



“Effectiveness of an awareness program on knowledge and attitude regarding non-scalpel vasectomy among married men in rural community of Oghna, Jhadol, Udaipur, Rajasthan.”

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Abstract :

Background: Population explosion is one of the major problem in India and around the world. As per WHO statistics on world population, India is the most populous country. Instead to focus on both men and women, the family planning programs in India had always centered on women. Hence male sterilization has not been adopted in comparison to female sterilization. Many steps have been taken in this area by government of India but still there is a need for emphasis more on male sterilization to control population along with educating common public regarding non-scalpel vasectomy. So, keeping in view the study was taken up to assess the existing knowledge and attitude and to assess effectiveness of an awareness program on knowledge and attitude of married men regarding NSV.

Method: An evaluative approach with pre-experimental one group pretest posttest research design was adopted for the study. The sample consisting of 51 married men and were selected using purposive sampling technique. Structured interview schedule and Likert scale was used to collect the data which included socio-demographic data and component related to non-scalpel vasectomy. The collected data was analyzed using descriptive and inferential statistics.

Result: An awareness program on knowledge and attitude regarding non-scalpel vasectomy was administered after pre-test. Analysis revealed that mean pretest knowledge score was 17.24 and mean posttest knowledge score was 25.69. The mean difference was 8.45. The calculated T test value was 25.57 at df 50 at 0.001 level of significance whereas the mean pretest attitude score was 30.49 and mean posttest attitude score was 40.39. The mean difference was 9.90. The calculated T test value was 19.51 at df 50 at 0.001 level of significance which depicted that the awareness program was effective in enhancing the knowledge and attitude of married men regarding NSV. In posttest analysis revealed that 100% respondents had positive attitude regarding non-scalpel vasectomy. The pretest knowledge score was associated with educational qualification and previous knowledge whereas pretest attitude score was associated only with educational qualification. Analysis also revealed that there was positive correlation between knowledge and attitude scores as calculated value of “r” was 0.454 and result was found significant at 0.001 level of significance.

Conclusion: Married men’s knowledge and attitude regarding non-scalpel vasectomy significantly changed after the awareness program which emphasizes need of good educative programs to this potential group. Hence these kind of strategies should be conducted timely for removing misconceptions, promotion and adaptation of non-scalpel vasectomy among married men and enable men’s participation in control of population and in course help in attaining long term objectives of sustainable economic growth, social development and environment protection.

Key Words: Effectiveness, Awareness program, Knowledge, Attitude, Non-Scalpel Vasectomy, Married men.

I. INTRODUCTION

The over population is becoming a great problem day by day which is contributing to increase in poverty and lack of resources. Population explosion is a burning issue globally and all the countries are finding solution for it as balanced population is necessary for development of every nation.

India was the first country in the world who had launched a national programme for family planning in 1952. The objectives of the programme were to adopt a small family norm with a view of reducing birth rate to the extent necessary to stabilize the population consistent with the requirements of national economy¹. Instead to focus on both men and women, the family planning programs in India had always centered on women. Hence male sterilization has not been adopted in comparison to female sterilization.

Many steps have been taken in this area by government of India but still there is a need for emphasis more on male sterilization to control population along with educating common public regarding non-scalpel vasectomy which is one of the safest family planning method currently available and continues to be the most reliable form of male contraception worldwide.

Need of the Study

According to census of India 2011, Rajasthan was the seventh-largest Indian state by population and as per the report of Indian Census Population Projection 2011, Rajasthan projected population in 2022 will be 80,153,000 (8 Crore)².

The Government of India had set a target for Total Fertility Rate (TFR) of 2.1 children per woman nationally by the year 2010. India's Total Fertility Rate has seen a steady decline from 2.7 in 2005-06 (NFHS-3) to 2.2 in 2015-16 (NFHS-4) to 2.0 in 2019-21 (NFHS-5)³. Rajasthan Total Fertility Rate has also seen a steady decline from 2.4 in 2015-16 (NFHS-4) to 2.0 in 2019-21 (NFHS-5)⁴. Tubectomy has been able to achieve this to a good extent. However, vasectomy which is a far safer and more effective method isn't still popular amongst men due to misconception and gender bias in our country.

According to a report published by the national health mission (NHM) the burden of family planning still lies on women in India. Between 2017-2018, 93.1% of sterilization procedures performed in India were on women. Only 6.8% were men who underwent vasectomy⁵.

A WHO expert committee has defined five methods to evaluate the success of family planning program. One of them is the evaluation of knowledge, attitude, motivation and behavior among people which are important determinants in the adoption of Family Planning methods by them. Thus, this study intended to understand the reasons for gap and to minimize this gap through an awareness program in the demand for vasectomy.

II. RESEARCH ELABORATIONS

Statement of Problem

"Effectiveness of an awareness program on knowledge and attitude regarding non-scalpel vasectomy among married men in rural community of Oghna, Jhadol, Udaipur, Rajasthan."

III. OBJECTIVES

1. To assess pretest and posttest knowledge and attitude scores regarding non-scalpel vasectomy among married men.
2. To assess effectiveness of an awareness program on knowledge and attitude regarding non-scalpel vasectomy among married men.
3. To find out association between pretest knowledge and attitude regarding non-scalpel vasectomy with selected socio-demographic variables.
4. To find out relationship between knowledge and attitude regarding non-scalpel vasectomy among married men.

Research Hypothesis

H₁ There is a significant difference between mean pretest and posttest knowledge and attitude scores regarding non-scalpel vasectomy.

H₂ There is a significant association between pretest knowledge and attitude regarding non-scalpel vasectomy with selected socio-demographic variables.

H₃ There is a significant relationship between knowledge and attitude regarding non-scalpel vasectomy.

IV. MATERIALS AND METHODS

An evaluative research approach and pre-experimental one group pre-test post-test research design was used in the study. Ethical approval was obtained from Institutional Ethical Committee (IEC) vide letter number RNT/ACAD./IEC/2022/313 dated 16 September 2022. The purpose of the study was informed to all the study participants and data were anonymized by personal identification details. Informed consent was taken from each participant.

Study Design

This study used pre-experimental one group pre-test post-test research design to assess the knowledge and attitude regarding non-scalpel vasectomy among married men with a view to develop an awareness program. Baseline data were collected before and on the basis of which an awareness program was developed.

Population

Married men in rural community of Oghna, Jhadol, Udaipur, Rajasthan.

Sample

Married men residing in rural community of Oghna, Jhadol, Udaipur, Rajasthan who fulfilling the objectives, inclusion and exclusion criteria of the study.

Sample Size – 51 Married men.

Setting – This study was conducted in rural community of Oghna, Jhadol, Udaipur, Rajasthan.

Sampling Technique

Purposive sampling technique was used to select the samples. Married men were listed out by RCH register and after that samples were chosen by choice who fulfilling the objectives, inclusion and exclusion criteria of the study.

Sample Selection Criteria*Inclusion Criteria*

Married men

- Between the age group of 21-45 years.
- Residing in Oghna, Jhadol, Udaipur, Rajasthan.
- Having one or more children.
- Willing to participate in the study.
- Available during the time of data collection.

Exclusion Criteria

Married men

- Having no children.
- Not willing to participate in the study.
- Not available or sick during the study.
- Already undergone vasectomy.
- Either any couple who underwent any permanent sterilization.

The conceptual framework for the present study was based on **J. W. Kenny's Open System Model (1999)**.

V. Research Design

Research design chosen for the study was pre-experimental one group pre-test post-test research design.

Ethical Consideration

Ethical Permission was taken from ethical committee of Maharana Bhopal Government Hospital, Udaipur, Rajasthan. Informed consent was taken from each respondent who has participated in the study. Confidentiality and anonymity of the respondents was maintained.

Description of the Tool

Section A- Demographic Data: Consisted of selected socio demographic variables such as- Age, Educational qualification, Occupation, Monthly income, Religion, Type of family, Duration of marriage, Number of children, Previous knowledge regarding NSV and Source of information.

Section B- Structured Interview Schedule: Comprise of structured interview schedule related to non-scalpel vasectomy. This section consisted of 35 items.

Section C- Likert Scale: Comprise of Likert scale related to non-scalpel vasectomy. This section consisted of 14 items.

Scoring Criteria for structured interview schedule and Likert scale:

The score of '1' will be given for each correct answer and '0' for each wrong answer. The score ranges from minimum score of '0' to a maximum of '35' for structured interview schedule and for Likert scale the score ranges from minimum score of '0' to a maximum of '56'.

Table 1: Scoring System of Likert Scale

Response	Positive	Negative
Strongly Agree (SA)	4	1
Agree (A)	3	2
Disagree (D)	2	3
Strongly Disagree (SD)	1	4

Table 2: Interpretation of Level of Knowledge

Level of knowledge	Percentage
Inadequate Knowledge	<50%
Moderate Knowledge	50-75%
Adequate Knowledge	>75%

Table 3: Interpretation of Level of Attitude

Level of Attitude	Percentage
Negative Attitude	<60%
Positive Attitude	≥60%

An answer key was prepared for scoring answer to the structured interview schedule and Likert scale.

Validity and Reliability

The prepared instrument was in English and Hindi along with objectives and blue print was submitted to 5 experts. The content of the tool was validated by experts in the field of Community Health Nursing. The reliability of the instrument was calculated by using KR20 formula for structured interview schedule with the calculated value “r” was 0.827 and Cronbach Alpha for Likert scale with the calculated value “r” was 0.761 which indicated that the tool was reliable.

Data collection and Data Analysis

The data was presented under the following sections

Section I: Description of socio-demographic variables of the respondents.

Section II: Area-wise mean pre-test and post-test knowledge scores regarding non-scalpel vasectomy and interpretation of level of knowledge and attitude scores and effectiveness of an awareness program on knowledge and attitude scores.

Section III: Association between pre-test knowledge and attitude with selected socio demographic variables.

Section IV: Correlation between knowledge and attitude regarding non-scalpel vasectomy.

VI. Result

Table 4: Socio Demographic variables

n=51			
S. No.	Characteristics	Frequency (N=51)	Percentage (N=51)
1.	Age in Years		
	• Below 25	1	1.96
	• 25 – 34	17	33.33
	• 35 – 44	30	58.83
	• 45 and above	3	5.88
2.	Educational Qualification		
	• Illiterate	7	13.72
	• Primary	9	17.65
	• Secondary	9	17.65
	• Senior Secondary	11	21.57
	• Graduation and above	15	29.41

3.	Occupation - Unemployed - Private Job - Government Job - Labour - Others	0 5 3 14 29	0.00 9.81 5.88 27.45 56.86
4.	Monthly Income 20,000 or below 21,000-35,000 36,000-50,000 51,000 and above	21 26 4 0	41.18 50.98 7.84 0.00
5.	Religion - Hindu - Muslim - Christian - Other	51 0 0 0	100.00 0.00 0.00 0.00
6.	Type of Family - Nuclear - Joint	34 17	66.67 33.33
7.	Duration of Marriage - Less than 5 years 5 - 14 years 15 - 24 years 25 years or above	1 17 30 3	1.96 33.34 58.82 5.88
8.	Number of Children - One - Two - More than two	1 8 42	1.96 15.69 82.35
9.	Previous Knowledge Regarding NSV - Yes - No	25 26	49.02 50.98
10.	Source of Information - Electronic media - Print media - Health care workers - Family members - Others	4 6 9 4 2	16.00 24.00 36.00 16.00 8.00

Table 5: Area-Wise Comparison of Pre and Post Test Knowledge Scores

Area	n=51			
	Pretest		Posttest	
	Mean	SD	Mean	SD
Introduction and Concept	50.49	14.18	71.08	11.71
Vasectomy Procedure and Indications	50.85	15.66	76.73	8.88
Pre Operative Instructions	37.25	22.75	64.71	19.34
Post Operative Instructions	48.63	16.13	74.12	12.19

Table 5 revealed that in terms of introduction and concept, mean pretest knowledge scores were 50.49 with SD 14.18 while mean posttest knowledge scores were 71.08 with SD 11.71. In terms of vasectomy procedure and indications, mean pretest knowledge scores were 50.85 with SD 15.66 while mean posttest knowledge scores were 76.73 with SD 8.88. In terms of pre operative

instructions, mean pretest knowledge scores were 37.25 with SD 22.75 while mean posttest knowledge scores were 64.71 with SD 19.34. In terms of post operative instructions, mean pretest knowledge scores were 48.63 with SD 16.13 while mean posttest knowledge scores were 74.12 with SD 12.19.

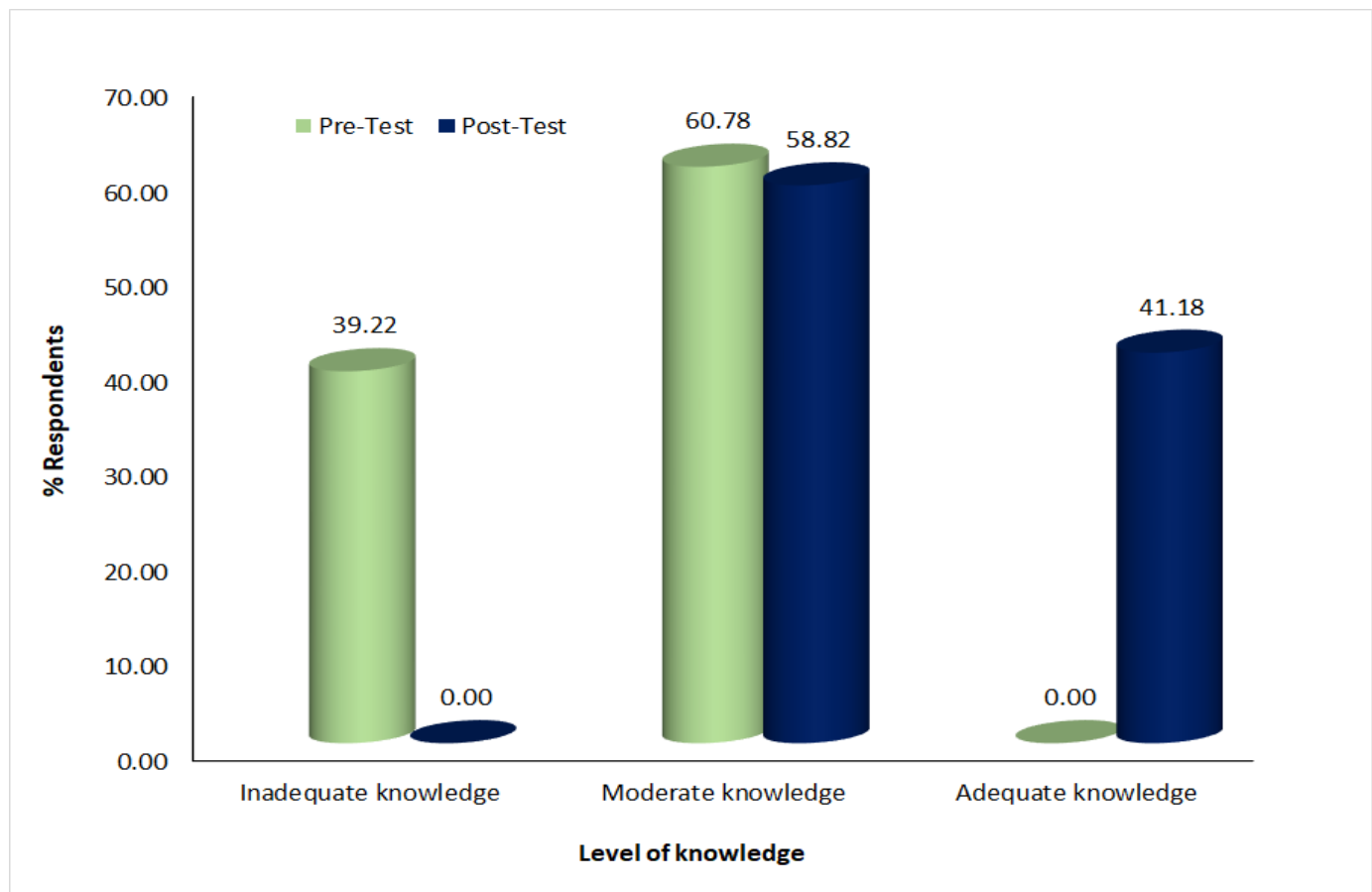


Figure 1: Interpretation of Level of Knowledge Scores (n=51)

Figure 1 shows that 39.22% of the respondents in pre-test whereas none of the respondents in post-test had inadequate level of knowledge. 60.78% of the respondents in pre-test whereas 58.82% of the respondents in post-test had moderate level of knowledge. None of the respondents in pre-test whereas 41.18% of the respondents in post-test had adequate level of knowledge.

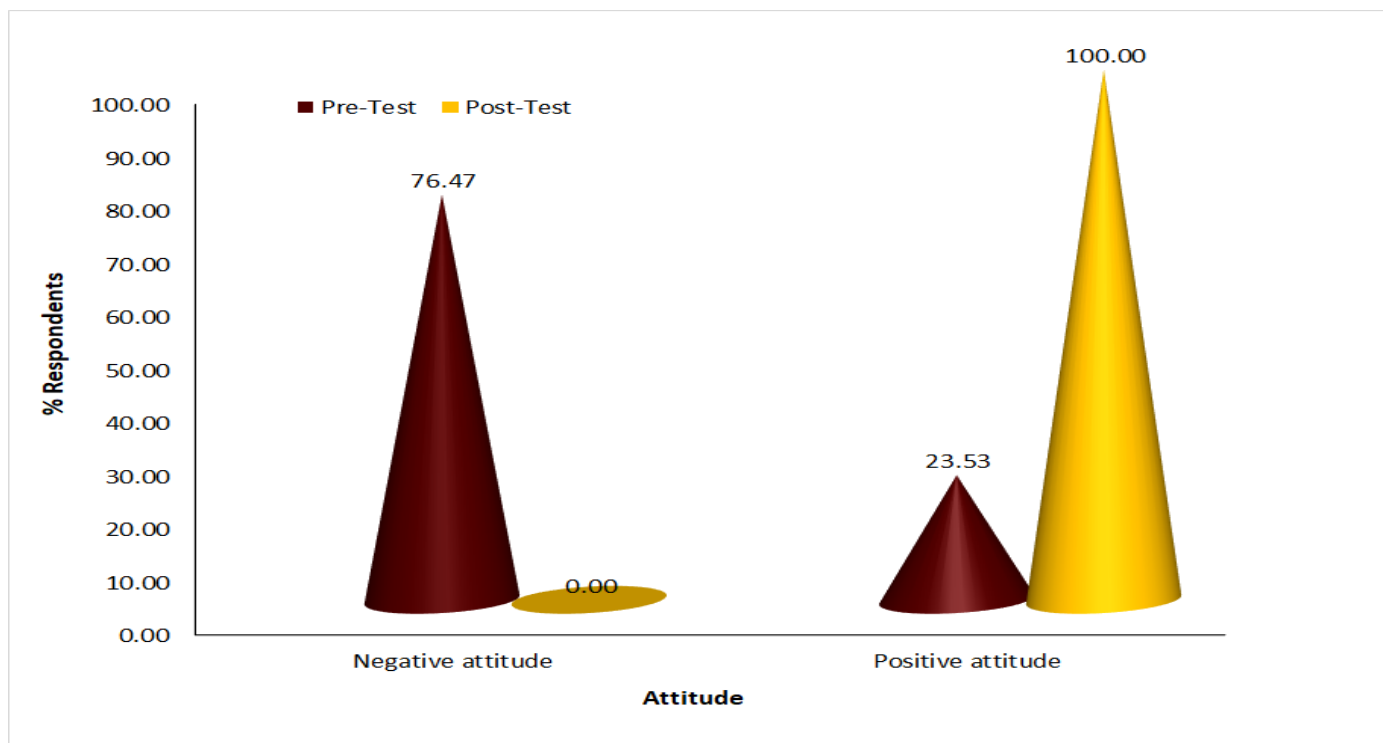


Figure 2: Interpretation of Level of Attitude Scores (n=51)

Figure 2 shows that 76.47% of the respondents in pre-test whereas none of the respondents in post-test had negative attitude. 23.53% of the respondents in pre-test whereas 100.00% of the respondents in post-test had positive attitude.

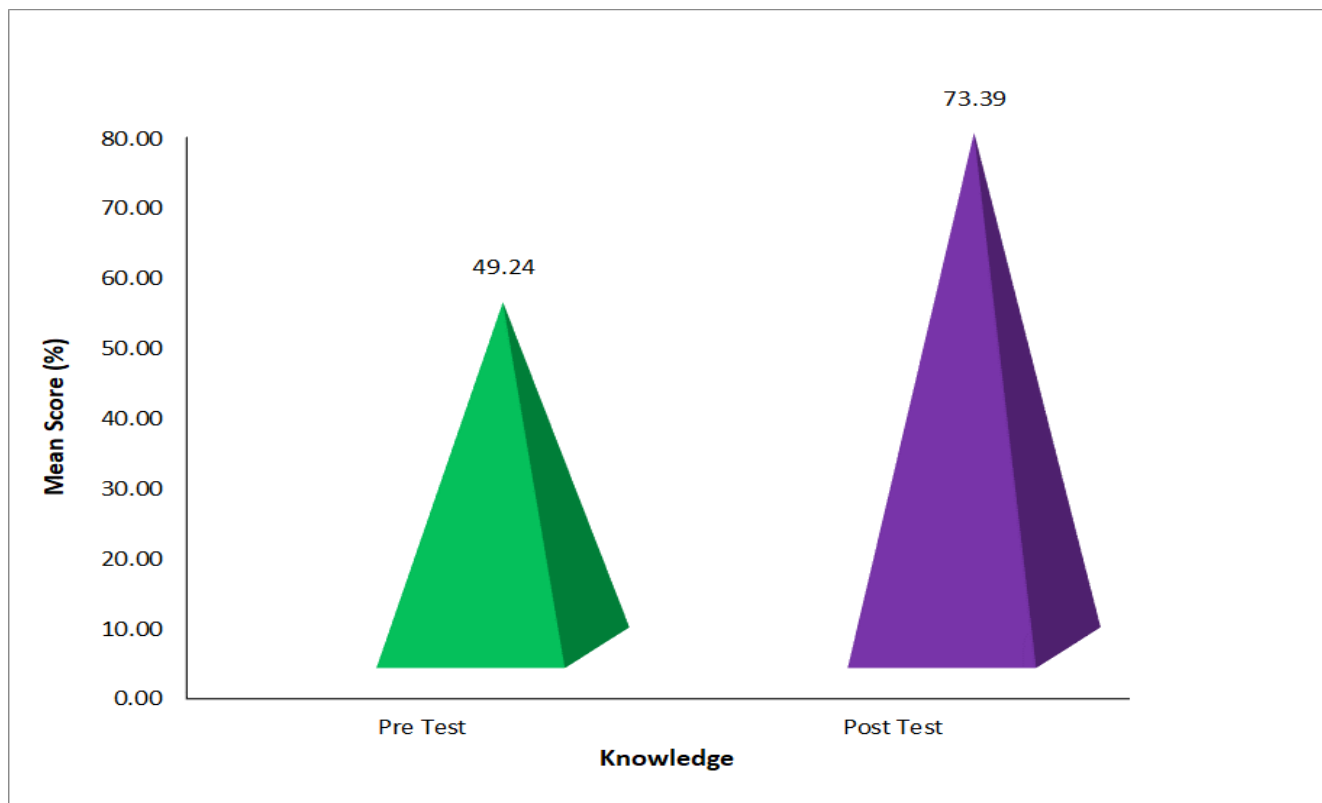


Figure 3: Effectiveness of an awareness program on knowledge Scores

Figure 3 shows that the mean percentage of pretest knowledge score was 49.24 whereas the mean percentage of posttest knowledge score was 73.39. The calculated T test value was 25.57 at df 50 at 0.001 level of significance which depicts that the awareness program was effective in enhancing the knowledge of married men regarding NSV.

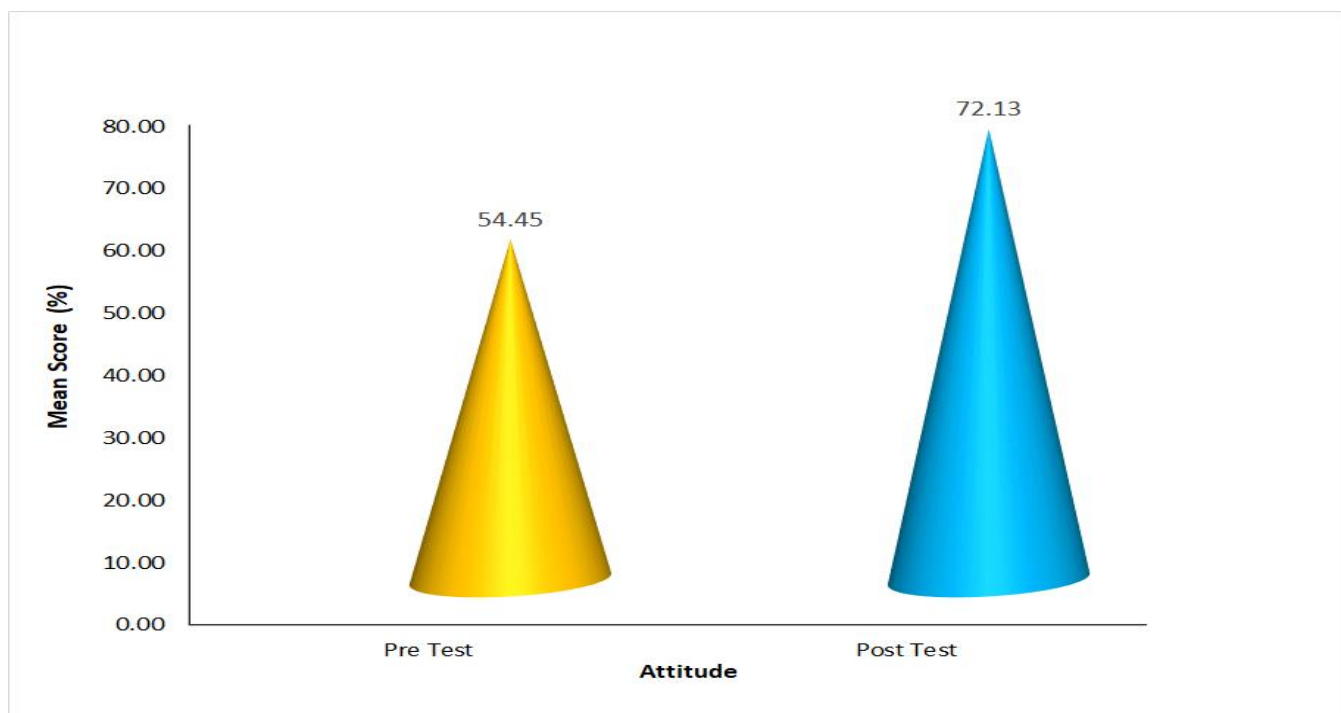


Figure 4: Effectiveness of an awareness program on Attitude Scores

Figure 4 shows that the mean percentage of pretest attitude score was 54.45 whereas the mean percentage of posttest attitude score was 72.13. The calculated T test value was 19.51 at df 50 at 0.001 level of significance which depicts that the awareness program was effective in enhancing the attitude of married men regarding NSV.

Overall analysis revealed that awareness program was effective in enhancing the knowledge and attitude. Hence research hypothesis H₁ stated that there is a significant difference between mean pretest and posttest knowledge and attitude scores regarding non-scalpel vasectomy was accepted in this study.

Table 6: Association Between Pre-Test Knowledge with Selected Socio Demographic Variables

n=51

Age in Years	N	Mean	SD	F	df	Result
Below 25	1	50.00	-	2.75	3,47	NS
25-34	17	50.00	11.44			
35 - 44	30	50.95	10.51			
45 and above	3	27.62	5.95			
Educational Qualification	N	Mean	SD	F	df	Result
Illiterate	7	30.61	5.88	157.37	4, 46	S
Primary	9	37.46	1.72			
Secondary	9	49.21	4.69			
Senior Secondary	11	58.7	2.96			
Graduate and above	15	58.1	6.89			
Occupation	N	Mean	SD	F	df	Result
Unemployed	0	0	0	0.06	4, 46	NS
Private job	5	52	16.09			
Government job	3	45.71	4.95			
Labour	14	46.33	13.87			
Others	29	50.54	10.64			
Monthly Income	N	Mean	SD	F	df	Result
20,000 or below	21	49.66	12.73	0.11	3, 47	NS
21,000 - 35,000	26	49.23	11.83			
36,000 - 50,000	4	47.14	8.88			
51,000 and above	0	0	0			
Religion	N	Mean	SD	F	df	Result
Hindu	51	51.49	11.8	-	-	-
Muslim	0	0	0			
Christian	0	0	0			
others	0	0	0			
Type of Family	N	Mean	SD	t	df	Result
Nuclear	34	50.50	11.70	1.08	49	NS
Joint	17	46.72	12.04			
Duration of Marriage	N	Mean	SD	F	df	Result
Less than 5 years	1	50.00	-	3.83	3, 47	NS
5-14 years	17	50.76	11.32			
15 – 24 years	30	50.51	10.62			
25 years or above	3	27.62	5.95			
Number of Children	N	Mean	SD	F	df	Result
One	1	52.00	-	0.79	2,48	NS
Two	8	52.06	13.23			
More than two	42	48.64	11.59			
Previous Knowledge Regarding NSV	N	Mean	SD	t	df	Result
Yes	25	54.29	9.90	3.26	49	S

No	26	44.40	11.66			
Source of Information	N	Mean	SD	F	df	Result
Electronic media	4	60.00	7.00	0.20	4, 20	NS
Print media	6	51.43	11.99			
Health worker	9	52.70	9.38			
Family members	4	57.86	5.89			
Others	2	51.42	20.20			

NS - Not significant

S – Significant

*P is significant at <0.05 level

Table 6 revealed that there was no significant association of pretest knowledge with socio demographic variables like age, occupation, monthly income, type of family, duration of marriage, number of children and source of information whereas association of pretest knowledge with socio demographic variables like religion could not be calculated while significant association was found between pretest knowledge with socio demographic variables like educational qualification and previous knowledge regarding NSV.

Table 7: Association Between Pre-Test Attitude with Selected Socio Demographic Variables

n=51

Age in Years	N	Mean	SD	F	df	Result
Below 25	1	55.00	-	1.67	3,47	NS
25-34	17	55.06	5.95			
35 - 44	30	54.76	5.90			
45 and above	3	47.62	5.16			
Educational Qualification	N	Mean	SD	F	df	Result
Illiterate	7	48.21	6.01	11.87	4,46	S
Primary	9	52.38	5.21			
Secondary	9	54.96	5.34			
Senior Secondary	11	57.31	5.14			
Graduate and above	15	56.19	5.60			
Occupation	N	Mean	SD	F	df	Result
Unemployed	0	0	0	0.53	4,46	NS
Private job	5	55.71	7.41			
Government job	3	58.33	4.49			
Labour	14	53.57	7.28			
Others	29	54.25	5.34			
Monthly Income	N	Mean	SD	F	df	Result
20,000 or below	21	54.51	5.46	0.34	3,47	NS
21,000 - 35,000	26	54.94	6.25			
36,000 - 50,000	4	50.89	7.78			
51,000 and above	0	0	0			
Religion	N	Mean	SD	F	df	Result
Hindu	51	54.40	6.02	-	-	-
Muslim	0	0	0			
Christian	0	0	0			
others	0	0	0			
Type of Family	N	Mean	SD	t	df	Result
Nuclear	34	55.04	5.87	1.00	49	NS

Joint	17	53.26	6.32			
Duration of Marriage	N	Mean	SD	F	df	Result
Less than 5 years	1	55.00	-	2.04	3,47	NS
5-14 years	17	55.25	6.07			
15 – 24 years	30	54.67	5.83			
25 years or above	3	47.62	5.16			
Number of Children	N	Mean	SD	F	df	Result
One	1	56.00	-	0.99	2,48	NS
Two	8	56.47	6.61			
More than two	42	54.17	5.95			
Previous Knowledge Regarding NSV	N	Mean	SD	t	df	Result
Yes	25	55.29	5.34	0.98	49	NS
No	26	53.64	6.61			
Source of Information	N	Mean	SD	F	df	Result
Electronic media	4	56.25	4.25	2.11	4,20	NS
Print media	6	55.66	3.46			
Health worker	9	56.75	6.61			
Family members	4	54.02	5.33			
Others	2	48.22	2.52			

NS - Not significant

S – Significant

*P is significant at <0.05 level

Table 7 revealed that there was no significant association of pretest attitude with socio demographic variables like age, occupation, monthly income, type of family, duration of marriage, number of children, previous knowledge regarding NSV and source of information whereas association of pretest attitude with socio demographic variables like religion could not be calculated while significant association was found between pretest attitude with socio demographic variables like educational qualification.

Overall analysis revealed that research hypothesis H₂ stated that there is a significant association between pretest knowledge and attitude regarding non-scalpel vasectomy with selected socio-demographic variables was accepted only with some variable and rejected with some variable. So, H₂ was partially accepted in this study.

Table 8: Correlation Between Knowledge and Attitude

r	t	df	Result
0.454	3.569	49	***

*** - Significant at 0.1% (p<0.001)

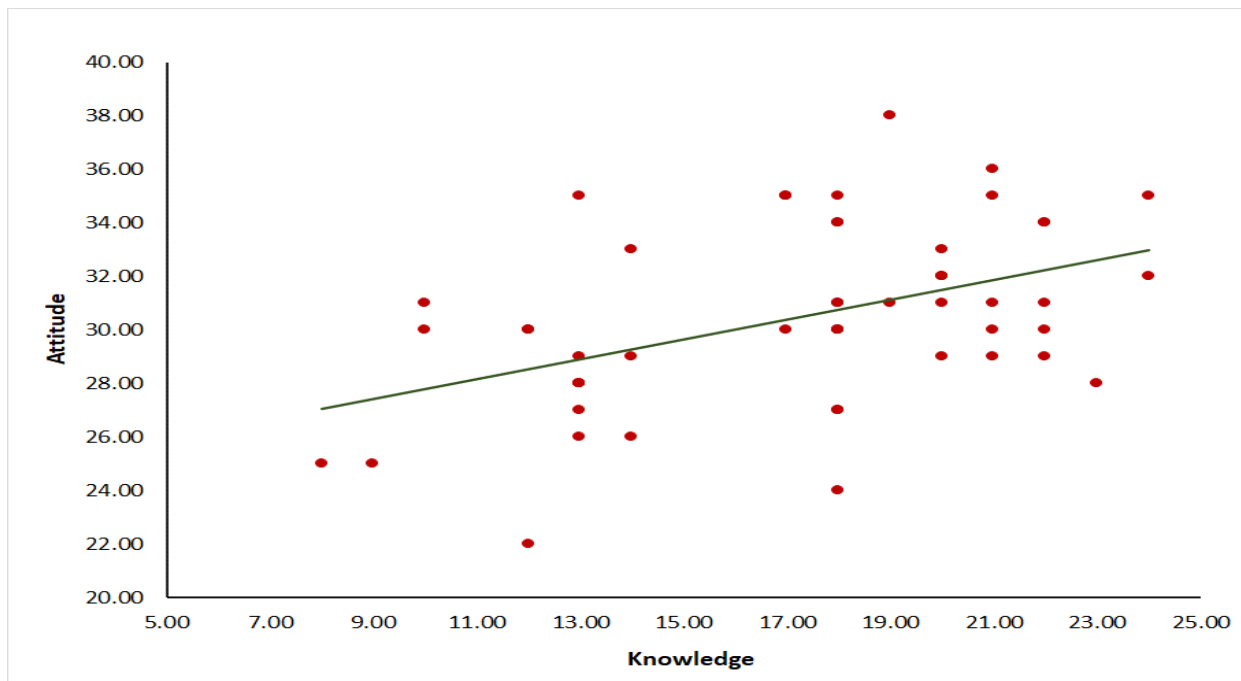


Figure 5: Correlation Between Knowledge and Attitude

Table 8 and Figure 5 revealed that calculated value of “r” was 0.454 and result was found significant at 0.001 level of significance which indicated that there was positive correlation between knowledge and attitude. It indicated that as knowledge increase attitude also change. Hence, research hypothesis H₃ stated that there is a significant relationship between knowledge and attitude regarding non-scalpel vasectomy was accepted in this study.

CONCLUSION

The knowledge and attitude of married men regarding non-scalpel vasectomy was moderate and inadequate. Married men’s knowledge and attitude regarding non-scalpel vasectomy significantly changed after the awareness program which emphasizes need of good educative programs to this potential group. Hence these kind of strategies should be conducted timely for removing misconceptions, promotion and adaptation of non-scalpel vasectomy among married men and enable men’s participation in control of population and in course help in attaining long term objectives of sustainable economic growth, social development and environment protection.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

RECOMMENDATIONS

On the basis of analysis and interpretation of data, the following recommendations were made:

- Similar study can be replicated on a larger sample.
- True experimental studies or more in-depth studies can be conducted on this topic.
- Video assisted teaching can also be developed on non-scalpel vasectomy to enhance knowledge and attitude.
- Similar studies can be conducted on different population like couples.

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