RESEARCH ARTICLE

A Study of Attitude, Awareness, and Knowledge of Vasectomy among Married Men in Urban Slums of Chennai, Tamil Nadu, India

Saravanan Chinnaiyan[1], Bhavya Babu[2]

Abstract

Background: Sterilization is a permanent birth control method, with nearly twice as many couples, are choosing female sterilization over male sterilization. Vasectomy is a safe, cheaper, less complicated, and simple procedure in permanent sterilization methods than tubectomy.

Aim and objective: To assess attitude, awareness, and knowledge of vasectomy among married men in urban slums of Chennai, Tamil Nadu.

Materials and methods: It is a descriptive cross-sectional study carried among married men in the urban slums of Chennai age 21–49. Simple random sampling is used to select the respondents. Descriptive analysis was done using appropriate R studio software.

Results: Among our 132 respondents, most of them are from 20 to 29 (40.90%). About 84% of the participants heard about vasectomy. Awareness of contraceptive methods is mostly through television (75%) and by their family and friends (72%). Our study discovered a gap in the knowledge and attitudes toward vasectomy, which the study revealed that respondents had moderate knowledge but had a negative attitude toward vasectomy.

Conclusion: Many men believe that avoiding pregnancy is exclusively the woman's responsibility. Men and women differed in their experience of sterilization. Family and physicians have an important role in ensuring that women know contraception options before the sterilization procedure. Adequate health education campaigns and regular counseling can bring out positive attitudes among people on vasectomy in the future.

Keywords: Male sterilization, Unmet needs, Vasectomy.

International Journal of Infertility and Fetal Medicine (2021): 10.5005/jp-journals-10016-1226

Introduction

India was the first country to launch the National Family Welfare Program in 1951 to reduce the birth rate to the extent necessary to stabilize the population in line with the national economy's requirements.[1] Although the National Family Welfare Program witnessed an upsurge in male sterilization in the 1970s due to mass vasectomy camps, increased incentives, and massive public drives, it failed to find social acceptance.

The Indian government had set a target for a total fertility rate (TFR) of 2.1 children per woman nationally by 2010. India's TFR has seen a steady decline from 2.7 in 2005–2006 to 2.2 in 2015–2016.[2]

Family planning has beneficial effects on sustainable socioeconomic development and protecting the environment. Unfortunately, most family planning methods have primarily targeted women, and men often do not participate in reproductive health matters.

Sterilization, including vasectomy, is an important option available to married men who have decided to end childbearing; however, several identified factors affect the acceptance of vasectomy among men, in a qualitative study by Bunce et al.[3]

Vasectomy, or male surgical sterilization, involves the division or occlusion of the lumen of the vas deferens, which causes the passage of sperm from the testicles to be disrupted.[4,5] It is one of the few fertility control methods that enable men to take personal responsibility for contraception.[5] Vasectomy is safer, simpler, less expensive, or cost-effective, just as effective as female sterilization, yet the number of female sterilization users exceeds the number of vasectomy users by five to one.

[1,2]SRM School of Public Health, SRM Institute of Science and Technology, Chennai, Tamil Nadu, India

Corresponding Author: Saravanan Chinnaiyan, SRM School of Public Health, SRM Institute of Science and Technology, Chennai, Tamil Nadu, India, Phone: +91 8973660820, e-mail: drsharav13@gmail.com

How to cite this article: Chinnaiyan S, Babu B. A Study of Attitude, Awareness, and Knowledge of Vasectomy among Married Men in Urban Slums of Chennai, Tamil Nadu, India. Int J Infertil Fetal Med 2021;12(3):73–76.

Source of support: Nil

Conflict of interest: None

It is a simple procedure usually performed under local anesthesia, on an outpatient basis and is associated with less risk of morbidity than bilateral tubal ligation. It is less expensive than BTL and its method failure rate of 0.01 per 100 women-years is lower than 0.13 per 100 women-years for female sterilization.[4,5] Tubectomy has been able to achieve this to a good degree. However, vasectomy, a far more safe and effective method, is not still popular among men due to gender bias in our country.[6]

As per the NFHS-4 data, the total number of male sterilizations done in 2015–2016 was only 0.3% compared with 1% in 2005–2006.[2] In Tamil Nadu, there has been a reduction in participation for vasectomy from 0.4% in 2005–2006 to 0.0% in 2015–2016.[7] The usage of condoms also does not improve in turn. The use of condoms in Tamil Nadu saw a drop of 2.3% in 2005–2006 to 0.8% in 2015–2016.[7]

Vasectomy is usually performed by some family medicine or general surgeons, who also perform a vasectomy. Still, in most cases, the procedure is performed by doctors specializing in the male reproductive system (urologists). Male sterilization can be done at any convenient time on a healthy individual. It is performed under local anesthesia, which means the patient would be awake, and only the surgery area would be made numb for the patient.

A vasectomy usually takes about 10–30 minutes. Most men will recover completely in less than a week. Activities may be resumed daily, the day after surgery unless the activities are unusually vigorous. After the percutaneous vasectomy, men surveyed report a full recovery within an average of 8–9 days. An incentive of Rs. 1100/- is made available after the procedure. Five days off for those employed in the government sector. In the rare case of failure, the government grants many Rs. 30,000/- some benefits to vasectomy recipients.

10,804 vasectomies were done during the NSV fortnight 2017, an increase of 30% over the last year's performance. Chhattisgarh recorded the maximum vasectomies with 2,469 vasectomies, followed by Maharashtra (1,968) and Assam (1,350).

Chennai, additionally is known as Madras, is the capital of the Indian state of Tamil Nadu. Situated at the Coromandel Coast off the Bay of Bengal, it's miles one in all the biggest cultural, economic, and academic focuses of South India. As indicated by the 2011 Indian statistics, it is the 6th most crowded city and the fourth-most crowded urban agglomeration in India. As indicated by India's 2011 slum populace survey, 31% of Chennaities were living in slums. It is second in the rundown among Mumbai (40%) and Kolkata (30%). As for the temporary populace slums of 2001, the slums in Chennai 1,079,414 people comprised 25.6% of the city's all-out populace. Out of the Chennai aggregates, 548,517 were guys, and the rest were 530,897 females. A WHO expert committee has defined five methods to evaluate the success of the family planning program. One is assessing knowledge, attitude, motivation, and behavior among people, which are important determinants in adopting family planning methods.[1]

Materials and Methods

Study Design

It is a cross-sectional descriptive interview-based study conducted among men in the urban slums of Chennai, India. The study population's inclusion criteria were males aged 21–49 years old and permanent residents of the urban slum area. Based on our inclusion criteria, 231 households were listed. Simple random sampling (the lottery method) has been employed to select households. Any male member in the household who met our criteria was selected as a respondent. Those who were unmarried refused to participate in the survey or were not after that, three visits were excluded from the study. A pilot study was conducted first among 15 subjects. Then the door-to-door visit was done. The subjects have explained the purpose of the study in detail in the local language, and a rapport was developed to make the interview comfortable for the subjects.

Sample Size Calculation

The sample was calculated using the formula, $n = z^2 (PQ)/d^2$.

Z = confidence interval, d = margin of error, p = prevalence and $q = 1 -$ prevalence. $Z = 95\%$ critical value 1.96, $d = 5\%$ and $p = 0.1\%$. According to the National Family Health Survey-4[7] Tamil Nadu prevalence of vasectomy is 0.1. We did arrive at a value of $n = 132$.

Data Collection Tools

The questionnaire was semi-structured based on the study objectives, from the previous literature and studies available on the topic added with content-specific questions. The questionnaire was divided into two main parts; the first dealing with the subjects' sociodemographic profile, such as age, education, and respondents' occupation. The second part consists of the questions regarding the knowledge, attitude, and awareness of vasectomy. The data entry was done using Microsoft excel, and descriptive analysis was done using appropriate R studio software.

Ethical Consideration

Respondents were provided full confidentiality of their information. The research objectives have been explained to each participant before the commencement of the study. Their participation was entirely voluntary, and they had full right to withdraw anytime during the study. Written consent was obtained.

Results

Social and Demographic Characteristics

A total of 132 participants participated in this study. The mean age was 34 years. Among our study participants, the majority of them were from the age group of 20–29 and 30–39, whereas 40.90 and 30.30%, respectively. Nearly 27% and 26.5% had completed their higher secondary and diploma grades. 37% work for private institutions, and 18% were unemployed (Table 1).

Knowledge on Vasectomy

About 84% of the participants heard about vasectomy, but only 37% accepted vasectomy as a male contraceptive method. 70% of them believed that vasectomy could prevent STD/STI. Only 25% responded that vasectomy is a better and more effective sterilization method than tubectomy (Table 2).

Awareness of Contraceptive Methods

Almost 97% of them were aware of condoms, 92% were aware of tubectomy, 84% were aware of vasectomy, and only 38% were aware of injectables (Table 3).

Table 1: Social and demographic characteristics

Sociodemography	*Frequency (n = 132)*	*Percentage*
Age, years		
21–29	54	40.90
30–39	40	30.30
40–49	38	28.78
Education		
No formal education	11	8.33
Primary education	33	25
Secondary education	36	27.27
Diploma	35	26.51
Graduate and above	17	12.8
Occupation		
Unemployed	24	18.18
Government	12	9.09
Private	51	38.63
Self-employed	45	34

Source of Awareness on Contraceptive Methods

Knowledge of contraceptive methods to our participants was mostly through television (75%) and by their family and friends (72%). Only 35% of the healthcare workers shared knowledge of various contraceptive methods (Table 4).

Table 2: Knowledge on vasectomy

Knowledge	*Yes n (%)*	*No n (%)*
Acceptance of vasectomy as a male contraceptive method?	49 (37.12)	83 (62.87)
Does the sexual function return to normal following vasectomy?	53 (40.15)	79 (59.84)
Does vasectomy prevent one from getting STI?	91 (68.93)	41 (31.7)
Heard about vasectomy/male sterilization?	111 (84.09)	21 (15.90)
Is vasectomy a permanent method of contraception?	82 (62.12)	50 (37.87)
Vasectomy is a better and effective method of sterilization than tubectomy?	33 (25)	99 (75)

Table 3: Awareness of different contraceptive methods ($n = 132$)

Contraceptive methods	*Frequency*	*Percentage*
Condoms	128	97
Emergency contraceptive pills	95	72
Oral contraceptive pills	110	83
Copper T	70	53
Vasectomy	111	84
Tubectomy	121	92
Safe periods	100	76
Withdrawal	104	79
Injectables	50	38
IUD	87	66
LAM	55	42

Table 4: Source of awareness of contraceptive methods ($n = 132$)

Medium	*Frequency*	*Percentage*
Newspaper	83	63
Magazines	67	51
Advertisement on TV	99	75
Internet	63	48
Radio	44	33
Friends/family	95	72
Health/medical professionals	46	35

Attitude toward Vasectomy

Only 13% of men strongly agreed, and 32% of them have strongly disagreed that they should undergo vasectomy, 31% of them agreed that contraception was the wife's responsibility alone, 39% disagreed that vasectomy is better and effective than tubectomy, 27% strongly disagreed that vasectomy is a right choice for couples who have completed their family (Table 5).

Barriers for Non-acceptance of Vasectomy

The social stigma associated with vasectomy is one of the most significant barriers. The Vasectomy procedure may cause the community to mistreat, according to nearly 75% of the respondents. Females prefer to have tubectomy procedures, according to nearly 73 percent of the respondents. Religious and cultural barriers were cited by only 31% of respondents as reasons for Vasectomy refusal (Table 6).

Discussions

Both men's and women's knowledge attitude and behavior should change to achieve a harmonious partnership. Men play a vital role in achieving gender equality because Indian society since ages is a male-dominant society.[8] Previous researchers and studies show that men often dominate in taking important decisions in the family, including reproduction, family size, and contraceptive use.[9]

The Ministry of Health and Family Welfare, Government of India, promotes a family planning program. Under the purview of family planning, a range of contraceptive measures are provided for the beneficiaries, and all these are provided free of cost. These services are distributed through the various health systems at various levels. The women-centered contraceptive measures have gained popularity over the years compared to male contraceptive methods.[10]

Findings of this study showed that the majority of the study participants were between the ages of 21 years and 29 years (40.90 %), and it is found to be not similar to the study conducted by Madhukumar et al. where most of the study participants fall under the age group of 31–40 years (Table 6).

The study found that 84% of the respondents were aware of the vasectomy procedure. This finding corresponds to the finding of a similar study conducted by Khan et al., where 81.3% were aware of the vasectomy.[11]

In our study, television advertisements have been the major contributor in spreading awareness regarding contraceptive methods (75%). This finding complies with the ever-increasing role of mass media in today's world and the convincing power that mass media holds. Health/medical professionals contributed as a source of information is found to be 35%, which is comparatively higher than in the study conducted by

Table 5: Attitude toward vasectomy ($n = 132$)

Question	*Strongly agree (%)*	*Agree (%)*	*Disagree (%)*	*Strongly disagree (%)*
Men should undergo vasectomy	18 (13.36)	33 (25)	38 (28.78)	43 (32.57)
Contraception is wife's responsibility alone	37 (28.03)	42 (31.81)	30 (22.72)	23 (17.42)
Vasectomy has its influence on self-confidence and masculinity	11 (8.33)	29 (21.96)	40 (30.30)	52 (39.39)
Vasectomy is better than tubectomy	18 (13.63)	35 (26.51)	51 (38.63)	28 (21.21)
A man who has vasectomy would be prone to be promiscuous.	8 (6.06)	13 (9.84)	59 (44.69)	52 (39.39)
Vasectomy is an unusual contraceptive practice	30 (22.72)	30 (22.72)	36 (27.27)	36 (27.27)
Vasectomy is a good choice for couples who have completed their family.	33 (25)	30 (22.72)	33 (25)	36 (27.27)

Table 6: Barriers for non-acceptance of vasectomy

Barriers of vasectomy	*Frequency*	*Percentage*
Community think that men will be sexually inactive	91	69
Causes weakness, cannot do hard work	85	64.39
The community didn't know vasectomy, lack of awareness	66	50
Considered as castration	75	56.81
Fear of the procedure	68	51.51
Females want to undergo tubectomy	97	73.48
No, leave after the surgery	71	53.78
Reduces libido	83	62.87
Religious and cultural barriers	41	31.06
Social stigma, community may ill-treat	99	75
Tubectomy is easier with less complication	88	66.66

AjeetSaoji et al.[15] healthcare professionals contributed to 19% cases. Thereby we can conclude that healthcare professionals' role has been a bit less in spreading awareness regarding vasectomy than other modes. Hence, healthcare professionals need to be accountable for spreading awareness and reducing misconceptions regarding the same.

This study found that 32.5% of the participants did not accept that men should undergo vasectomy, which can be due to various factors, including gender bias; the main reasons recorded for the non-acceptance for vasectomy were "women need to undergo sterilization" (73.4%) which is in contrast with the findings of a similar study by Prabhu et al. wherein the major reason was found to be "Fear of surgical procedure" (37%).[12]

Only 13.6% of the respondents strongly accept that vasectomy is better than tubectomy, which is similar (17.98%) to the study by Madhukumar et al. in Karnataka.[8] This indicates the level of ignorance regarding this procedure. Additional awareness programs and the increased quality of services rendered would increase vasectomy acceptance.[13] Nearly 69% of the respondents reported that the men would be considered sexually inactive by the community, which denotes the participants' ignorance level.

Around 73.4% of the participants believe that sterilization is women's business, and they need to undergo tubectomy, which clearly explains men's attitude toward women. The decision-making power of the women in an Indian household is negligible. Gender bias and gender discrimination have placed certain beliefs in our society like men are considered strong, and women are weak. There is an urgent need to address this issue through the behavioral change communication model. Long-time change in attitude is the only solution when the overall patriarchal beliefs in society and the upbringing of younger generation boys change, which is considered a long-term social process.

Lack of trained doctors is one of the major factors in the low acceptance of vasectomy. A study conducted by Bhuyan et al.[14] revealed that doctors have difficulty executing fascial interposition. The execution for fascial interposition needed more surgical skill and training.

Recommendations

To overcome men's knowledge and poor attitudes toward vasectomy requires the collaboration of community people, family planning providers, health workers, community health workers, and decision-makers.

Information, education, and communication (IEC) materials should be developed in the local language. Promotional materials like posters, leaflets, and brochures can be used as part of an educational campaign. Healthcare services, especially family planning providers, should provide adequate information on vasectomy and dispel misunderstanding within the community through health education programs and regular counseling.

References

1. Noel G, Ajeet S. Awareness and perception of and potential demand for vasectomy among married males. PJMS 2014;4(1):35–39.
2. NFHS-4 (2015-16) Factsheet for India and Maharashtra. Available at: http://rchiips.org/NFHS/ factsheet_NFHS-4.shtml. Accessed on 3 June 2017.
3. Bunce BA, Greg G, Hannah S, et al. Factors affecting vasectomy acceptability in Tanzania. Int Fam Plan Perspect 2007;33(1):13–21. DOI: 10.1363/3301307.
4. Federal Ministry of Health, author. Maternal mortality situation and determinants in Nigeria. Abuja: Federal Ministry of Health; 2004. pp. ix–x.
5. Omu AE, Akagbosu F. Voluntary surgical contraception: attitudes, knowledge and practice. University of benin teaching hospital studies. Trop J Obstet, Gynaecol 1990;2:220–226.
6. Nair GR. Knowledge and attitude of married men towards vasectomy in an urban slum of Navi Mumbai. Int J Community Med Public Health 2017;4(12):4563–4568. DOI: 10.18203/2394-6040.ijcmph20175331.
7. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-4), India, 2015-16: Tamil Nadu. Mumbai: IIPS; 2017.
8. Madhukumar S, Pavithra MB. A study about perceptions, attitude, and knowledge among men toward vasectomy in Bangalore rural population. Int J Med Sci Public Health 2015;4(8):1066–1070. DOI: 10.5455/ijmsph.2015.15022015223.
9. State Fact Sheet 2007–2008. District Level Household and Facility Survey (DLHS-3), 2007–2008. Available at: http://www.rchiips.org/state-fact sheet-rch3html (last accessed on December 21, 2013).
10. Evaluation of family planning in health services. Report of a WHO Expert Committee. World Health Organ Tech Rep Ser 1975. 1–67.
11. Khan MM, Shahauddin ST, ShroffAjit G. Study of knowledge and practice of contraception in urban slum community, Mumbai. Int J Current Med Applied Sci 2014;3(2):35–41. DOI: 10.1016/j.aap.2014.11.007.
12. Vijay KM, Surya PML. Knowledge, attitude and practice regarding vasectomy among married men in a rural area. MRIMS J Health Sci 2015;3(1):59–61. DOI: 10.4103/2321-7006.301961.
13. Ram MS, Dharma RM. An analysis of factors influencing the acceptability of vasectomy in Andhra Pradesh. Health and population - perspecth/es and issues. 2003;26(4):162–182.
14. Bhuyan K, Ali I, Sarma G, et al. No scalpel vasectomy (NSV) with ligation and excision: a single centre experience. Indian J Surg 2015;77(December):1038–1040. DOI: 10.1007/s12262-014-1119-1.
15. Ajeet S, Raghvendra G, Shilpa H, et al. Denial mode for vasectomy among married men in central India: causes and suggested strategies. J Psychol Psychother 2013;3(4):1–4.