4)

OR: Odds ratio, CI: Confidence interval

unfavorable attitude and 61 (38.9%) had favorable attitude. Those who had favorable attitude, they told that it decreased economic burden and it is good for mother's health. Those who did not agree, they told that any type of abortion was not good for health; it decreased physical strength and sexual urge.

Strength and Limitation

Community-based study was the main strength. Privacy was maintained so less chances of bias expected during response. The main limitation of this study was small sample size and most of the questions were close ended.

CONCLUSION

In spite of door-to-door visits by field level health personnel permanent sterilization acceptance rate is far from satisfactory in this slum. Male permanent sterilization was most neglected, but it should be promoted as a safe permanent sterilization method. Role of mass media like television is to be intensified in spreading awareness, especially among the lower socioeconomic strata. Interpersonal and group approach should be emphasized for intensive promotion and acceptance of permanent sterilization. As the influence of husbands is significant in family planning issues, they should be the special target groups for counseling as envisaged in RCH-II. Incentive-based schemes should be upgraded according to cost inflation adjustment.

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