

Original Article

Profile of No Scalpel Vasectomy patients in a District of West Bengal, India

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Abstract

Background: In relation to family planning issue, birth control is achieved through use of any contraceptive methods. Vasectomy is one of the terminal surgical procedures. **Materials and methods:** The study was cross-sectional in design. Vasectomised patients attending Post-Partum Unit had been selected in this study. Record review of the respective patients from the admission cum record register was taken. A schedule had been utilized. Data were analyzed manually. **Results:** The people belonging to Islam religion were 7.88% other than Hinduism. Mean age of the population undergone vasectomy was found 40.1 ± 8.9 years. Most of the families were found with two children with the range from one child to five children. The most of the clients were illiterate (54.9%). The most of the clients belonged to poor economic class as per Modified B G Prasad scale (55.4%). All were found addicted to tobacco. A sizable number was found with different kinds of addiction combinations (Alcohol, shoe polish, Amrutanjana, valium, phensydil, corex, grilinctus CD). **Conclusions:** Clients of vasectomy came from poor socio-economic status. These productive people were addicted to substance. Initiation of programme is required to attract the conscious people of middle class for No Scalpel Vasectomy.

Key words: District of West Bengal, Family planning, No Scalpel Vasectomy

Introduction:

Patients attend health care settings and they are examined, investigated and treated accordingly. ¹ In relation to family planning issue, they come in health care service centre to accept one of the contraceptive methods to control birth. Birth control is achieved through use of contraceptive methods. ² As a family planning method, sterilisation is being taken by 25% of total couples. ³ Worldwide, around 3-6% of couples were seen using vasectomy as a method of contraception. ⁴

Vasectomy is one of the terminal surgical procedures. Small diameter (2 - 3 mm) of the lumen of the vas presents the challenge of No Scalpel Vasectomy (NSV) reversal and needs micro-surgical technique(s) using 8/0 prolene with either operating microscope or optical loop. Reversal for recanalization cannot be guaranteed. Local anaesthesia (peri-vasal block by 1-2% xylocaine), operation time (5 - 6 minutes), discharge time (after 30 minutes of

close observation), sexual intercourse (3 days after vasectomy) were included as the issues of pre-vasectomy counselling and these were important matters to have informed written consent.⁵

Male sexual physiology remains unchanged following vasectomy. No long term health risks are found associated with the procedure. On the contrary, vasectomy breaks the blood-testes barrier that leads to increased levels of anti-sperm antibodies. So, after successful reversal, presence of antibodies prevents the wanted pregnancy strongly.³ Typical success rate of pregnancy following a vasectomy reversal is around 55% if it is performed within 10 years, around 25% after 10 years. Higher rate of congenital defects may be lead by higher rate of aneuploidy, diploidy in sperm cell.³

Clients opted for vasectomy which was one of the common contraceptive methods. During 2012 – 13, West Bengal performed male sterilization and it was 7545 in number

(2.24%) out of expected level of achievement (337350) whereas female sterilization was good in number over expectation (62.31%).⁶

The factors which act as determinants for adoption of vasectomy are said to be age, number of children, occupation, educational status, family income etc. These can be treated as predicting or independent variables.^{7,8}

Very few studies were found on vasectomy and its associates in this state of West Bengal. Ethnicity, cultural aspects, educational qualities, attitude etc are different in this population compared with population of developed countries. Findings of this study might be different due to these factors and this necessitates the research on vasectomy in this set up.

This study was conducted to assess the socio-demographic profile of patients of vasectomy; to find out the varieties of complications, if any, of both immediate and remote in nature.

Materials and methods:

The study was cross-sectional in design and study period was from 15th July 2014 to 31st March 2016. District Hospital of North 24 Parganas has been selected as study setting. Total vasectomy cases came to this hospital either directly or through referral. All Vasectomised patients attending Post-Partum Unit had been selected in this study. Patients with ambiguous data had been excluded from the sampling frame and they were not taken. The patients who were taken at hospital but operation was refused were wondering vagabond, immune-compromised, with large indirect hernia, lunatic, uncontrolled diabetic, gross skin disease, multiple sebaceous cysts in scrotum etc. Record review of the respective patients from the admission cum record register was taken. A schedule had been formulated by the investigators themselves through point to point discussion of study variables. During data collection these schedules had been filled in with utmost care. All the patients who underwent no scalpel vasectomy with correct records during the past one year have become the size of sample population. Total eligible vasectomised

patients were taken in the study and they were 1573 patients. Predicting variables were age, number of children, occupation, residence etc and outcome variable was complication followed by operations etc. Record review had been done for elicitation of socio-demographic factors and other issues related to vasectomy already done. The data included admission accounts with health status, operative note, per-operative event notes if any, post-operative events note if any, readmission note if required and their management, advice on semen analysis along with other predicting and outcome variables.

Ethical consideration: Institutional Ethics Committee of College of Medicine and Sagore Dutta Hospital has sanctioned the concerned study. Anonymity and confidentiality had been maintained during data collection, analysis and publication. Pre-vasectomy counselling was done by surgeon and informed written consent was taken.

Statistical analysis: Data were analyzed manually. Proportion, tabular presentation, test

of significance (Z test) had been used in statistical analysis.

Results:

A cross-sectional study was conducted during first January to thirty first December 2015 through the record review. Total number of study population was 1573 who had been operated and post-operative care had been given. The people belonging to Islam religion were 7.88%. Others were people of Hinduism.

Demographic characteristics: The age-wise distribution of these populations is depicted in table 1. Mean age of the population undergone vasectomy was found 40.1 years with the lowest age of 24 years and the highest age of 59 years. 40 – 49 years group of patients were found significantly higher in number ($p < 0.05$).

Table 1: Frequency distribution of vasectomised patients according to age

Age (Years)	Number (%)	Mean \pm SD	Z, P value
20 – 29	69 (4.4)	40.1 \pm 8.9 years	Z = 32.59, < 0.05
30 – 39	571 (36.3)		
40 -49	763 (48.5)		
50 - 59	170 (10.8)		
Total	1573 (100.0)		

The clients of vasectomy have been categorised according to number of children in their family. Most of the families were found with two children ($p < 0.05$) with the range

from one child to five children (Table 2). This was also notable that father of single child came for vasectomy in very good number (33.7%).

Table 2: Distribution of vasectomised patients according to number of living children

Number of living Children	Vasectomised patients (%)	Z, P value
1	530 (33.7%)	Z = 18.35, < 0.05
2	984 (62.6%)	
3	45 (2.8%)	
4	09 (0.6%)	
5	05 (0.3%)	

The most of the clients were found without any formal or non-formal education. They were illiterate (0.05). Two persons were found with graduate degree (Table 3). From these

findings it can be concluded that illiterate or low educated persons opted NSV as family planning and contraceptive method.

Table 3: Distribution of vasectomised patients according to their educational status

Educational qualification	Number of Vasectomised patients (%)	Z, P value
Illiterate	865 (54.9%)	Z = 13.95, < 0.05

Primary level	493 (31.4%)	
Secondary level	198 (12.7%)	
Higher secondary level	15 (0.9%)	
Graduate onward	2 (0.1%)	

The most of the clients belonged to poor economic class as per Modified B G Prasad scale). Their participation was found statistically significant (Table 4). People

(clients) of upper high class came for vasectomy in very much meagre amount (0.1%).

Table 4: Distribution of vasectomised patients according to their family income

Per capita income / month (Class name)	Number of Vasectomised patients (%)	Z, P value
6,277 and above (Upper high)	2 (0.1%)	Z = 9.88, < 0.05
3,139–6,276 (High)	57 (3.6%)	
1,883–3,138 (Upper middle)	50 (3.2%)	
942–1,882 (Lower middle)	593 (37.7%)	
> 942 (Poor)	871 (55.4%)	

Most of the clients of vasectomy were found labour group including beggars (Table 5). Labourers participated in significant high number ($p < 0.05$). Farmers were of good quantity. On the contrary, two government employees with graduation degree came to do vasectomy.

Social Characteristics: All were found addicted to tobacco. A sizable number was found with different kinds of addiction combinations. Alcohol, shoe polish, Amrutanjan (an indigenous pain reducing

ointment), nitrosun (10 mg/day), valium (10 mg/day), phensydil, corex, grilinctus CD (last three were anti-tussive drugs) etc were incriminating substances to which the patients were addicted in varying degree. Above poverty line people were meagre (6.9%) in number i.e. most people were poor. Most of the patients completed family with \geq two children and this was significantly higher in number. 45.1% clients were illiterate. Two cases (0.13%) were found HIV positive.

Table 5: Distribution of vasectomised patients according to their occupation

Occupation		Number of Vasectomised patients (%)	Z, P value
Labourer	Total	1247 (79.3%)	Z = 46.72, < 0.05
	Industrial worker	134 (10.8%)	
	Agricultural worker	735 (58.9%)	
	Shop worker	378 (30.3%)	
Farmer		236 (15.0%)	
Govt. employee		02 (0.1%)	
Unemployed		51 (3.2%)	
Bidi Maker		22 (1.4%)	
Beggar		15 (1.0%)	

Complications and side-effects followed by operations: Surgical site infection was found

(1.84%) and these cases were managed by medical treatment. Per-operative bleeding was

seen in very scanty population (0.25%) which was an important concern for No Scalpel Vasectomy. And one case with bleeding required admission and this case was managed by medical measures. No case of genito-

urinary infection, haematoma, chronic orchalgia was observed among vasectomy clients. Non-infectious pain was not seen in this study.

Discussion:

On the basis of mean age of the population undergone vasectomy, the clients were sexually active and economically productive population. Demographically it can be declared that this population group is required for vasectomy operation.

Average age structure for a man getting a vasectomy in United States of America was 38 years old. Sixty one percent were under age 40.^{9, 10} These data were similar to this study result and some other study.¹¹

From socio-economic point of view, poor people were found coming for vasectomy in this study. There was no significant association between total family monthly income and acceptance of NSV in some other study.¹²

Educational levels of the clients in this study were found that most of them came from illiterate group or very low level of education. This was not seen in some other study.^{9, 11, 13}

Two-third of the clients (66.3%) was found with two or more number of living children. This picture was similar to other study.^{10, 14}

The most of the clients were found from agriculture industry. This finding was similar to some other study.¹³

Surgical wound infection was found not in less number of clients (1.84%). Per-operative

bleeding was seen without haematoma. Similar and non-similar findings were observed in some other study. Haematoma, wound and genito-urinary infections and traumatic fistulae were seen in that study. Surgical skill may play the role for these complications. Orchalgia was seen in a very high proportion in that study.¹⁵ Medical consultations for hematoma or infection were found less frequent (0.5%) in one study in comparison with this current study.¹⁶ Consultation for non-infectious pain was required in that study¹⁵ comparing this one.

Vasectomy is a procedure which did not get popularity in the state of West Bengal where tubectomy is more popular.⁷ This might be due to lack of awareness of vasectomy and its benefits and the work disturbance of men etc.^{17, 18}

Limitation: The chances of pregnancy after reversal operation were not a part of this study.

Implications of the study: This knowledge will help our health administrators, health care providers, health educators to adopt newer techniques or policies to overcome the problem found if any.

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