



# **Assess the Effectiveness of Video-assisted Teaching on Knowledge Regarding Non-scalpel Vasectomy among Married Men in Selected Area in Rural Community**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

**Introduction:** Vasectomy is a surgical procedure in which the two tubes that carry sperm from the two testicles to the urinary tract are surgically altered, preventing sperm from passing through and fertilizing a woman's egg during sexual intercourse.

**Objective:** To determine the level of awareness of non-scalpel vasectomy and the impact of a video-assisted training programme among married males in a rural region. Community. To determine the relationship between the effectiveness of a video-assisted training programme on non-scalpel vasectomy knowledge and a set of demographic variables.

**Methods:** A descriptive survey method design. We conducted the descriptive research design study in the Wardha district of Maharashtra. We search for the rural area in Wardha district and men in the area. A total number of 100 men were taken inside this study. The study uses a non-probability convenient sampling technique.

**Results:** Findings from the study reveal that assess the effectiveness of video-assisted teaching on

knowledge regarding non-scalpel among married men in selected area of Wardha district. There was an increase in the knowledge about non-scalpel vasectomy. The educational program is most important for enhancing the knowledge of the community men regarding non-scalpel vasectomy. **Conclusion:** Our study draws the following conclusions to assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men are the very poor level of knowledge and accompanied by a lot of misconceptions.

*Keywords: Vasectomy; testicles; video-assisted; non-scalpel; descriptive survey; non-probability convenient sampling technique.*

## 1. INTRODUCTION

India is the world's second-largest country by population. India's population expanded by 181 million people in the recent decade. The decline in population growth rate from 1981 to 1999, varies from 2.1% showing only a 0.3% decline in the growth rate of the country. further, in 1996 the growth rate was reduced to 1.8% which seems to be very slow as the projected growth rate strategy was reduce to 1.2% by 2000 AD. In India about 20% of the eligible couple in the age group of 15 to 24 years constitute about 168 million eligible couples on average, 2.5 million couples join the reproductive age group [1].

Vasectomy is a surgical procedure in which the two tubes that carry sperm from the two testicles to the urinary tract are surgically altered, preventing sperm from passing through and fertilizing a woman's egg during sexual intercourse. It was first implemented in 1952 as part of the nation's family welfare program. During the initiative, vasectomy and tubectomy were introduced as methods of permanent sterilization. Respectively, the 1950s and 1960s. However, the acceptability of traditional vasectomy is declining, with only 1.9 percent preferring newer contraceptive methods. The main reason for this reduction is the fear of losing libido and subsequent complications. To enhance male participation in family planning, the non-scalpel vasectomy (NSV) procedure was adopted in India in 1992. It must gain enough traction to succeed. Attain its objective Despite the government of India's best efforts, the acceptance rate of male sterilization, specifically non-scalpel vasectomy (NSV), is abnormally low in India [2].

The no-scalpel vasectomy (also known as keyhole vasectomy or NSV) is a type of vasectomy procedure in which a specially designed ringed clamp and dissecting hemostat are used to puncture the scrotum to access the vas deference. This is different from a

conventional or incisional vasectomy in which the scrotal opening is made with a scalpel. Provides various advantages. Bleeding, bruising, infection, and pain are all reduced. Because of the inherent simplicity of the process, it allows it to be employed in public health [3].

The NSV approach also takes less time than the traditional scalpel technique. Both approaches of vasectomy are equally effective. A no-scalpel vasectomy is a type of vasectomy that does not require the use of a scalpel [4].

In India, the non-scalpel vasectomy (NSV) technique was established in 1992 to improve male participation in family planning. It is a simpler and speedier treatment that causes minimum tissue damage. It is a safe and uncomplicated surgery that may be performed in a low-resource setting Vasectomy is a surgical treatment for male sterilization and permanent birth control in which men's vasa deferentia are knotted and separated to prevent sperm from entering the seminal stream, preventing pregnancy. Dr. Shunquiang pioneered a new technique called non-scalpel vasectomy (NSV). Since the scalpel has not been used in China since 1991, there have been fewer hematomas and infections with smaller wounds. It takes less time and is said to inflict less pain in India than the traditional procedure [5].

The surgeon uses a hemostat (locking forceps with a sharp tip) to puncture through the skin and gently spread just until both vas deferens can be viewed during a no-scalpel vasectomy, also known as a keyhole vasectomy. Stitches are usually not necessary because the puncture site is so small and just penetrates the skin, and the recovery period is rapid. The no-scalpel technique is a less intrusive and faster treatment than a standard vasectomy. The overall duration, including preparation and anesthetic, is about 15-20 minutes. In the medical world, there is a consensus that non-scalpel vasectomy should be promoted more. There are apparent benefits to

this technique that support the idea that the incisional approach should be abandoned. The prospect of a less invasive, non-scalpel procedure may appeal to more men, allowing them to take a more active role in their contraceptive responsibility [6].

A vasectomy is a procedure that blocks both sperm ductus called the vas deference which transfers the sperm from epidynamic (where the sperm are stored) up through the prostate to the back of the urethra during and ejaculation. Ninety seven percent of the fluid that comes out during. and ejaculation is made in the prostate and seminal vesicles, only 3% of the fluid comes from the testicles and epidynamic but these contain all the sperm, the easiest way eliminating the sperm the but living everything else the same, is to interrupt the vas deference. The easiest place to do this is in the scrotum because the vas is directly under the skin [7].

Non-scalpel vasectomy (NSV) was launched in India to increase male participation in family planning methods, but despite best efforts, it has failed to achieve its goal, as evidenced by the current acceptability of NSV in the country. India's economy has shrunk from 1% to 0.3 percent. The purpose of this study was to gain insight into non-scalpel vasectomy knowledge and practice, as well as to raise awareness about underuse. In the community, there is a lot of talk about vasectomy. All ethical data input and analysis issues were resolved data entering and analysis were done using the spas version. NSV (no-scalpel vasectomy) was first used in India. To increase male participation in family planning methods, however, despite the efforts, the current acceptability of non-scalpel vasectomy (NSV) in India has dropped from 1% (NFHS)+0.3% to 0.3% (NSV) (NFHS4) This research was carried out to gain insight into knowledge [8].

## 2. MATERIALS AND METHODS

### 2.1 Research Design

The research was adopted a descriptive survey method design to assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men in selected area of Wardha district. It provides the best framework for the study. This gives hand

information and enhances in obtaining of accurate and meaningful data.

### 2.2 Study Setting and Research

We conducted the descriptive research design study in the Wardha district of Maharashtra. We search for the rural area in Wardha district and men in the area.

### 2.3 Sample Size and Sampling Technique

This research aims to assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men in selected area of Wardha district. A total number of 100 men were taken inside this study. The study uses a non-probability convenient sampling technique. Before taking any type of history we took written consent from adult people who are living in the rural community area in their local language (Marathi).

### 2.4 Data Analysis

Data was collected by the checklist prepared by expert consultation and literature review. In the demographic data like age, educational status, occupation, marital status and type of family. We assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men in a study.

### 2.5 Statistical Analysis

The data was entered into the MS-Excel 365 software and the Social Sciences Statistical Package (SPSS, version 25) was used for data analysis.

## 3. RESULTS

Section A: Distribution of Married Men with Regards to Demographic Variables.

### Section B: Assessment of Pre-Test and Post-Test Knowledge Regarding Non-Scalpel Vasectomy Among Married Men

This section deals with the assessment of pre-test and post-test knowledge regarding non-scalpel vasectomy among married men.

The above Table 2 shows the frequency and percentage-wise distribution of married men

according to the pre-test level of knowledge regarding non-scalpel vasectomy. The levels of knowledge were seen into 4 categories, poor, average, good, and excellent. 23% of married men in pre-test and 13% in post-test had poor level of knowledge score, 61% in pre-test and 25% in post-test had had an average level of knowledge score, 16% in pre-test and 19% in post-test had a good level of knowledge score,

and only 43% of the married men in post-test had an excellent level of knowledge score.

The mean Pre-test knowledge score of the married men in the pre-test was  $37.875 \pm 13$  and in the post-test, it was  $63.5 \pm 28.16$ .

Section C: Assessment of Effectiveness of Video Assisted Teaching on Knowledge Regarding Non-Scalpel Vasectomy among Married Men

**Table 1. Percentage-wise distribution of married men according to their demographic characteristics**

Demographic Variables	No. of married men	n=100	
		Percentage (%)	
<b>Age in year</b>			
30-35	27		27%
36-40	51		51%
41-45	19		19%
46 Above	03		03%
<b>Educational Status</b>			
Primary	50		50%
Higher Secondary	34		34%
Pre- University	13		13%
Graduate and above	03		03%
<b>Occupation</b>			
Farmer	58		58%
Business	19		19%
Private Employee	14		14%
Government Employee	09		09%
<b>Marital Status</b>			
Married	96		96%
Divorced/widow/separated	04		04%
<b>Religion</b>			
Hindu	71		71%
Muslim	06		06%
Sikh	11		11%
Christian	05		05%
Buddhist	07		07%
<b>Type of family</b>			
Nuclear	45		45%
Joint	47		47%
Extended	08		08%

**Table 2 Assessment of pre-test and post-test knowledge regarding non-scalpel vasectomy among married men**

Level of knowledge score	Score Range	Percentage Score	n=100	
			Level of Knowledge Score Pre-test	Post-test
Poor	1-6	0-25%	23	13
Average	7-12	26-50%	61	25
Good	13-18	51-75%	16	19
Excellent	19-24	76-100%	0	43
Minimum score			03	02
Maximum score			17	24
Mean $\pm$ SD			9.09 $\pm$ 3.12	15.24 $\pm$ 6.76
Mean % Knowledge Score			37.875 $\pm$ 13	63.5 $\pm$ 28.16

Table 3 depicts the overall mean pre-test and post-test knowledge scores of married men from a selected area of the community which reveals that the post-test mean knowledge score was higher than 15.240 with an SD of  $\pm 6.768$  when compared with the mean pre-test knowledge score which was 9.090 with SD of  $\pm 3.127$ .

The statistical Student's paired t-test implies that the difference in the pre-test and post-test knowledge among older adults from a selected area of the community was found to be 8.249 (df=98, t-tabulated value = 1.98) which is statistically significant at a 0.05% level of significance.

Hence it is statistically interpreted that video-assisted teaching on knowledge regarding non-scalpel was effective. Thus, H1 is accepted and H0 is rejected.

**Section D: Association of Post Test Knowledge Regarding Non-Scalpel Vasectomy with Selected Demographic Variables.**

This table shows the association of knowledge scores with demographic variables. In multiple logistic regression age of men and religion all associate with the post-test knowledge regarding non-scalpel vasectomy.

**Table 3. Assessment of the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men**

	n=100			
<b>Overall</b>	<b>Mean</b>	<b>SD</b>	<b>t-value</b>	<b>p-value</b>
Pre test	9.090	3.127	8.249	<b>0.000</b>
Post-test	15.240	6.768		<b>S, p&lt;0.05</b>

**Table 4. Association of post-test knowledge score regarding non-scalpel vasectomy with their variable**

<b>Demographic Variable</b>	<b>No. of Participant</b>	<b>Mean post-test knowledge score</b>	<b>F- value</b>	<b>p-value</b>
<b>n=100</b>				
<b>Age in year</b>				
30-35	27	12.14 $\pm$ 6.29	3.201	<b>0.027</b>
36-40	51	16.86 $\pm$ 6.73		<b>S,</b>
41-45	19	14.89 $\pm$ 6.27		<b>p&lt;0.05</b>
46 Above	03	17.66 $\pm$ 7.57		
<b>Educational Status</b>				
Primary	50	15.84 $\pm$ 6.36	0.557	0.645
Higher Secondary	34	14.41 $\pm$ 7.06		NS,
Pre- University	13	15.84 $\pm$ 7.71		p<0.05
Graduate and above	03	12.00 $\pm$ 7.54		
<b>Occupation</b>				
Farmer	58	16.22 $\pm$ 6.53	0.997	0.398
Business	19	14.15 $\pm$ 7.87		NS,
Private Employee	14	13.78 $\pm$ 5.76		p<0.05
Government Employee	09	13.44 $\pm$ 7.19		
<b>Marital Status</b>				
Married	94	15.43 $\pm$ 6.67	1.437	0.814
Divorced/widow/separated	04	10.50 $\pm$ 8.38		NS,
				p<0.05
<b>Religion</b>				
Hindu	71	16.76 $\pm$ 6.50	4.869	<b>0.001</b>
Muslim	6	12.33 $\pm$ 7.44		<b>S,</b>
Sikh	11	14.18 $\pm$ 6.27		<b>p&lt;0.05</b>
Christian	5	10.40 $\pm$ 4.92		
Buddhist	7	7.42 $\pm$ 2.37		

#### 4. DISCUSSION

Finding from the study reveal that assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men in selected area of Wardha district. There was an increase in the knowledge about non-scalpel vasectomy. The educational program is most important for enhancing the knowledge of the community men regarding non-scalpel vasectomy. Moreover, involving community participation, providing video-assisted teaching by using laptops and a projector could also be very effective in motivating men toward non-scalpel vasectomy procedures. The most essential finding by the researchers was through this video-assisted teaching a lot of misconceptions regarding non-scalpel vasectomy, which help to improve the knowledge and attitude of men.

Our findings are supported by Jaen, who conducted a comparative study to assess the effectiveness of a structured teaching program and interaction with a support group on the knowledge and attitude towards male sterilization for a small family norm and promotion of NSV among men. The study revealed that the increase in knowledge and positive attitude among married men was only because of the educational intervention, which they believed would help them plan a healthy family [9].

The present study is also consistent with the study of Kumar, who assessed the effectiveness of an individual teaching program about vasectomy for married men in Mangalore. The study findings showed that the intervention was effective in increasing their knowledge about vasectomy and concluded that married men had poor knowledge about vasectomy before the administration of the teaching program. Moreover, our study showed that men have a lot of misconceptions about NSV so it is very important to improve their knowledge and attitude so that they will be motivated to go forward with NSV as their family planning method [10].

#### 5. CONCLUSION

Our study draws the following conclusions to assess the effectiveness of video-assisted teaching on knowledge regarding non-scalpel vasectomy among married men are the very poor level of knowledge and accompanied by a lot of misconceptions. Their knowledge was improving

through given video-assisted teaching by projector and laptops. We show that video to men is a useful method of education teaching and learning mass media. Following the intervention, there was a significant increase in their knowledge. We conclude that video-assisted teaching was effective in accomplishing the expected changes in knowledge.

#### CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant's consent and ethical approval has been collected and preserved by the authors.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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