Journal of Asian Midwives (JAM)

Volume 3 | Issue 2 Article 6

12-2016

Effectiveness of video-assisted teaching on no-scalpel vasectomy on knowledge and attitude of married men in rural Nagaland, India

Arhoni Tungoe
Christian Institute of Health Sciences and Research, India, tungoearhoni123@gmail.com

Recommended Citation

Tungoe, A. Effectiveness of video-assisted teaching on no-scalpel vasectomy on knowledge and attitude of married men in rural Nagaland, India. Journal of Asian Midwives. 2016;3(2):55–68.

Effectiveness of Video-Assisted Teaching on No-Scalpel Vasectomy on Knowledge and Attitude of Married Men in Rural Nagaland, India.

[1]Arhoni Tungoe

1. M.Sc Tutor, CON, Christian Institute of Health Sciences and Research, Dimapur, Nagaland, **Email:** tungoearhoni123@gmail.com

Abstract

This study assessed whether video-assisted teaching increased the knowledge of,and resulted in a more favourable attitude among married men regarding No-Scalpel Vasectomy (NSV) in a selected village of 17,000 people,bordering Assam, in Nagaland, India. The study used a one group,before-and-after design. The participants were 30 married men who were selected through purposive sampling. Pre-tested and validated tools to assess knowledge and attitudes were used for data collection. The mean post-test scores, on both the knowledge and attitude scales,showed a significant increase from pretest scores (knowledge pre-test mean 11.53±3.41; post-test 21.23±2.18;attitude pre-test mean 20.87±2.64, post-test35.2±1.66).Thus we conclude that the video-assisted teaching programme was effective in increasing both knowledge and positive attitudes.

The study has implications for nursing education and practice. It could assist in developing positive attitudes, skills, and knowledge to better educate the community about NSV as a method of family planning. The study, however, has limited generalizability because of the small sample drawn from one community. Different interventions such as a Structured Teaching Programme and an information booklet could be compared with video-assisted teaching to determine the best ways for creating greater awareness about No-Scalpel Vasectomy.

Key words: *Steralisation, Video Assisted Teaching, Family Planning, Knowledge, Attitude*

Introduction

Every year, India adds more people than any other nation in the world.[1]A National Family Planning Programme was launched in India in 1952 and it became the first country in the world to have a population policy with the objective of controlling population growth. Successive plans added financial support for the family planning programme to make it available to each couple. Still, acceptance of a permanent family planning method is very poor in India, and most of the users are females as a resultthe health status of females is poor

as compared to males. The majority of the women are anaemic, which is often linked to complications during pregnancy and childbirth. Hence, one thought is that the involvement of men in family planning will reduce female sterilisation and the complications related to tubectomy; thereby, the health of women can be improved.[2]

Since 1985, the No-Scalpel Vasectomy (NSV) technique has been widely used outside China. NSV involves a trained health worker holding the vas deferens in place underneath the skin of the scrotum, with a small clamp, under local anaesthesia.Through a small hole in the skin of the scrotum the health worker accesses the vas deferens, without using a scalpel, to tie or seal the tubes. This technique has helped in increasing the acceptability of male sterilization in many parts of the world.[3] More than 5,000 physicians in twenty-five developing countries have been trained in NSV. There are several advantages to NSV, including no need for incisions or stitches;it is a faster procedure with faster recovery; and there is less chance of bleeding, less discomfort and high efficacy.[3]

Significance of the Study

The Indian government launched a national NSV project in 1998, in collaboration with the United Nations Population Fund (UNFPA), to promote male participation in contraception.The effectiveness rate of NSV has been reported to be 98%, 24 months post-operatively.[4] Based on available evidence, it is regarded as the safest surgical approach for isolating and exposing the vas deferens for vasectomy.[4]

A district-level household survey was carried out to assess the knowledge of NSV among the husbands of currently married women in the state of Nagaland.Overall, 12% of the husbands knew about NSV, but in the rural areas only 8% of the husbands knew about NSV, as compared to 25% in the urban areas. Among the husbands who knew about NSV, 43% reported that NSV is simpler than a conventional family planning method, 27% felt that NSV did not lead to complications, and 38% reported that NSV did not affect a man's sexual performance.[5]The investigator thought married men should be taught about the NSV procedure and its advantages.

Aim: To assess whether video-assisted teaching would improve the knowledge and attitudes towards no-scalpel vasectomy among married men,who had not undergone permanent sterilization,in a selected rural community..

Objectives of the study

1. To develop and validate video assisted teaching regarding no-scalpel vasectomy.
2. To assess the knowledge of married men on no-scalpel vasectomy in a rural community, before and after the administration of video assisted teaching.
3. To assess the attitude of married men regarding no-scalpel vasectomy in a rural community, before and after administration of video assisted teaching.
4. To assess the effectiveness of video assisted teaching on no-scalpel vasectomy in terms of change in knowledge and attitude of married men.
5. To determine the correlation between knowledge and attitude regarding no-scalpel vasectomy after video-assisted teaching.
6. To determine the association between pre-test knowledge scores regarding no- scalpel vasectomy with the selected demographic variables.

Methodology

The research design used wasa before-and –after design or a one group pre-test, post-test design.[6] The pilot study was conducted in Dimapur district, Nagaland. The final study was conducted in a village with a population of 17,000,bordering Assam, in Nagaland. The rationale for the selection was: (a) availability of the study sample; (b) feasibility of conducting the study; (c) expectation of getting administrative permission from the higher authority; and (d) getting co-operation from the field staff.

The sample for the final study consisted of 30 married men.The pilot study showed that we might experience loss to follow-up so 40 were asked to participate, but only 30 volunteered. The sampling technique was non-probability purposive sampling.[6]

A structured questionnaire was used in an interview to obtain the demographic and knowledge data. The instrument for measuring attitude regarding no scalpel vasectomy used a three-point Likert scale.[6]

Ethical Considerations

- Administrative Permission was sought from the Principal, College of Nursing, Ethical Committee, Directoriate of Medical Education, Director of Health Services, Chief Medical Officer of Health, and Deputy Director of Health Services Nursing
- Permission was obtained from the community village head council, the doctor in-charge, and the AuxiliaryNurseMidwife of the village.

- Written informed consent was obtained from individual participants.

Knowledge Questionnaire

Items analysis was done to determine the difficulty index and the discriminating index. There were 24 questions in all; 16 were "good" questions and 8 were modifiable on the difficulty index. On the discriminating index, six items were "marginal" and weremodified while 18 items were goodorexcellent.

Reliability was tested on a pre-study sample of 20 married men in Nagaland House, Shakespeare Sarani, Kolkata. In order to ascertain the reliability of knowledge questions, the split half technique, Pearson Product moment, and Spearman Brown Prophecy formulas for internal consistency were used.[7] The resulting r of 0.77 was considered sufficient to establish reliability.

Example of items from the knowledge questionnaire

1. The following are a permanent method of family planning except?
    a. No-scalpel vasectomy
    b. Copper-T
    c. Tubectomy
    d. Vasectomy
2. What is conventional vasectomy?
    a. A cut method of male sterilisation
    b. A no cut method of male sterilisation.
    c. It is a permanent method of female sterilisation.
    d. A temporary method of family planning.

3. What can be prevented by no scalpel vasectomy?
    a. Sexual urge
    b. Urinary tract infection
    c. HIV
    d. Pregnancy

The content validity of the tool was obtained by giving it,along with the blueprint and criteria checklist,to seven experts in the fields of Community Health and Obstetrics and Gynaecological Nursing.Experts were chosen on the basis of their clinical expertise, experience, and interest in the topic area and were requested to verify the items for relevance,

accuracy, and appropriateness.Of the 17 total items, nine had 100% agreement, six items had 86% agreement, and two items had 71% agreement. Eight items were modified and three were omitted.

To check the reliability of the attitude scale, the Cronbach Alpha formula was used.[7]The value of r was 0.72, so the tool was determined to be reliable. A three-point Likert scale was used for assessing the attitude of married men. Table 1 shows selected items from the tool.

Table 1: Sample items from the study tool

	Statements	Strongly agree	Partly Agree	Disagree
1	Family planning is a matter of concern for both partners			
2	NSV is a good and safe method of permanent sterilisation for men			
3	There are many good methods of sterilisation for men other than NSV			
4	NSV is a small operation and an easily adoptable method for men			

Video-Assisted Teaching

The content of the video to be used for teaching was prepared; it covered all topic areas, while keeping in mind the simplicity and clarity of language, and simple and appropriate illustrations. The lesson plan about NSV was also given to the experts for its validation and the suggestions given were incorporated.Video assisted teaching was used during the pilot study and the participants stated that it was very well understood.

Pilot study

The pilot study was conducted on 10 married men from a rural community to assess the feasibility of the planned larger study.[6]The tools that had been assessed for validity and reliability were used in the pilot phase. A structured interview schedule was used to obtain the demographic information, responses to the knowledge questions,and ratings on a three-point Likert scale to assess the attitudes of married men regarding NSV.The interviews and video assisted teaching were carried out by going from house to house.Seven days later, the post test was conducted for assessing the knowledge and attitude regarding NSV, using the same tools.The pilot study showed that there was a high loss to follow-up so the sample size was increased for the bigger study. The investigator learned that married men were more often at

home early in the morning and in the evening rather than during the day. Statistical significance for increasein knowledge and attitude scores was set at p ≤0.05.

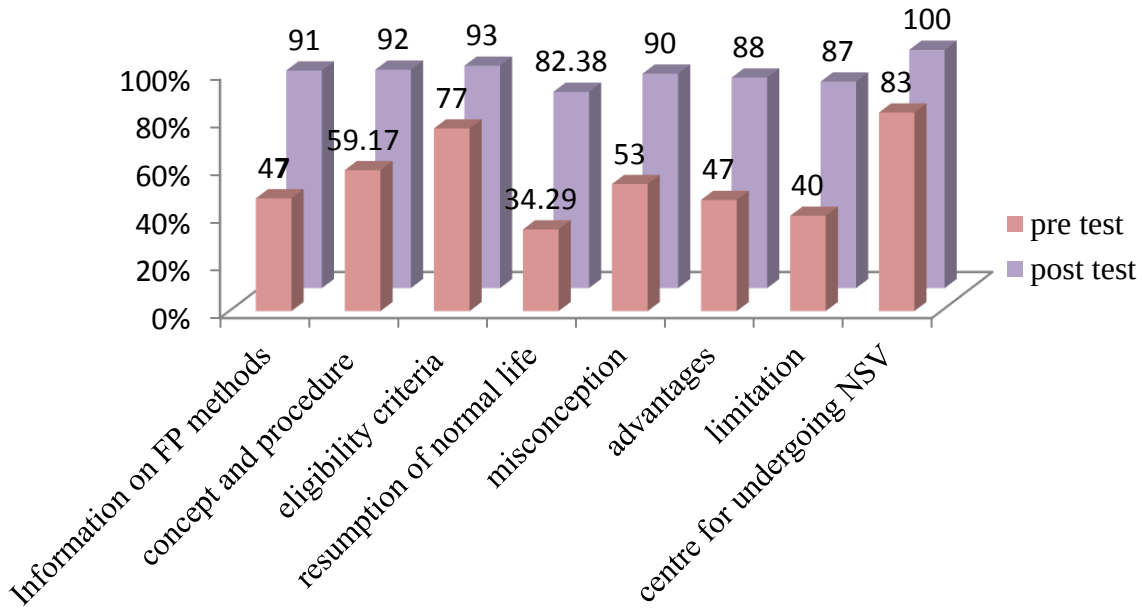
Results

The data presented in Table 2 shows that, two-thirds of the men were 31-45 years old. Most had children who were more than 1 year old. More than half were Hindus, had been married for more than 10 years, and had relatively little education. Nearly half the men were farmers and had a low income.

Table 2: Demographic characteristics of the study sample (n=30)

Sample characteristics	Frequency (%)
Age in years	
• ≤ 30	10 (33)
• 31-45	20 (67)
Age of the last child	
• Less than1 year	5 (17)
• 1 year or more	25 (83)
Religion	
• Christian	5 (17)
• Hindu	25 (83)
Duration of married life	
• 3-6 yrs	9 (30)
• 7-10yrs	7 (23)
• >10 yrs	14 (47)
Educational status	
• Illiterate	15 (50)
• Class ≤4	4 (13)
• Class 5-10	6 (20)
• Above class 10	5 (17)
Type of occupation	
• Government employee	6 (20)
• Daily wage labourer	5 (13)
• Private employee	4 (16)
• Farmer	14 (47)
• Business	1 (3.3)
Income/month (Indian Rupees)	
• Rs 2578-5155	1 (3)
• Rs 1547-2577	8 (27)
• Rs 733-1546	11 (37)
• Rs< 733	10 (33)

Figure 1: Comparison of pre & post-test knowledge scores regarding no-scalpel vasectomy (n=30)



The bar chart (Figure 1) shows an increase in the knowledge scores, in all areas of video-assisted teaching regarding NSV, as compared to the pre-test scores. The post-test highest score of 100%was for the item 'knowing the location where NSV is done' whereas the lowest score (82.4%) was 'knowing when normal activities can be resumed'. On the pre-test, these same areas of knowledge were also the highest and lowest scoring, but both showed considerable improvement from the pre–test to the post-test levels.

Table 3: Effectiveness of video-assisted teaching on the pre-test and post-test knowledge scores of the participants (n=30)

Knowledge scores	Mean	Mean difference	Standard deviation	SE_{MD}	't' value
Pre- test	11.53	9.73	3.41	0.51	19.02
Post-test	21.23		2.18		

't' (29)=2.04, p<0.05.

Table 3 shows that the mean post-test knowledge score (21.23%) of married men wassignificantly increased as compared tothe mean pre-test score(11.53%) after using the video assisted teaching on NSV.

Figure 2: Pre & post-test attitude score of NSV (n=30)

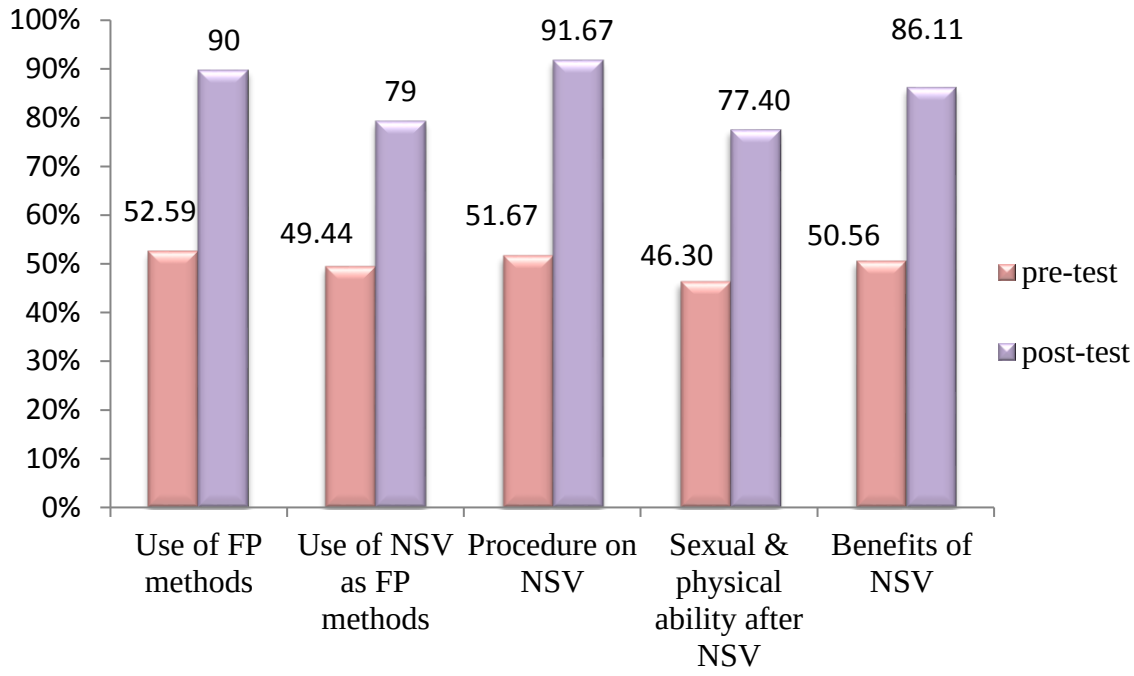


Figure 2 shows that positive attitudes increased in all topic areas. The highest post-test mean attitude score (91.67%) was about the NSV procedure whereas the lowest post-test mean score (77.40%) was about sexual and physical ability after NSV. This topic had the lowest pre-test score (46.30) and did show an important increase, but it remained lower than the other topic areas. The other topic area that' showed less increase in the positive attitude was about use of NSV as a family planning method (49.44 pre-test, compared to 79post-test).

Table 4: Effectiveness of video-assisted teaching on the pre-test and post-test attitude scores of the participants (n=30)

Attitude	Mean	Mean difference	Standard deviation	SE_{MD}	't'
Pre-test	20.87	14.33	2.64	0.53	27.04
Post-test	35.2		1.66		

t(29)=2.04. p<0.05,

The data presented in Table 4 indicate that the mean post-test attitude score (35.2%) of married men hadsignificantly increased from the mean pre-test score (20.87%), after the implementation of video assisted teaching regarding NSV.

There was a weak but non-statistically significant positive correlation between the post-test knowledge and attitude scores of the participants (r=0.262; p=0.16).The positive correlation suggests that an increase in knowledge contributes to a more positive attitude among the married men regarding no-scalpel vasectomy, but the low coefficient indicates that there is a need for considering influences on attitude beyond knowledge alone**.**

Table 5: Association between demographics by pre-test knowledge scores (n=30)

Knowledge scores	**Below median**	**at & above median**	**Chi square**
1. Education			
Literate	4	11	
Illiterate	10	05	6.56
2. Per capita Income			
≥ Rs 773	7	13	4.84
<Rs 773	7	03	
3. Occupation			
Employed	1	11	
Un-employed	13	05	14.52

$\chi^2_{(1)}$=3.841, p<0.05 (Yate's correction done)

The data presented in Table 5 show a statistically significant association between the educational level,socio economic status, and occupation with pre-test knowledge scores of the participants at p<0.05.

Discussion

Findings from this study reveal that video-assisted teaching is an effective method of teaching to increase the overall knowledge and positive attitudes of married men in a selected rural community. There was an increase in the scores of all the NSV topic areas on the knowledge and attitude scales.This shows that educational programmes are very important for enhancing men's knowledge and attitudes towards NSV. Moreover, involving community leaders, providing individual teaching, using views of satisfied clients, and utilizing the television and radio could also be very effective in motivating men to adopt this family planning method. The most important finding by the investigator was that through this video

assisted teaching a lot of misconceptions regarding NSV were removed,which led to an increased positive attitudes of men.

Our findings are supported by Jaen[8], who conducted a comparative study to assess the effectiveness of a structured teaching programme and interaction with 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.

The present study is also consistent with the study of Kumar[9], who assessed the effectiveness of an individual teaching programme 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 programme. 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.

The present study is also supportedbythe study of Ghosh[10], who assessed the effectiveness of an innovative video film on the knowledge of no-scalpel vasectomy among 30 male partners of eligible couples in west Bengal. There was a gain in the knowledge of NSV, which showed that the video was effective. Most of the studies on family planning have focused mainly on women. However, this study threw light on the male perspective of family planning. After the study, the subjects were well aware of various family planning services and their attitude towards family planning was favourable, but the number of men practicing family planning may not be highand they may not select sterilization as a contraceptive method.

The findings of the present study are consistent with the study of D'Saouza[11], who conducted a descriptive study to assess the knowledge and attitude regarding vasectomy of 20 men in a selected area in Puducherry. The study revealed that only 30% of the men had knowledge of NSV and their attitudes toward NSV were almost all negative, which is similar to the present study before the education intervention. Education and counselling are highly recommended for men to help improve their knowledge and attitude towards NSV.

The findings of the present study contradict Kumar and colleagues[12], who studied the apathy of men towards NSV. Most of the respondents (97.4%) knew that NSV was a method for permanent male sterilization, the majority (97.2%) knew that NSV was done free of charge and that a cash incentive was given to the NSV client after the procedure. In the present study, the subjects had less knowledge about NSV before the intervention. The attitudes of the men in the Kumar et al. study[12] were consistent with the pre-test attitude score of the present study (49.44%) so it appears that there is a need to design and develop a needs-based information, education, and communication (IEC) strategy to bridge the existing information gap among the eligible men regarding NSV, to improve its adoption.

Our study is consistent with the study of Choudhary[13] who carried out a study to assess the knowledge, attitude, and practice regarding vasectomy among males. The study showed that knowledge scores (44.6%) and attitude scores (35%) were low, which is consistent with the present study before the education intervention on NSV.

Our study draws the following conclusions: both knowledge and attitudes among married men regarding NSV are very poor and are accompanied by a lot of misconceptions. Their knowledge and attitude can be increased and changed by creating mass awareness in the media and by educating them through various programmes and teaching methods. We showed that video assisted teaching is a useful method of educating men to increase their knowledge and to generate favourable attitudes regarding no scalpel vasectomy.Following the intervention, there was a significant increase in their knowledge and attitudes scores.We conclude that the video-assisted teaching was effective inaccomplishing the expected changes in knowledge and attitudes.

Limitations

As the study was conducted in a selected rural community of Dhansiripar village, Dimapur district,in which the sample was non-randomly selected and it was small, thereby limiting the study's generalizability. Moreover, the effectiveness was determined through a single post-test which was conducted on the 7th day after exposure to the video assisted teaching. If it were conducted later it would have given added information regarding retention of knowledge and change of attitude. Most importantly, the study could not address whether a change in knowledge and attitude led to change in behaviour.

Nursing Implications

NSV is included in the nursing curriculum, but more emphasis should be given so that nursing students can gain more knowledge and have a positive attitude about NSV in order to organize various teaching programme sabout the benefits of small families. The module for NSV may be developed in the existing health care system. Moreover, in-service training regarding NSV can assist nursing personnel to work with married men of eligible couples in urban as well as in rural communities. The nurse administrators can develop public awareness programmes regarding NSV. Additionally, distribution ofleaflets on NSV could be initiated. All these activities can help nurses increase their knowledge and have a positive attitude towards NSV and also encourage and motivate them to give more importance to teaching couples about family planning.More emphasis on the use of video-assisted teaching regarding NSV can help the work of nurses.

There is a need for extensive and intensive research in the area of NSV to develop better methods of teaching, better practices and effective teaching materials. Evidenced based practice should be emphasized to the nurses and they should also been courage to review and study the literature on NSV which will make them aware about the benefits and the continuing changes.

Recommendations

- The study should be replicated on a larger sample.
- The study can be replicated in different rural settings.
- Testing the effectiveness of including real life experiences of married men who have already undergone NSV in the video.
- A comparative study should be conducted between rural and urban communities.
- A similar study should be designed using other teaching techniques like a structured teaching programme and self- instructional information booklet.
- A study should be conducted to assess the knowledge and attitude about NSV among female partners.

Acknowledgement

The project has been undertaken and completed successfully under the inspiration and valuable guidance of Prof. Smritikana Mani, Principal, ‘College of Nursing’, ‘Medical College & Hospital’, Kolkata.The investigator would like to convey her deep sense of gratitude to her for her expert guidance, suggestion and support throughout the

entire period of the study. Without her motivation and help, it would have been difficult to complete the research study.We also thank the reviewer of JAM [1][Dr. Karyn Kaufman] for making constructive contributions towards this research manuscript.

Conflict of Interest

None declared by the authors.

References

1. India Population 2013, World Population Statistics. Available at www.worldpopulationstatistics.com/india-population-2013/. Accessed on March, 2014.

2. Dutta DC. Text Book of Obstetrics. 6thed. New central book agency private limited, Calcutta. 2009; 532.

3. Xu B, Huang WD. No-scalpel vasectomy outside China.Available at http://www.ncbi.nlm.nih.gov/pubmed/11228932. Accessed on May 12, 2013.

4. Xiaozhang L. Scalpel versus no-scalpel incision for vasectomy. Available at http://apps.who.int/rhl/fertility/contraception/lxhcom/en/.Accessed May, 2013.
5. Reproductive and Child Health 2002-2004. Available at www.rchiips.org/pdf/state/Nagaland.pdf. Accessed on May, 2013.
6. Polit DF, Beck CT. Nursing Research- Appraising Evidence for Nursing Practice. 7thed. New Delhi: Wolters Kluwer (India) Pvt. Ltd. 2009.
7. Garrete HE. Statistics in Psychology and Education.14th ed. Delhi; Paragon International Publishers. 2011.

8. Jaeny, B. (2014). A comparative study to assess the effectiveness of structured Teaching programme and interaction with support group On knowledge and attitude towards male sterilization For a small family norm and promotion of No Scalpel Vasectomy (NSV) among men in selected communities in coimbatore district tamilnaduindia. Shodhganga: a reservoir of Indian theses. Available at http://hdl.handle.net/10603/69223. Accessed on Nov, 2016.

[1] The name of the reviewer has been added by the journal

9. Kumar R. (2007). Effectiveness of individual teaching programme on vasectomy to married men in a selected rural community at Mangalore. *Nitte Nursing Journal*;32-43.

10. Ghosh P. Effectiveness of an innovative IEC on knowledge on NSV, West Bengal. 2008.
11. D'Saouza S.R.B. (2009). Study to assess the knowledge regarding vasectomy and attitude among males (Unpublished thesis). Puducherry, Manipal.

12. Kumar PG, Kumar B, ChoudharyD, Chaurasia A, Pandey SD. (2013) Non scalpel Vasectomy as Family Planning Method: A Battle Yet to Be Conquered. *ISRN Urology* Article ID 752174:4. Available from: http://dx.doi.org/10.1155/2013/752174. Accessed May 2013.
13. Choudhary H. (2013) A Study to assess the Knowledge, Attitude and Practice Regarding Vasectomy among MalesWorking in Nandini Milk Dairy at Kolar.*International Journal of Nursing Sciences and Practice*1(10):1-4. Available at http://www.ripublication.com/ijnsp.htm.Accessed June, 2013.