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BAOJ HIV

Hedija YenusYesita, et al., BAOJ Hiv 2016, 2: 1
2: 010

Research

Knowledge and Attitude of Married Men towards Vasectomy in Gondar Town, Northwest Ethiopia

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Abstract

Background

Male sterilization through vasectomy is far less expensive, less invasive, safer and more effective than female sterilization through tubal ligation. The aim of this study was to assess knowledge and attitude of married men towards vasectomy and associated factors in Gondar City Administration, northwest Ethiopia.

Methods

In 2014, a community-based cross-sectional study was conducted among married men in Gondar town. A multi-stage sampling technique was employed to involve 766 married men. Adjusted odds ratio with a 95% Confidence Interval (CI) was used to declare statistical significance.

Result

Of 766 married men surveyed, 13.3% and 15.9% had good knowledge and a positive attitude towards vasectomy, respectively. The multivariate logistic regression analysis showed that: educational status and monthly income were strongly associated with good knowledge of vasectomy; while number of children was inversely associated with good knowledge about vasectomy. Moreover, educational status, good level of knowledge and monthly income were strongly associated with the attitude of men towards vasectomy. Conversely, occupational status and number of children were inversely associated with the attitude of men towards vasectomy.

Conclusion

This study revealed that most respondents had poor knowledge and a negative attitude towards vasectomy. Therefore, there is an urgent need for governmental and non-government organizations to develop effective information, education and communication strategies that will transform the knowledge and attitude of married men about vasectomy, to positively participate in family planning.

Keywords: Knowledge; Attitude; Vasectomy; Ethiopia

List of Abbreviations

AOR- Adjusted Odds Ratio; CI- Confidence Interval; EDHS – Ethiopian Demographic Health Survey; FP- Family Planning; LAPMs- Long Acting Permanent Methods; US- United States; WHO- World Health Organization

Introduction

Fertility rate is higher in sub-Saharan Africa than in other parts of the world, mainly due to strong networks, and the high economic and social values attached to children [1,2]. According to Bongart [3], the desired family size is more than four children in sub-Saharan African countries, where child mortality is high and poverty is rampant. It appears this trend will continue in the future.

Ethiopia is one of the developing countries with high fecundity and rapid population growth rates. According to the Ethiopian Demographic Health Survey, the total fertility rate at the national level was 5.4 and 4.8 children per woman, in 2005 and 2011 respectively, indicating that much effort should be made to attain the targets set (4.0 children per woman) in the National Population Policy of Ethiopia by 2015 [4,5].

Couples who want safe and effective protection against pregnancy would benefit from access to more contraceptive choices, including long acting and permanent contraceptive methods (LAPMs). Despite these advantages, LAPMs are offered in only a few areas, and are sometimes missing the components of many national reproductive health and family planning programs. More than 350 million couples worldwide have limited or no access to effective and affordable contraception, especially to LAPMs [6]. Most family planning programs give little attention to the understanding of a male's role in effective and consistent utilization of contraceptive methods, such as vasectomy [7].

Male sterilization through vasectomy is far less expensive, less invasive, safer and more effective than female sterilization through

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Rec Date: May 12, 2016, **Acc Date:** June 3, 2016, **Pub Date**: June 6, 2016.

Citation: Hedija Yenus Yesita, Gizachew Assefa Tessema and Azeb Atenafu Gete (2016) Knowledge and Attitude of Married Men towards Vasectomy in Gondar Town, Northwest Ethiopia. BAOJ Hiv 2: 010.

tubal ligation. The latter approach is suitable for couples who do not want more children [8].Yet, most African men find the option of vasectomy is unacceptable [9,10]. A study conducted in Nigeria showed that 62.5% of men had neither knowledge, nor a positive attitude towards vasectomy. Cultural acceptance(82.4%), religious acceptance (72.1%), ignorance (70.6%) and accessibility of family planning clinic (66.2%) were the major factors influencing the attitude of men towards vasectomy [11].

There are limited published information on the knowledge and attitude of men towards vasectomy and associated factors in our country, including the study area. Therefore, the authors of this study have chosen to assess the knowledge, attitude, and associated factors towards vasectomy in Gondar town, northwest Ethiopia.

Materials and Methods

Study Design, Population and Setup

A community-based cross-sectional study was conducted in Gondar town, northwest Ethiopia. The town has 12 urban and 11 rural Kebeles. There are two government hospitals and 8 health centers. According to the 2013 census, the projected estimate obtained from Gondar District Office was 258, 178 people, of whom an estimated 60,041 are married men, living in the town. The study population consisted of all married men ≥18 years of age who have been residing in the community at least 6 months.

Sample Size and Sampling Procedure

The sample size was determined using the single population proportion formula with the assumptions: prevalence of vasectomy knowledge is 17.6%, margin of error 4%, level of confidence 95%, Z/2 is 1.96, design effect of 2 and a non-response rate of 10%. Using a multistage sampling technique, 766 study participants were identified. At least 20% of the Kebeles were included in the sample. Based on this, three urban and two rural Kebeles were randomly selected. A systematic sampling method was used to select individual participants in each Kebele.

Knowledge and Attitude Determination

Respondents who answered 60% and more of the knowledge questions were considered to have good knowledge. Men who scored a mean average or above on the attitude items were viewed as having positive attitude, and those who scored below the mean a negative attitude.

Data Collection and Analysis

The quality and reliability of data sampling was standardized through the proper training of data collectors and the supervisor. The questionnaire was pre-tested out of the selected Kebeles. Data were entered and analyzed using SPSS version 16. Descriptive statistics and a multivariate logistic regression were performed. The multivariate logistic regression analysis was used to minimize the effect of confounding variables and to identify important factors.

Ethical Considerations

Ethical clearance was obtained from the Research and Publication Office of the College of Medicine and Health Sciences, the University of Gondar. Permission was obtained from all concerned authorities at each level. Informed verbal consent was obtained from each study participant. Confidentiality was maintained at each step of data collection and processing.

Results

Socio- Demographic and Reproductive Characteristics of the Study Population

Seven hundred sixty-six married men participated in the study with a response rate of 100%. The mean age of the study participants was 40.5 years (SD= 9.66). More than one-third (37.5%) were in the age group of 30-39; 624(81.4%) were Orthodox Christians; 694(90.6%) were Amhara by ethnicity; 718(93.7%) were married, and 30.4% were unable to read and write. The majority, 548 (71.5%) were urban residents; of which; 325(42.4%) were regarded as rich. More than one-third (35.9%) of the men had 1-2 children and 66(8.6%) had no children. The average number of children was 3.3. Six hundred thirty-four (82.8%) couples were using family planning methods. Out of these, 382(60%) were using injectables, while none of them used vasectomy (Table1).

Knowledge of the Respondents about Vasectomy

One-third (33.6%) of the respondents had heard about vasectomy, with 45.5% acquiring knowledge from the radio or television. More than two-third (70.2%) of the respondents were not aware of vasectomy as a form of male family planning method. The majority of the respondents, (72.7%) did not know vasectomy was a permanent method. Few, 29(3.9%) knew the sexual urge activity and sensation was not lost after vasectomy. Only 77(10.1%) reported that vasectomized men would have the ability to impregnate his partner. Most of the respondents (97.9%) knew that the tendency for prostate cancer increased in men who have had a vasectomy; while only 19(2.5%) knew that sexually transmitted infection scold not be prevented after vasectomy; even though; 100 men (13.1%) had a good knowledge about vasectomy (Table2).

Attitude of Men towards Vasectomy

Most of the respondents, 364(47.5%), felt that men should be primarily responsible for on family planning method decision making. More than two-third (71.7%) of the respondents disagreed on the involvement of men in family planning. One hundred thirty-two (17.2%) approved the use of vasectomy. The majority of men, 637(83.2%), preferred permanent sterilization of women than men. More than three–fourths of the men, 646(84.3%), disagreed with the procedure of vasectomy. Most considered it as castration and decried its use. Most of the respondents, 649(84.7%), believed that vasectomy would increase promiscuity among men, and 606(79.1%), disagreed about the effectiveness of the method. Only 49 (6.4%) of participants accepted vasectomy as a cultural responsibility, and 36 (4.7%) agreed on the practice as a religious duty of men. The majority, 655(85.5%), disagreed with vasectomy as an appropriate option for men, because it was believed to decrease their potency. On the other hand, the minority; of the sample population, 88(11.5%), rejected the claim that vasectomy curbed a man's ability to marry multiple wives, if he chose. However, the

Table 1: Socio-demographic and reproductive health related characteristics of the respondents in Northwest Ethiopia, 2014

Variable	Frequency	Percentage
Age		
20-29	104	13.6
30-39	287	37.5
40-49	220	28.7
50-59	129	16.8
≥60	26	3.4
Ethnicity		
Amhara	703	91.8
Tgrie	46	6.0
Oromo	17	2.2
Variable	Frequency	Percentage
Marital status		
Married	718	93.7
Divorced	25	3.3
Widowed	23	3.0
Religion		
Orthodox	624	81.4
Muslim	113	14.8
Catholic	7	0.9
Protestant	22	2.9
Residence		
Rural	218	28.5
Urban	548	71.5
Educational Status		
Unable to read and write	233	30.4
Primary education	291	38.0
Secondary education	113	14.8
Higher level	129	16.8
Educational Status the wife		
Unable to write and read	387	50.5
Primary education	195	25.5
Secondary education	114	14.9
Higher level	70	9.1
Occupational status		
Merchant	246	32.2
Daily laborer	135	17.6
Govermental employee	168	21.9
Farmer	203	26.5
Other	14	1.8
Occupational Status of the wife		
House wife	559	73.0

Merchant	84	11.0
Daily laborer	30	3.9
Governmental employee	93	12.1
Variable	Frequency	Percentage
Number of living children		
0	66	8.6
1-2	275	35.9
3-4	204	26.6
≥5	221	28.9
Monthly Income		
Poor	197	25.7
Medium	244	31.9
Rich	325	42.4
Are you or your family using contraceptives?		
Yes	634	82.8
No	132	17.2
Type of contraceptive used by the respondents		
Pills	115	18.1
Injectable	382	60.3
IUD	20	3.2
Implant	108	17.0
Female Sterilization	3	0.4
Male condom	6	1

Table 2: Knowledge of the respondents about vasectomy in Northwest Ethiopia, 2014

Level of knowledge of vasectomy	Frequency	Percentage
Have you heard about vasectomy?(766)		
Yes	257	33.6
No	509	66.4
Where did you first learn of vasectomy?(257)		
Radio or Television	117	45.5
Literature	6	2.3
Health institution	111	43.2
Friends/partners	23	9
Is vasectomy a form of family planning method?		
Yes	228	29.8
No	538	70.2
What type of family planning method is Vasectomy?		
Permanent	209	27.3
Short acting	559	72.2
Does vasectomy has interference with sexual intercourse?		
Yes	27	3.5

No	739	96.5
After vasectomy procedure a man does lose his sexual urge and desire for sexual activity?		
Yes	29	3.9
No	737	96.1
After vasectomy a man is able to impregnate his partner?		
Yes	77	10.1
No	689	89.9
Level of knowledge of vasectomy	Frequency	Percentage
The tendency for prostate cancer didn't increase in men who have had vasectomy?		
Yes	16	+2.1
No	750	97.9
Vasectomy doesn't prevent sexually transmitted infections?		
Yes	19	2.5
No	747	97.5
Knowledge of the respondent on vasectomy		
Good Knowledge	100	13.1
Poor knowledge	666	86.9

overwhelming majority, 655(88.5%), refused to subscribe to the latter position. Overall, only 15.9% (n=122) of the men had positive attitudes towards vasectomy (Table3).

Reasons for Not Accepting Vasectomy among Participants

Six hundred forty-four (84.1%) of the respondents did not accept or want to use vasectomy. The possible reasons for not intending to accept or use vasectomy were lack of information (n=215, 29.2%), partners' preference to use another family planning method (n=286, 38.9%), lack of service (0.1%),need for more children (6.3%), negative impact on sexual act (3.5%), religious prohibition(n=118, 16.0%), refusal of spouse (0.5%), influence of family members and friends (0.7%) and 35(4.8%), had other reasons (menopause, being widower, divorce).

Factors Associated with the Knowledge of Men about Vasectomy

The results of the multivariate logistic regression analysis showed an association at P-value <0.05 that: educational status of the husband, secondary education [AOR 5.16, 95% CI =1.39, 19.05], tertiary education [AOR 7.37, 95% CI =2.26, 24.05] and monthly income (rich) [AOR 3.22, 95% CI =1.17, 8.82] were strongly associated with good knowledge of vasectomy while number of children (1-2, 3 – 4, 5 and above) [AOR 0.41, 95% CI =0.20, 8.12], [AOR 0.38, 95% CI =0.18, 0.83] and [AOR 0.24, 95% CI =0.09, 0.61] was inversely associated with good knowledge about vasectomy (Table 4).

Factors Associated with the Attitude of Men towards Vasectomy

The regression analysis revealed that a positive attitude towards vasectomy was strongly associated (p-value <0.05) with: the educational status of the men at primary, secondary and tertiary levels of education; good level of knowledge; and monthly income (rich; Table 4). Meanwhile, the occupational status of the respondents (merchant) and number of children (5 and above) were inversely associated with a positive attitude of men towards vasectomy (Table 5).

Discussion

This study has shown that most participants in Gondar town, Ethiopia were poorly educated about the physiological effect and medical importance of a vasectomy procedure. These finding corroborate a study conducted in Edo State, Nigeria which determined that most (62.5%) men had no knowledge about vasectomy [11]. Another study in Nepal indicated that 64.0% had a low level of knowledge [13]. Similar studies in Ekpoma, Nigeria and Tanzania revealed that the respondents had inadequate knowledge [14,15].On the other hand, studies in Zimbabwe, and Nigerian conducted by resident gynecologists indicated that most of their subjects had a good understanding of vasectomy [16,17]. This could be due to a difference in the study areas, occupation and lack of information, education and communication on the method of vasectomy within the community and in school environments.

The majority (84.1%) of the men in this study also had a negative attitude towards vasectomy, just like those in Edo State, Nigeria. Similarly, in Zimbabwe, many men continue to hold negative attitude towards vasectomy. Among Gusii men in Kenya and in Tigray, Ethiopia, a man's attitude towards vasectomy as a family planning method is universally negative or even antagonistic [11,16,18,19]. This similarity might be due to myths and misconception that have been evenly spread across countries. In this study, higher incomes (42.2%) were more likely to have a positive attitude towards vasectomy. This is consistent with a study in Nepal and Ilorin, Nigeria [13,23], which is likely due to having greater access to information, education and communication on

Table 3: Attitude of men towards Vasectomyin Northwest Ethiopia, 2014

Attitude of men towards vasectomy	Frequency	Percentage
Men should be primarily responsible for decision making on family planning methods to utilize		
Agree	364	47.5
Disagree	402	52,5
Men should take part in family planning		
Agree	217	28.3
Disagree	549	71.7
I approve the use of vasectomy as a method of family planning		
Agree	132	17.2
Disagree	634	82.8
It's preferable that permanent sterilization should be done for men		
Agree	129	16.8
Disagree	637	83.2
Vasectomy is not a castration and should be done		
Agree	120	15.7
Disagree	646	84.3
Vasectomy doesn't make men promiscuous		
Agree	117	15.3
Disagree	649	84.7
Vasectomy is an effective form of family planning method		
Agree	160	20.9
Disagree	606	79.1
It's my cultural belief for a man to practice vasectomy		
Agree	49	6.4
Disagree	717	93.6
It's my religious belief for a man to practice vasectomy		
Agree	36	4.7
Disagree	730	95.3
Attitude of men towards vasectomy	Frequency	Percentage
Vasectomy is an appropriate family planning option for men because it doesn't make the man less of a man.		
Agree	111	14.5
Disagree	655	85.5
It should not be considered because vasectomy doesn't curb the man's ability to marry more wives if he chooses.		
Agree	88	11.5
Disagree	678	88.5
Attitude of the respondent on vasectomy		
Positive attitude	122	15.9
Negative attitude	644	84.1

Table 4: Factors associated to knowledge of men towards vasectomy in Northwest Ethiopia, 2014

Variables	frequency		COR	AOR	95%CI		P value
	Yes	No			Lower	Upper	
Religion							
Muslim	113(14.8%).	653(85.2%)	1				
orthodox	624(81.4%)	112(14.6%	**0.26(0.08,0.81)**				
Catholic	7(0.9%)	759(99.1%)	0.40(0.15,1.06)				
Protestant	22(2.9%)	744(97.1%)	1.07(0.16,7.06)				
Marital status							
Divorced/widowed	48(6.3%)	718(93.7%)	**1**				
Married	718(93.7)	48(6.3%)	**0.42(0.21,0.84)**				
Husband Education							
No education	233(30.4%)	533(69.6%)	**1**	**1**			
Primary education	291(38.0%)	475(62%)	2.34(0.91, 6.05)	2.23	0.77	6.49	0.140
Secondary education.	113(14.8%)	653(85.2%)	**20.96(8.64,50.91)**	**5.16**	**1.39**	**19.05**	**0.014****
Tertiary education	129(16.8%)	673(83.2%)	**14.30(5.76, 35.53)**	**7.37**	**2.26**	**24.06**	**0.001****
Wife Education							
No education	387(50.5%)	379(49.5%)	**1**	**1**			
Primary education	195(25.5%)	571(74.5%)	1.58(0.86,2.9)				
Secondary education	114(14.9%)	652(85.1%)	5.18(2.92,0.2)				
Tertiary education	70(9.1%)	696(90.9%)	**6.79(3.59,12.86)**				
Number children							
0	66(8.6%)	700(91.4%)	**1**				
1-2	275(35.9)	491(64.1%)	**0.34(0.18,0.62)**	**0.41**	**0.20**	**0.81**	**0.011***
3-4	204(26.6)	563(73.4%)	**0.24(0.22,0.46)**	**0.38**	**0.18**	**0.83**	**0.015***
≥5	221(28.9)	545(71.1%)	**0.12(0.05,0.23)**	**0.24**	**0.09**	**0.61**	**0.003***
Husband Occupation							
Farmer	203(26.5%)	563(73.5%)	**1**	1			
Merchant	246(32.2%)	520(67.8%)	2.22(1.01, 4.92)	0.45	0.16	1.28	0.136
Daily laborer	135(17.6%)	631(82.4%)	1.00(0.35, 2.88)	0.37	0.12	1.28	0.111
Gov. employee	168(21.9%)	598(78.1%)	**11.37(5.42, 23.83)**	1.02	0.32	3.29	0.970
Other(retired, contractor)	14(1.8%)	752(98.2%)	**8.26(2.26,32.87)**	2.16	0.45	0.41	0.338
Wife Occupation							
House wife	559(73.0%)	207(27%)	1	1			
Merchant	84(11.0%)	683(89%)	1.22(0.58, 2.59)	0.87	0.37	0.96	0.714
Daily laborer	30(3.9%)	736(96.1%)	0.73(0.17, 3.12)	0.36	0.07	1.84	0.217
Government employee	93(12.1%)	673(87.9%)	7.51(4.53, 12.44)	1.81	0.95	3.43	0.071
Economic Status							
Poor	197(25.7%)	569(74.3%)	**1**				
Medium	244(31.9%)	522(68.1%)	**2.69(1.05, 6.12)**	2.24	0.82	6.11	0.116
Rich	325(42.2%)	441(57.8%)	**9.55(4.07, 22.4)**	**3.22**	**1.17**	**8.82**	**0.023****

Table 5: Factors associated to attitude of men towards vasectomy respondents in Northwest Ethiopia, 2014

Variables	frequency		COR	AOR	95%CI		P value
	Yes	No			Lower	Upper	
Religion							
Muslim	113(14.8%)	653(85.2%)	1	1			
orthodox	624(81.4%)	112(14.6%	2.65(1.26,5.65)				
Catholic	7(0.9%)	759(99.1%)	5.25((0.88,31.46)				
Protestant	22(2.9%)	744(97.1%)	6.136(1.94, 19.34)				
Marital status							
Divorced/widowed	48(6.3%)	718(93.7%)	1	1			
Married	718(93.7)	48(6.3%)	0.39(0.20,0.73)				
Husband Education							
No education	233(30.4%)	533(69.6%)	1	1			
Primary education	291(38.0%)	475(62%)	3.71(1.59,8.61)	3.09	1.11	7.77	0.017
Secondary education	113(14.8%)	653(85.2%)	9.17(03.83, 21.97)	**4.66**	**1.57**	**13.86**	**0.006****
Tertiary education	129(16.8%)	673(83.2%)	28.07(12.27, 64.25)	**8.79**	**2.74**	**28.26**	**0.000****
Wife Education							
No education	387(50.5%)	379(49.5%)	1	1			
Primary education	195(25.5%)	571(74.5%)	1.97(1.22, 3.47)				
Secondary education	114(14.9%)	652(85.1%)	6.16(3.56, 10.67)				
Tertiary education	70(9.1%)	696(90.9%)	10.19(5.55, 18.73)				
Knowledge							
Not knowledgeable	666(86.9%)	100	1	1			
Knowledgeable	100(13.1%)	666(86.9%)	8.25(5.19, 13.09)	**3.67**	**2.14**	**6.31**	**0.000****
Number children							
0	66(8.6%)	700(91.4%)	1	1			
1-2	275(35.9)	491(64.1%)	0.93(0.51, 1.72)	1.71	0.83	3.55	0.145
3-4	204(26.6)	563(73.4%)	0.47(0.25, 0.97)	1.11	0.49	2.46	0.803
≥5	221(28.9)	545(71.1%)	0.12(0.04, 0.27)	**0.32**	**0.12**	**0.92**	**0.034***
Husband Occupation							
Farmer	203(26.5%)	563(73.5%)	**1**	**1**			
Merchant	246(32.2%)	520(67.8%)	1.51(0.76, 3.06)	**0.39**	**0.16**	**0.96**	**0.040***
Daily laborer	135(17.6%)	631(82.4%)	1.56(0.69,3.47)	0.66	0.29	1.65	0.377
Governmental employee	168(21.9%)	598(78.1%)	**9.69(5.12, 18.41)**	0.78	0.27	2.28	0.655
Other(retired, contractor	14(1.8%)	752(98.2%)	6.96(3.31,36.34)	2.92	0.69	13.56	0.171
Wife Occupation							
House wife	560(73.0%)	207(27%)	1	1			
Merchant	84(11.0%)	683(89%)					
Daily laborer	30(3.9%)	736(96.1%)					
Gov. employee	93(12.1%)	673(87.9%)					
Economic Status							
Poor	197(25.7%)	569(74.3%)	**1**	**1**			
Medium	244(31.9%)	522(68.1%)	**1.93(0.93,4.02)**	2.20	0.98	4.94	0.056
Rich	325(42.2%)	441(57.8%)	**6.08(3.16,11.72)**	**2.58**	**1.11**	**6.00**	**0.027****

family planning (vasectomy) which effectively dispel myths and misconception on vasectomy.

In the present study, a good knowledge level was 3.7 [AOR 3.67, 95% CI= 2.14, 6.31] times more likely to be associated with positive attitude towards vasectomy than a poor level of knowledge. The latter correlation is similar to the Edo State, Nigeria, Iran and Ilorin Nigeria studies [11,21,23], but different from the Zimbabwe study [16]. This discrepancy could be due to socio-cultural difference within the countries and knowledge could change the perception of men towards vasectomy.

According to the analysis, an increase in the level of education directly correlated with knowledge acceptance concerning vasectomy. In the same manner, there was an association between men's educational status and level of knowledge about vasectomy in studies done in India, Iran, Illorine, Nigeria and Wolaita Soddo town, South Ethiopia [20,21,22,23]. Yet, the finding of our study is contrary to the study conducted in Edo State, Nigeria [11]. It is believed that higher educated men had more access and opportunity to explore information on sexual and reproductive health, including male contraceptives from electronic media or others sources of information.

In addition, our study showed that, the odds of having good knowledge was 3.2 [AOR 3.22, 95% CI =1.17, 8.82] times higher in those respondents who had high levels of income compared to men with low level income. This finding is in line with a study conducted in Yemen, but contrary with study in Delhi, India [24,25]. Those who were rich also had more opportunity for a better education or accessing information about male contraceptives (vasectomy) through the media.

The inverse correlation between men with 5 or more children and knowledge about vasectomy [AOR 0.24, 95% CI =0.09, 0.61]. This study is different from Yemen study indicating that the number of living children had a significant correlation with knowledge about vasectomy [24]. This could have been due to men having more than two children was considered costly, and likely to result in family quarrels and tensions, as well as have a negative impact on accessing information and continued education. Furthermore, the number of live children was associated with positive attitude towards vasectomy. The finding of our study oppose those of the Iran and Yemen studies [21,24]. He possible reason for this difference might be increasing number of children had an impact on the economic status of the family and less access to information on vasectomy.

In our multivariate analysis, a variable like educational status of the respondents was strongly correlated with a positive attitude towards vasectomy [AOR 8.79, 95% CI= 2.74, 28.26], in contrast to no education or illiteracy. This finding is similar to studies conducted in Iran, Ilorin, Nigeria and Wolaita Soddo town, South Ethiopia [21,22,23], but contrary to the study in Edo State, Nigeria where the academic attainment of respondents didn't change their attitude towards vasectomy [11].The latter difference might have been due to the quality of education, access in information and the knowledge status of the respondents on vasectomy.

Overall, it is hoped that our study will help to increase male involvement in family planning and show how to control possible confounding variables by using a logistic regression model. However, our study was limited and unable to see the cause- effect relation between variables, and had no qualitative part or limited studies to compare different variables.

Conclusion

This study revealed that respondents had poor knowledge and a negative attitude towards vasectomy in Gondar town, Ethiopia. Education and income were directly associated with knowledge about vasectomy, while an increase in the number of children was inversely associated with good knowledge. Similar correlations were observed in association with the attitude of men towards vasectomy, including good knowledge. There is a need for government and nongovernment organizations to design effective programs to disseminate valid information, encourage education, facilitate communication, and promote services. Finally, there is a need to improve strategies to tackle the barriers currently inhibiting a transformation in knowledge and attitude of men, so that Ethiopian men will more actively participate in family planning efforts.

Authors' Contributions

Hedija Yenus Yeshita wrote the proposal, implemented the proposal, analyzed the data and drafted the paper. Gizachew Assefa Tessema and Azeb Atenafu Gete participated in writing the proposal and data analysis and revised the subsequent drafts of the paper. All authors read and approved the final manuscript.

Acknowledgement

We are grateful to Gondar University for funding to conduct this research. We would like to extend our acknowledgement to the data collectors and supervisors for their patient work. We also acknowledge the study participant's cooperative participation and providing a fulldisclosure of information at the time of data collection.

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