

Residence				
Rural	32(23.0)	107(77.0)	1.329(0.756-2.338)	0.323
Urban	33(28.4)	83(71.6)	1.00	
Religion				
Catholic	24(19.4)	100(80.6)	1.225(0.411-3.653)	0.715
Muslim	9(25.)	27(75.0)	0.882(0.253-3.081)	0.844
Protestant	27(37.0)	46(63.0)	0.501(0.166-1.512)	0.220
None	5(22.7)	17(77.3)	1.00	
Marital status				
Cohabitant	9(21.4)	33(78.6)	1.375(0.417-4.534)	0.601
Married	42(29.0)	103(71.0)	0.920(0.337-2.511)	0.870
Widow	8(17.4)	38(82.6)	1.781(0.532-5.967)	0.349
divorced/Separated	6(27.3)	17(72.7)	1.00	
Ubudehe category				
Cat I	4(40.0)	6(60.0)	1.00	
Cat. II	26(28.9)	64(71.1)	1.641(0.428-6.297)	0.470
Cat. III	31(23.5)	101(76.5)	2.172(0.576-8.193)	0.252
Cat. IV	4(17.4)	19(82.6)	3.167(0.601-16.692)	0.174
Age at first marriage				
21-25	37(34.9)	69(65.1)	1.00	
26-30	24(20.3)	94(79.7)	2.100(1.152-3.828)	0.015
31-35	3(11.1)	24(88.9)	4.290(1.211-15.198)	0.024
36-40	1(25.0)	3(75.0)	1.609(0.162-16.016)	0.685
Parity				
<=3	27(15.3)	150(84.7)	5.278(2.884-9.657)	<0.001
> 3	38(48.7)	40(51.3)	1.00	
Duration of marriage				
<5 years	31(29.2)	75(70.8)	1.00	
5-10 years	15(19.0)	64(81.0)	1.764(0.875-3.555)	0.113
11-15 years	13(24.1)	41(75.9)	1.304(0.615-2.763)	0.489
16-20 years	3(33.3)	6(66.7)	0.827(0.194-3.516)	0.797
>20 years	3(42.9)	4(57.1)	0.551(0.116-2.608)	0.452
Source of information about family planning				
Media	14(17.5)	66(82.5)	7.543(2.836-20.061)	<0.001
Family member	17(28.3)	45(71.7)	4.047(1.535-10.668)	0.005
Health care provide	18(20.2)	71(79.8)	6.311(2.455-16.226)	<0.001
None	16(61.5)	10(38.5)	1.00	
Knowledge				
Unknowledgeable	35(63.6)	20(36.4)	1.00	
Knowledgeable	30(15.0)	170(85.5)	9.917(5.061-19.431)	<0.001
Attitude				
Negative	36(57.1)	27(42.9)	1.00	
Positive	29(15.1)	163(84.9)	7.494(3.966-14.162)	<0.001

CI: Confidence Interval; **COR:** Crude Odds Ratio; **FP:** Family Planning

The above table shows association between different factors and practices of family planning. It is found that there was no statistical association between maternal age, place of residence, religion, marital status, ubudehe category and marriage duration of the respondents with practices of family planning.

There was also no statistical association between maternal occupation and practices of family planning, but Government/Private institution employee was found to be a pushing factor for practicing family planning where Government or Private employee women were found to be 2 times more likely to use family planning than Housewife (OR= 2.091; 95% CI= 1.01-4.35; p-value=0.048).

Maternal education had showed significant statistical association with practices family planning. The odds of practicing family planning were 3.73 times higher for women who attended primary study than those who didn't attend any formal education (OR= 3.73; 95% CI = 1.52-9.15; p-value=0.004). Women who attended secondary study were 5.13 times more likely to use family planning than those who didn't attend any formal education (OR= 5.13; 95% CI= 2.28-11.54; p-value<0.001). The odds of practicing family planning were 4.16 times higher also for women who attend College and higher than those who didn't attend any formal education (OR= 4.16; 95% CI = 1.58-10.94; p-value=0.004).

Age of women at first marriage was found to be statistically significance. Women who were married at the age between 26 and 30 years old were 2.10 times more likely to use family planning than those married at 21 to 25 years old (OR= 2.10; 95%CI= 1.15-3.83; p-value= 0.015). The odds of practicing family planning were 4.29 times higher for women who were married at the age between 31-35 years old than those who were married at 21 to 25 years (OR= 4.29; 95%CI= 1.21-15.20; p-value= 0.024).

There was a high statistical significant association between number of live birth and practices. Women who had at most three live births were 5.28 times more likely to use family planning than their counter parts women who had more than 3 live births (OR= 5.28; 95%CI= 2.88-9.66; p-value <0.001). Means of information had also showed statistically significant association with family planning practice. Women who got information about family planning from media were 7.54 times more likely to use family planning than those who got information from nowhere (OR= 7.54; 95%CI= 2.84-20.06; p-value <0.001). The odds of practicing family planning were 4.05 times higher for women who got information from Family member than those who got information from nowhere (OR= 4.05; 95%CI= 1.54-10.67; p-value= 0.005). Also, women who got information about family planning from Healthcare providers were 6.31 times more likely to use family planning than those who got information from nowhere (OR= 6.31; 95%CI= 2.46-16.23; p-value <0.001).

There was also high statistically significant association between knowledge of family planning and practice (p< 0.001). Knowledgeable women about family planning were 9.92 times more likely to use family planning than those unknowledgeable women (OR= 9.92; 95%CI= 5.06-19.43; p-value <0.001). Attitude of women about family planning had also showed a high statistically significant association with family planning practice. The odds of practicing family planning were 7.49 times higher for women who had positive attitude about family planning than those who had negative attitude (OR= 7.49; 95%CI= 3.97-14.16; p-value <0.001).

Multivariate analysis of factors associated with Family planning practices

Variables were analyzed through multivariate logistic regression analysis to examine the independent variables associated with Family planning practices, while simultaneously controlling for potential confounders.

The independent variables associated with Family planning practices after controlling potential confounders are presented in table 4.5 below.

Table 4. 3 Multivariate analysis of factors associated with Family planning practices

Variables	AOR (95% CI)	P-value
Level of Education		
No Formal Education	1	
Primary	0.364(0.072-1.827)	0.219
Secondary	0.494(0.099-2.480)	0.392
College and higher	0.089(0.016-0.478)	0.005
Parity		
<=3	5.355(2.297-12.483)	<0.001
> 3	1	
Source of information about family planning		
Media	6.176(1.698-22.470)	0.006
Family member	1.883(0.366-9.674)	0.449
Health care provide	0.915(0.164-5.105)	0.919
None	1	
Knowledge		
Poor Knowledge	1	
Good Knowledge	11.328(4.103-31.272)	<0.001
Attitude		
Negative	1	
Positive	6.494(2.751-15.330)	<0.001

CI: Confidence Interval; AOR: Adjusted Odds Ratio

From backward logistic regression, there were no variables that were excluded in the model after considering variables with a p-value of less than 5% and controlling potential confounders.

There was a high statistically significant association between number of live birth and practices. Women who had at most three live births were 5.36 times more likely to use family planning than their counter parts women who had more than 3 live births (OR= 5.36; 95%CI= 2.30-12.48; p-value <0.001). Means of information had also showed statistically significant association with family planning practice only for media. Women who got information about family planning from media were 6.18 times more likely to use family planning than those who got information from nowhere (OR= 6.18; 95%CI= 1.70-22.47; p-value= 0.006).

Similarly, knowledge of family planning has been also found to be a strong predictor of family planning practice (p< 0.001). Good knowledge women about family planning were 11.33 times more likely to use family planning than those poor knowledge women (OR= 11.33; 95%CI= 4.10-31.27; p-value <0.001). Attitude of women about family planning had also revealed a high statistically significant association with family planning practice. The odds of practicing family planning were 6.49 times higher for women who had positive attitude about family planning than those who had negative attitude (OR= 6.49; 95%CI= 2.75-15.33; p-value <0.001).

4.5 Discussions

This study addressed the current knowledge, attitude and practice of family planning among 255 women attending Kabutare District Hospital. The high respondent's 190(74.51%) are currently use contraceptive methods. The present study in Soudan showed that, the awareness of contraceptive use is (87%), as compared with the study of Sara Barer et al who carried out study on Barriers to family planning service utilization among Sudanese women in Khartoum locality, the awareness of contraceptive use is (87%) which is not far comparable with our study. High level of awareness 99% has also been reported at Lahore study (Pakistan) and Indian study revealed knowledge rate of 82.2%.(Handady et al., 2015).

More than 3/5th (74.51%) of the respondents replied family planning is done for birth spacing alike to the result acquired from KDH, South Rwanda. Same to majority (86%) of the respondents were vigilant about any family planning methods from Sudan (87%), Nigeria (89%), Dulikhel, and Kathmandu (90%). They were aware about the family planning methods as the government is focusing more in this area by providing free counseling and family planning measures (Sharma & Kafle, 2017).

Attitudes of women towards family planning are influenced by education and experiences such as pregnancy. It was observed that there was significance association between practices of contraceptives and level of education in our study. This result is consistent with Sudanese Household Health Survey (SHHS) 2016 where only 22% of women with no education were using modern methods of contraception compared to 52% of women with at least some secondary education. This is also supported by other studies which concluded that knowledge and practice of family planning is strongly related to higher level of education (Handady et al., 2015).

According to (WHO, 2015) in the 45 countries or areas where a single method constituted 50 percent or more of all use in 2015, the dominant methods included the pill (15 countries), injectables (10 countries), IUD (7 countries), and, in fewer countries, female sterilization, male condom, withdrawal or other traditional methods. Countries where contraceptive practice is heavily concentrated on one or two methods can be found in all regions and at all levels of overall contraceptive prevalence (Unions et al, 2015).

Regarding knowledge of contraceptive methods among married and currently married women, a study conducted in Rural Areas of Pakistan (2015) showed that almost all ever married and currently married women (99 percent each) know at least one method of family planning. Similar proportions of ever-married women (98 percent) and currently married women (99 percent) have knowledge of at least one modern method, Knowledge of any modern contraceptive method among respondents was found to be extremely high (99.3%) (Mustafa *et al.*, 2015).

The results from KDH are in line with the result of a study conducted in Malawi where most contraceptive method used implant (48%) followed by pills (19%) and only (2.0%) women know about IUD(Meskele & Mekonnen, 2014). In Ethiopia the study carried out in Kathmandu Medical College Teaching Hospital, revealed only Implant was most popular(85.6%) (Thapa, 2018).

Findings were achieved from NDHS related to the findings from KDH, where the role of health care providers as well as advertisement/media should be emphasized more in providing contraception knowledge so as to achieve more knowledge and practice related to the concerned area(Sharma & Kafle, 2017).

Similar to those who haven't practiced family planning method were further asked if they want to use in the future,15 respondents representing 28.8% said they like to use family planning in the future, 19 respondents representing 36.5% don't like to use family planning and others 18 that is 34.6% couldn't make up their minds (Beyene, 2015).

Same to KDH, the role of health care providers as well as advertisement/media should be emphasized more in providing contraception knowledge so as to achieve more knowledge and practice related to the concerned area. Among temporary methods of family planning, condom was most commonly used similar to the study from Nigeria. Whereas significantly lesser (15%) were using condom as method of family planning. As the respondents were using only some varieties of contraceptive methods so this may be due to fact that the in-depth knowledge on temporary methods of contraception is still lacking. Most of the women (60%) received their family planning information from the hospital comparable result was obtained in the present study (Valley, 2014)

In Pakistan DHS 2012-13 results which demonstrate that contraceptive use increases with age and the number of children and reaches optimal level when the couples have achieved their desired number of children. However, the study findings also draw attention to other factors like lack of awareness about the range of family planning methods, absence of health facilities providing quality family planning services, inability to afford the quality services in remote cities, and sociocultural issues like peer-pressure, restrictions on female mobility, and in-laws' disapproval. These findings are also in agreement with previous research studies. Fear of side-effects also emerged as an important impediment to contraceptive use which is also a recurrent theme in many studies conducted in developing countries including Pakistan, India, Bangladesh, and Ethiopia. In addition, religious concerns were also cited by some participants as a reason for not using contraception which was also reported as important factor impeding contraceptive adoption by previous national DHS surveys. Some other studies have also highlighted religions as an important factor influencing an individual's decision to adopt contraception (Ahmed et al., 2016).

Conclusions and recommendations

Rwanda population is still increasing rapidly with a high fertility rate which is one challenge of the development. The family planning methods is mechanisms to control birth population, however it is still a problem since the use of contraceptive methods among women responsible to sensitize and provide contraceptive methods is not enough especially in Kabutare District Hospital, Huye district which has high population rate. The mistaken information about side effects of contraceptive methods is another main barrier of low acceptance and promotion of community family planning methods. The level of knowledge on family planning methods among the population in Rwanda contribute to the practice of contraceptive methods because people with high knowledge are more like lyto promote family planning methods.

The study showed that much more must be done to raise the level of knowledge, attitudes and practices to family planning methods in the country. Thus, multiple sectors are concerned with health like to:

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