

Socio-demographic Profile and Outcome of Vasectomy at a Tertiary Hospital of Karnali Province

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ABSTRACT



Background: The one and only permanent sterilization technique for men is vasectomy. It is a simple, safe and very effective procedure. However, it is perceived wrongly especially in the rural settings, ruled by social stigma and false belief. It is perceived as to falsely decrease the performance which often affects the satisfaction and the completeness of the procedure. This study aims to determine the socio-demographic profile of the vasectomy, the completeness of the procedure and its related outcomes at Tertiary hospital of Karnali Province.

Methods: It is a hospital-based cross sectional study among the patients who underwent vasectomy at Karnali Academy of Health Sciences during the period of July 2019 to June 2020 AD. The data were retrieved from the register. The patients were then interviewed via telephone and the variables were recorded and analyzed using SPSS version 16.

Results: Out of the total 67 cases, majority were Chhetri (59.7%) from Jumla and farmer (58.2%) by occupation. About 45% were educated till secondary level while 9% were illiterate. The mean age of male undergone vasectomy was 30 years. Ibuprofen prescribed after the procedure was adequate for analgesia in 85.1% of the people and 98.5% of people were satisfied with the procedure. There were no complications in two third (67.16%), however 13.43% had chronic scrotal pain, 11.94% had acute scrotal hematoma, 4.48% had epididymitis and 2.99% had infection of the scrotum. There was no issue with sexual frequency in 83.58% and 59.7% of the clients had not completed semen analysis.

Conclusion: The post procedural issues after vasectomy were affirmative which showed low complications and procedural satisfactions. However the compliance with completion of semen analysis was not promising. The study can guide path for the further studies.

Keywords: complication, contraception, Karnali province, semen analysis, vasectomy

Access this article Online	Article Info.
Quick Response (QR) Code	How to cite this article in Vancouver Style?
	Devkota H, Menyangbo S, Neupane M, Samal AM, Sanjel S. Socio-demographic Profile and Outcome of Vasectomy at a Tertiary Hospital of Karnali Province. Journal of Karnali Academy of Health Sciences. 2020; 3(3)
	Received: 9 September 2020 Accepted: 19 November 2020 Published Online: 26 November 2020
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INTRODUCTION

Since the world population is increasing day by day and the use of contraception is not satisfactory in the developing countries, many countries have now incorporated birth control strategy and family planning in their policy and in addition involve men in family planning issues.¹ Similarly World Health Organization Sustainable Development Goals has highlighted Family planning as a very important element to gain universal access and rights to sexual and reproductive healthcare services. In order to involve male in family planning is to provide option of male oriented contraception and vasectomy is one of such kind.^{1, 2}

Vasectomy, a procedure where the vas deferens are transected, ligated, and separated in fascial planes is the one and only form of permanent sterilization in male.³ It is a primary form of contraception used by couple throughout the world as it is simple, safe, less time consuming and reliable method of ensuring sterility.⁴ In addition to being a safe and common procedure, efficacy rates for vasectomy have been proven to be high, with quoted early. The failure rate of the vasectomy is quite low to promising result showing with early failure rates of 0.3% to 9% and late failure rates of 0.04% to 0.08%.^{5, 6} To address the barriers of family planning use, we need to educate and involve men to support shared decision making better in family matters, especially where there is gender inequalities and decision is predominantly made by men.⁷ There are many methods of family planning like abstinence, coitus interruptus, condoms, spermicidal agents, cervical cup, diaphragm, intrauterine device, oral contraceptive pills, Depo-Provera

injections, hormonal implants, lactation amenorrhea method, emergency contraception, vasectomy, tubal ligation etc. Among permanent male sterilization technique vasectomy is a simple and very effective method, however it is associated with numerous complications like pain, hematoma, infections, granuloma, and failure.⁸

In Nepal in many parts it is viewed as a procedure which decreases the efficacy of men in terms of energy and strength. This study aims to identify the demographic variables as well as the various aspect of the vasectomy considering the surgery, post-surgery outcomes and the perceptions thereof.

MATERIALS AND METHODS

This was a hospital based observational cross-sectional study. The inclusion criteria consisted all the patients (n=67) who had undergone vasectomy at our hospital with the history of completed family whose data was complete and who were able to give information over telephone. Ethical approval for the study was taken from the institutional review committee (ref: 076/077/26) of the Karnali Academy of Health Sciences, Jumla.

The sample were collected from the register of operation theatre (OT) and the pro forma filled for each patient undergone vasectomy at Karnali Academy of Health Sciences during the period of one year from July 2019 to June 2020 AD. Then all the participants were telephoned and interviewed by using pre-structured questionnaires. The pro forma were completed by recording other variables like adequacy of analgesics (Ibuprofen 400mg), post-procedural complications, procedural satisfaction, change in sexual frequency and

completion of semen analysis (within 3 months).

The data were entered into the Microsoft excel. After transferring into SPSS version 16, data analysis was performed and various frequencies and percentage were computed and presented in tables and figures.

RESULTS

Total 67 participants had complete data and who responded via telephone to participate in the study. The minimum age was found 22 years and the maximum was 48 years. The maximum numbers of the cases were 44.8%(n=30) in age group 26-30 years then 18(26.9%) in 31-35 years, 9(13.4%) in 21-25 years and so on (Figure 1). The mean age was 30 years.

The majority (59.7%) of the participants were Chhetri. About 2.98% cases were from Kalikot, 4.48% were from Mugu and rest of them were from Jumla district. Most of the participants had their education till secondary level (45%) followed by higher secondary (22.4%) and so on with 9% illiterate cases in the study group. Farmers were in majority (58.2%). One of the case was a student of 22 years of age (Table 1).

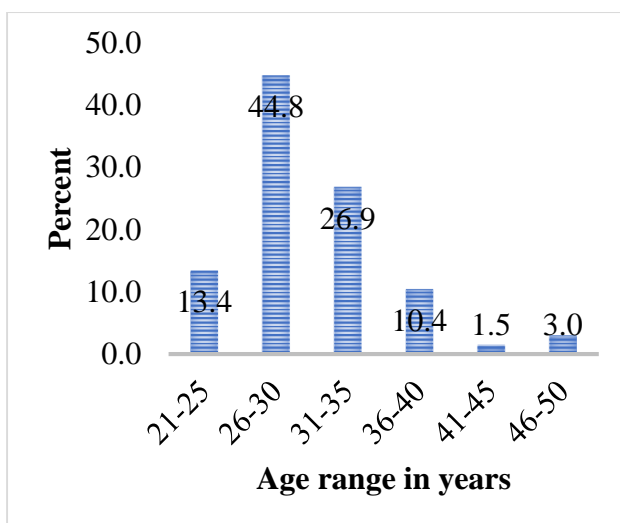


Figure1: Age distribution of the participants
Age range in years

Table 1: Distribution of participants by various demographic variables

Variables	Frequency	Percentage	
Ethnicity	Brahmin	10	14.9
	Chhetri	40	59.7
	Janajati	0	0.0
	Dalit	17	25.4
Place of residency	Jumla	62	92.5
	Kalikot	2	3.0
	Mugu	3	4.5
Education	Illiterate	6	9.0
	Literate	5	7.5
	Primary	10	15.0
	Secondary	30	45.0
	Higher Secondary	15	22.4
	Higher education	1	1.5
Occupation	Farmer	39	58.2
	Shopkeeper	10	14.9
	Labourer	10	14.9
	Employee	5	7.5
	Teacher	2	3.0
	Students	1	1.5

Depo-Provera (43.3%) was the main contraception used before the vasectomy followed by condom (22.4%), Norplant (13.4%), none (9%), oral pills (7.5%) and lastly mixed contraception (4.5%) (Figure 2). It was clear that Ibuprofen prescribed after the procedure was adequate for analgesia in 57(85.1%) of the people. The satisfaction after surgery was 98.5% (Table 2).

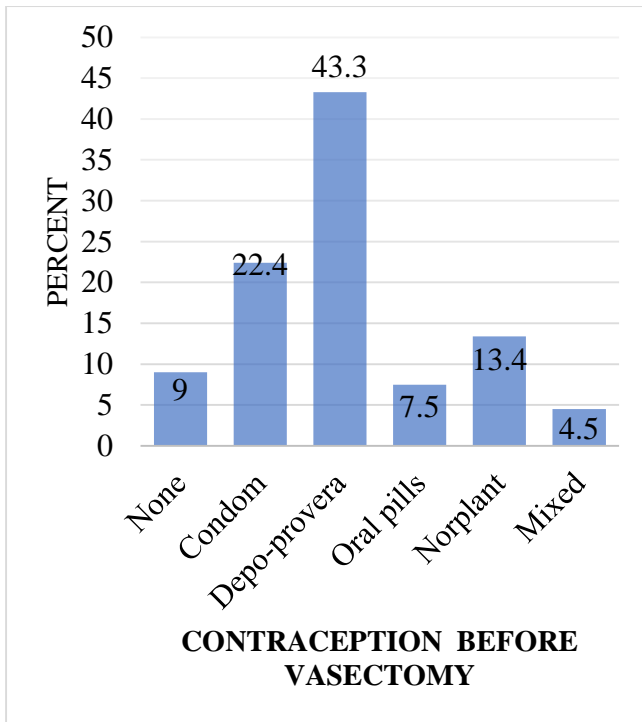


Figure 2: Contraception before vasectomy

Of total participants, 49(67.16%) had no complications, however 9(13.43%) had chronic pain, 8(11.94%) had acute scrotal hematoma, 3(4.48%) had epididymitis and 2(2.99%) had infection of the scrotum (Figure 3). Only 10(14.92%) participants complained of decreased sexual frequency which was due to pain in 6(8.95%), decreased libido in 3(4.48%) and discomfort in 1(1.49%). Fifty seven (85.08%) of the patients had no issue with sexual frequency (Table 3).

Table 2: Adequacy of analgesic, and satisfaction after the procedure

Response	Adequacy of analgesic (Ibuprofen 400mg)		Satisfaction (after surgery)	
	Frequency	Percentage	Frequency	Percentage
Yes	57	85.1	66	98.5
No	10	14.9	1	1.5
Total	67	100.0	67	100.0

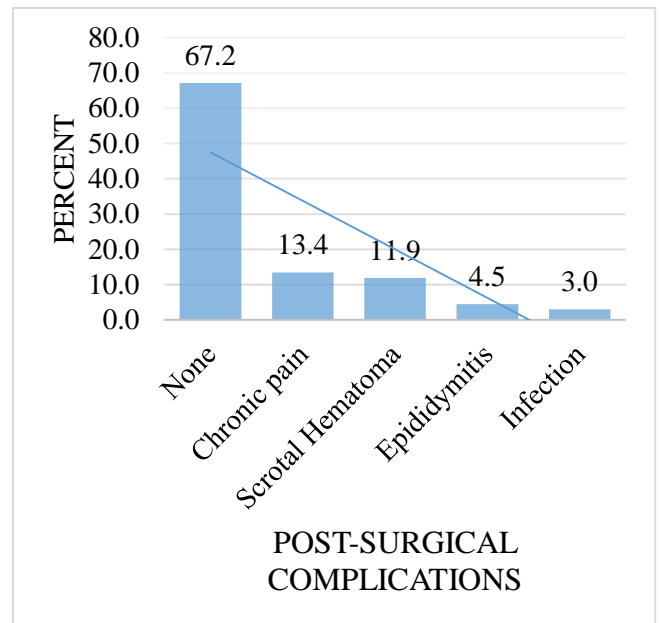


Figure 3: Post-surgical complications

Table 3: Change in frequency of the sex and the reasons

Decrease in sexual frequency	Reason for the change in frequency				Total
	No change	Decreased because of pain	Decreased because of decrease libido	Decreased because of discomfort	
Yes	0	6(8.95%)	3(4.48%)	1(1.49%)	10(14.92%)
No	57	0	0	0	57(85.08%)
Total	57	6(8.95%)	3(4.48%)	1(1.49%)	67(100.00%)

Table 4: Completion of semen analysis by 3 months

Completed semen analysis	Yes	Distance	Does not matter	Forgot	Busy	No information	Total
Yes	27	0	0	0	0	0	27(40.3%)
No	0	14	10	8	6	2	40(59.7%)
Total	27(40.3%)	14 (20.9%)	10(14.92%)	8 (11.94%)	6 (8.9%)	2(2.98%)	67(100.0%)

Out of the whole, 40(59.7%) of the clients had not completed semen analysis within 3 months period. The reason for not completing the semen analysis was the physical distance in most cases (20.9%), followed by does not matter(14.92%), forgot(11.94%), busy(8.95%) and no information(2.98%) (Table 4).

DISCUSSION

Out of the total 67 clients majority were Chhetris which consist 59.7% while Dalits were 25.4% and remaining 14.9% were Brahmins. Two cases were from Kalikot, three were from Mugu and rest of them were from Jumla district. Most of the people had their education till secondary level about 45% followed by higher secondary 22.4%, primary 15%, just literate 7.5% and higher education 1.5% and so on. However there were 9% illiterate cases in the study group. About 58.2% of the people were farmer then shopkeeper 14.9%, labourer 14.9%, Employee 7.5%, and Teacher 3%. One of the case was a student of 22 years of age. These figures

roughly correlates with the data of the Karnali province according to some studies.^{9, 10}

The minimum and the maximum age were 22 and 48 years respectively. The maximum numbers of the cases were 30(44.8%) in age group 26-30 years then 18(26.9%) in 31-35 years, 9(13.4) in 21-25 years and so on. The mean age was 30 years. The mean correlated to a study from the same region to be 32.58 with age ranging from 19 to 58 years¹¹ and another study also had similar trend of average 31 years.¹² However, the mean age of male undergone vasectomy was 40.7 years in another study in Ghana.¹³

Depo-Provera was the main contraception used before the vasectomy (43.3%) followed by condom (22.4%), Norplant (13.4%), none (9%), oral pills (7.5%) and lastly mixed contraception (4.5%). In a similar study 48.4% of clients used Depo-Provera while 41.8% used condoms and remaining 9.9% of the respondents used pills for contraception.¹¹

In our study 67.16% had no complications, however 13.43% had chronic pain, 11.94% had acute scrotal hematoma, 4.48% had epididymitis and 2.99% had infection of the scrotum. In a study by Duplisea j et al. the complications included infection in 1.9%, hematoma in 1% and sperm granuloma in 0.5%.¹⁴ In another study most common infection was hematoma formation, and infection, followed by sterilization failure, sperm granulomas, short-term postoperative pain, and chronic pain syndrome.¹⁵

Only 10(14.92%) participants complained of decreased sexual frequency which was due to pain in 6(8.95%), decreased libido in 3(4.48%) and discomfort in 1(1.49%). Fifty seven (85.08%) of the patients had no issue with sexual frequency. Similar conclusion was made in one of the study by Guo et al. that vasectomy did not decrease the sexual frequency.¹⁶

Out of the whole, 59.7% had not completed semen analysis in 3 months period. The reason for not completing the semen analysis was the physical distance in most cases (20.9%), followed by does not matter(14.92%) those felt confident that the procedure was all right

and need no testing, forgot(11.94%), busy(8.95%) and no information(2.98%). The compliance of semen analysis was 53%¹⁷ by Bradshaw A et al ,39.5%¹⁸ by Diederichs J et al. and 65%¹⁹ by Dhar NB et al. in different studies. The main reasons for non-compliance of semen analysis were distance (38%), time constraints (34%), and forgetfulness (23%) in a study.¹⁷ Since the study was carried out in a single institute it cannot be generalised to the whole population.

CONCLUSION

The complications after vasectomy were absent in majority of the cases. The post procedural routinely provided analgesic was adequate and the satisfaction after procedure was high. The compliance with completion of semen analysis was not promising and four main reasons for noncompliance were identified. The sexual frequency after the procedure was adequate in majority. Vasectomy is a safe and simple procedure however compliance of semen analysis should be considered seriously in order to ensure completeness of the procedure. This study can guide path for further studies.

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