Original Article

Knowledge and Utilization of Contraceptive Methods among Secondary School Female Adolescents in Rwamagana District, Rwanda

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Abstract

Background
Adolescent pregnancy is a global health concern. Many adolescent deaths occur due to early marriage and pregnancy. This study assessed knowledge and utilization of contraception among secondary school female adolescents at selected secondary schools in Rwamagana district.

Methods
Cross-sectional design using a self-administered questionnaire was conducted on 117 participants selected by simple random. Analysis used descriptive and inferential statistics at 95% confidence interval, employing SPSS Version 23. Dependent variable was the use of contraceptive and independent variables were socio-demographics and knowledge variables. Bivariate analysis assessed the association between independent and dependent variables. Multivariate analysis assessed the strength of association between dependent and independent variables by computing Odds Ratio. Results are presented in tables and figures.

Results
The majority (88%) had heard of contraception, though knowledge about contraception was inadequate (61.54%). Level of contraceptive use was low (17%). The significant independent predictors of contraceptive use were the level of education, having heard of contraception, knowledge of source of contraception, and knowledge of specific contraception methods.

Conclusion
Hearing about contraception, was not proportionately associated with knowledge or practicing contraception among the sexually active female adolescents. There is a need to enhance sex education, youth-friendly health services, and research.

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Keywords: knowledge, contraceptive methods, adolescent, contraceptive utilization

Introduction

Around 70,000 adolescents in developing countries die annually due to pregnancy and childbirth.[1] When an adolescent becomes pregnant, her health, education, earning potential and her entire future may be in jeopardy, trapping her in a lifetime of poverty, exclusion from society, and powerlessness.[2] This is often passed down to her child, who starts life at a disadvantage, perpetuating an intergenerational cycle of marginalization, exclusion, and poverty. [2] Another health impact comprises risks of maternal death, illness, and disability, including obstetric fistula, complications of unsafe abortion, sexually transmitted infections, including HIV, and health risks to infants.[3]

In Nigeria, adolescents start sex earlier and have various sexual experiences with diverse reasons for their sexual behavior reasons being a pleasure; love and peer pressure especially for those in school.[4] Multiple and concurrent sexual partners were reported among in school females and the major outcomes of these behaviors are unintended pregnancy, unsafe abortion and STI/HIV.[3,4]

Knowledge and use of contraceptives among youth showed very wide variation among region of sub-Saharan Africa than other regions of the world.[5] In confirmation of this, study among youth aged 15-19 in Ghana, revealed that 85% knows at least one method of contraception while only 17% of sexually active youth use contraceptives, the rate for any method was 27%.[6] Similar study in Nigeria has revealed that over 60% of urban youth have heard of at least one method but only 4.7% of active youth practice contraceptives of which 3.5% of them practice modern methods.[7]
Another study in Kenya indicated that 90% of Kenyan high school students knew at least one method, 43% of female student ever used contraceptives.[8] The same study also revealed an increase in contraceptive use from 29% versus 31% during the last intercourse among female students.[8] However, only 11% of ever users considered themselves as frequent users. Knowledge of contraceptive method among youth in most countries of Latin America, the Caribbean, Asia, Near east and North Africa exceed 90%.[9]

Studies highlight that there is a lower contraceptive prevalence among adolescent which put them at increased risk of unwanted pregnancies, STIs and HIV.[6,7] In addition, sexual behavior and sexual activities done before marriage are usually unintended, infrequent and sporadic, this predisposes them to undesirable gestation and STIs, unsafe abortion.[1–4,6] It's more dangerous as they tend to seek abortion later in pregnancy; however, abortions are not paid by the government health system. [6] Meeting their contraceptive needs could prevent this problem.

In Rwanda, the rate of adolescent pregnancy was 7.3% in 2014/2015,[10] although it was reduced to 5.2% in 2019/2020.[11] Despite the government effort such as availability of free contraceptive methods, enhancing community awareness, counseling, and creating referral systems with health facilities and the community to increase follow-up of adolescent clients and preventing forced sex, the utilization of contraceptive methods by female unmarried adolescents aged 15-19 was still as low as 19.7% in 2019/2020.[11] There are several consequences of unsafe sex such as unintended pregnancies, STIs including HIV/AIDS, cervical cancers, and complications of unsafe abortion, fistula, school dropouts, disability maternal dealth and health risks to infant. [8] A lack of youth-friendly facilities, including characteristics related to the provider, health facility and program design, religion, and cultural background represent major obstacles hindering young people from accessing SRH services.[8,12,13]

National Institute of Statistics of Rwanda Provisional Population and Housing Census 2012 results revealed that Rwamagana district population was around 310,238 people.[14] Family planning was at 44.5%; fertility rate at 4.6%,

the mean number of children per reproductive woman is 5.1%.[14] Rwamagana District has 48 secondary schools with 337 classrooms. Nevertheless, there is a paucity of studies on the use of contraception among secondary school adolescents in Rwanda. This study, therefore, was conducted to assess the knowledge of secondary school female adolescents on contraception and its utilization at a selected secondary school in Rwamagana district.

Methods

Study design and setting

A cross-sectional study design was used to assess the Knowledge and Utilization of Contraceptive Methods among Secondary School Female Adolescents at a Selected Secondary School in Rwamagana District, Rwanda. Data collection was done in March, 2019 by the researchers themselves. According to the Rwanda Demographic and Health Survey, teenagers in East province are more likely to start childbearing earlier than their counterparts where the percentage of the adolescents who have begun childbearing was 10.7% in 2014/15, [10] and 6.4% in 2019/2020.[11] The selected is a public secondary school located in Nsinda sector, Rwamagana district, Eastern Province, Rwanda based on the accessibility by the researchers.

Study population

The target population of this study comprised all female adolescents between 12 and 19 years who were attending classes in the selected secondary school in March 2019. The researchers used the school registers to identify the number of female adolescents between 12 and 19 years on the study setting which was equal to one hundred sixty eight during the study period.

All female secondary school adolescents who fulfilled the inclusion criteria were recruited in the study and they were estimated around 168. The researcher employed Krejcie & Morgan formula [15] to determine the sample size as follows:

$S = X^2NP(1-P)/ d^2(N-1) + X^2P(1-P)$ s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level ($1.96^2=3.841$). N = the population size =168

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (0.05). Therefore

$S = 3.841X\ 168\ X\ 0.5\ (1-0.5)/ \{0.052(168-1) + 3.841X\ 0.5\ (1-0.5)\}$

$= 161.322/ 1.37775 = 117.09090909 \approx 117$

thus a sample of 117 was considered.

Inclusion and exclusion criteria

The inclusion criteria that were considered in this research were: being a female student, being adolescent aged between 12 and 19 years, being available in the period of data collection, parent signed the consent form to participate in the study, agree to sign the assent form. The exclusion criteria in this study were: unwilling to participate in the study and those who were not available at the time of data collection.

Sampling strategy

The study participants were selected using simple random sampling technique by randomly picking names written on small folded papers.

Measures

The researchers used a self-administered questionnaire with closed-ended questions for collecting data. The tool was adopted from a study entitled "utilization of contraceptive method among female adolescents" which was carried out by Tchokossa and Adeyemi in Nigeria.[5] The tool was converted into the local language, Kinyarwanda, to ensure better understanding for adolescents who had challenges with understanding English, and back translation for evaluating the consistency of instrument and rule out any ambiguity in the instrument which was administered to all study participants to collect data. The questionnaire included 3 sections namely: socio-demographic information, knowledge of contraceptives and contraceptive utilization.

Section one of the questionnaire assessed socio-demographic characteristics with 9 items: age, year of study, religion, marital status, level of education of participants' mothers, level of education of participants' fathers, who live with the participants, occupation of participants' mothers and occupation of participants' fathers.

Section two of the questionnaire assessed knowledge of contraceptives with 6 items: heard of contraception, know what contraception is, knows specific contraception, knows a place for contraception, contraception is a woman's business and contraceptives users may become promiscuous.

Section three assessed contraceptive utilization with 10 items: participants use of contraceptive at first sex, reasons for using contraceptives, who should use contraceptives, use of contraceptive at last sex, who decided on the last contraceptive method used, ability to get contraception by self, parent approval for contraception, think it is wise to use contraceptives, discuss/communicate about contraceptives with anyone and when the participants use contraception.

Validity and Reliability of research tool

The questionnaire pre-test was done on 10 female adolescents who were not included in the study sample. The participants who were involved in the pilot were not included in the final results of the study. The Cronbach alpha coefficient was 0.8 wwhich indicated internal consistency of the tool.

Ethical consideration

Ethical clearance was obtained from the Institutional Review Board (IRB) of the University of Rwanda (UR), College of Medicine and Health Sciences (CMHS) ref: CMHS/IRB/049/2019. The permission to conduct the study was abtained from Rwamagana district ref: NO767/05.01. The consent forms were given to female adolescents along with information sheets to take them to their homes to have their parents. Upon returning the signed consent forms from their parents, participants signed assent forms.

Pre and post counselling of participants was done because some of the questions could be of psychological discomfort to participants. The questionnaires were identified with the code numbers, remained anonymous and the researchers only accessed data.

Participants were informed that their responses would be treated confidential, and were allowed to withdraw at any time without any punishment. All rights of participants were protected.

Data collection procedure

The researchers went through the school headmaster who allowed them to reach out to the teachers and students and organized a meeting with the students to facilitate the investigators explain them about the purpose, objectives, benefits and inclusion criteria to the study. Those who were willing to participate signed the assent form before filling the questionnaire which took 30min to read and respond to the questions. The participants were informed of returning the completed questionnaire then the investigators checked the questionnaires for completeness and then thanked the participants for their participation. Because all the students and parents were not accessed at once, the data were collected during a 10 day period of time to make sure that no participants missed the opportunity to fill the questionnaire. The data collection was done by the researchers themselves.

Data analysis

Data were entered, categorized and analyzed using SPSS version 23. Descriptive statistics were used to describe socio-demographic variables, knowledge variables and contraceptive use variables by summarizing them into percentages, proportions and frequencies. Bivariate analysis was used to assess the association between independent variables (socio-demographics, knowledge) and the dependent variables (contraceptive use). Multivariate analysis was used to assess the strength of the association between dependent and independent variables by computing Odd Ratio.

Results

Socio-demographic characteristics

Table 1. Socio-demographic characteristics of participants

Variables	n	%
Age (years)		
12-14	19	16.2
14-16	52	44.4
17-19	46	39.3
Level of study		
Year 1	28	23.9
Year 2	49	41.9
Year 3	40	34.2
Marital status		
Single	106	90.6
Co-habituation	11	9.4
Religion		
Christian	93	79.5
Muslim	24	20.5
Household living arrangement		
Parents	105	89.7
Partner	12	10.3
Participants' parents:		
Education mother		
Primary	34	29.1
Secondary	58	49.6
University	16	13.7
Vocational training	9	7.7
Never attended school	0	0.00
Education father		
Primary	33	28.2
Secondary	48	41.0
University	27	23.1
Vocational training	5	4.3
Never attended school	4	3.4
Occupation mother/ guardian		
Formal	30	25.6
nformal	87	74.4
Occupation father/ guardian		
Formal	34	29.1
Informal	83	70.9

The majority of participants, 44.4%, were aged between 14-16 years, 41.9% in year two, 90.6% single, 79.5% Christians, and 89.7% lived with parents. Results related to the participants' sociodemographic showed that 49.6% of mother/guardians and 41.0% of father/guardians had completed secondary school. Also, the majority, 74.4%, of mother/guardians and 70.9% of fathers/guardians reported that informal occupation (Table 1).

Knowledge of participants on contraceptives

The majority, 88.0%, had heard of contraception, and condoms were the most known (79.5%). The majority, 73.5% knew what contraception was and a source of where to get it (59%). The majority, 45.3%, responded that contraception was not female business, and 70.1% thought that women who use contraceptives might become promiscuous and knowledge of specific methods of contraception (Figure 1 and 2).

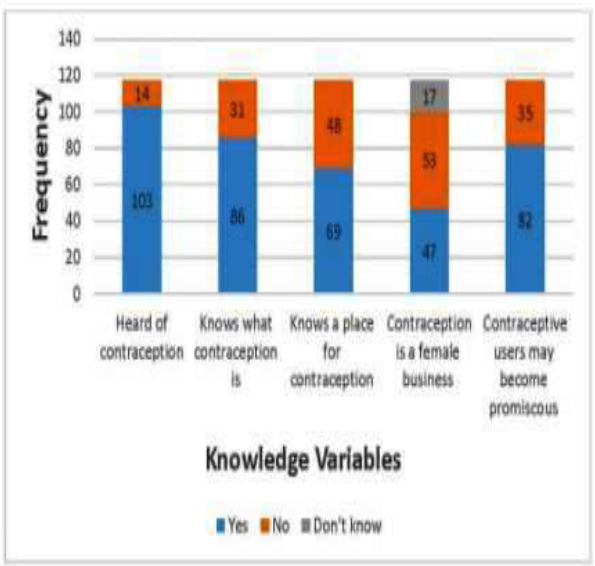

Figure 1. Knowledge of contraception (n=117)

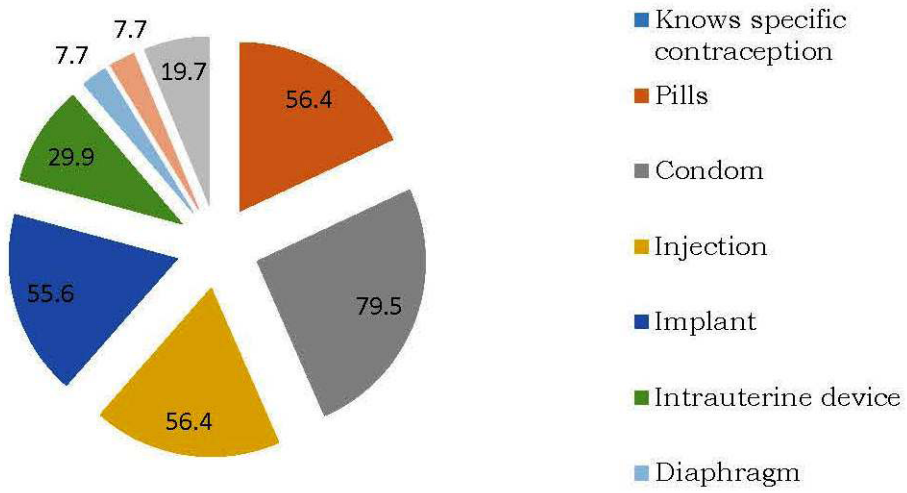

Figure 2. Knowledge of specific method of contraception (n=117)

Level of knowledge of contraception

To determine the level of contraceptive knowledge a range of 13 points was taken as maximum, with a mid-point of 7. Participants who had 6 or below (61.54%) had inadequate knowledge of contraception, and those with 7 or above (38.48%) had adequate knowledge (Figure 3).

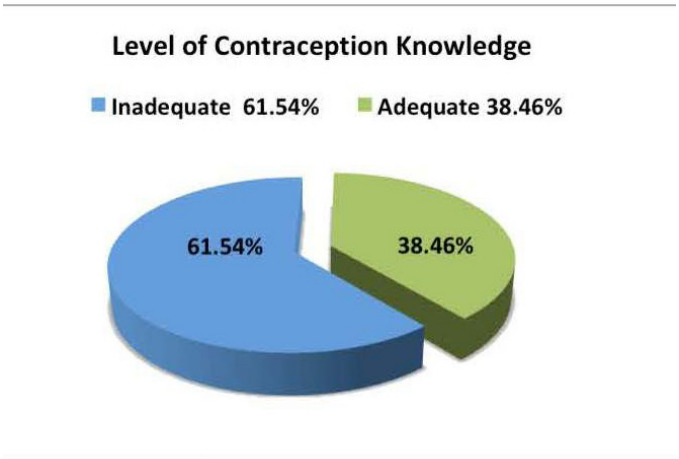

Figure 3. Level of knowledge of contraception

Contraceptive utilization for those who have ever had sexual intercourse

Figure 4 results revealed that the majority (50.4%) had previously had sex, and 61% had not used contraception the first time. The majority (68.4%) responded that it was used to avoid pregnancy, think that it is wise to use contraceptives (76.9%), and that all sexually-active persons should use contraception (62.4%). The majority of sexually active participants (57.6%) used contraception at last sex and the partner decided on the method (45.8%), even though about half (50.8%) can get contraception by themselves. The majority (69.2%) reported that their parents/guardians would object to contraception, and that they do not discuss it (81.2%). The majority (44.1%) of participants use contraception once in a while. (Figure 4)

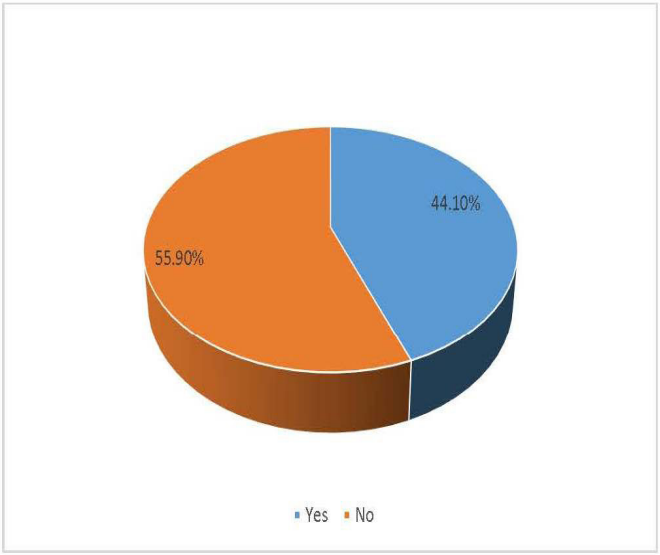

Figure 4. Contraceptive use among adolescent females

Results of associations between variables

Socio-demographic variables associated with use of contraception

From bivariate analysis, year of study (p=0.000), religion (p=0.030), level of education (p=0.002), level of fathers' education (0.000), and live with parents (p=0.015) were statistically associated with contraceptive use (p < 0.05). Whereas the other variables such as age, marital status, and mothers' and fathers' occupations were not statistically significant (p>0.05). (Table 2)

Table 2. Bivariate analysis of socio-demographics and contraception use

Variables	Use of contraception n (%)		Chi-square	p-value
	Yes	No		
Age (years)			1.028	0.598
<14	4 (33.3)	8 (66.7)		
14-16	9 (34.6)	17 (65.4)		
17-19	10 (47.6)	11 (52.4)		
Year of study			17.700	0.000
Year 1	4 (28.6)	10 (71.4)		
Year 2	0 (0.00)	15 (100)		
Year 3	19 (63.3)	11 (36.7)		
Religion			7.719	0.030
Christian	14 (32.6)	29 (67.4)		
Muslim	9 (56.3)	7 (43.8)		
Marital status			0.146	0.075
Single	23 (42.6)	31(57.4)		
Co-habituation	0 (0.0)	5 (100.0)		
Mother's education				
Primary	0 (0.00)	11 (100)	15.023	0.002
Secondary	14 (42.4)	19 (57.6)		
University	4 (40.0)	6 (60.0)		
Vocational training	5 (100)	0 (0.00)		
Father's education				
Primary	0 (0.00)	12 (100)	22.070	0.000
Secondary	7 (33.3)	14 (66.7)		
University	7 (41.2)	10 (58.8)		
Vocational training	5 (100)	0 (0.00)		
None	4 (100)	0 (0.00)		
Live with participant				
Parents	23 (45.1)	28 (54.9)	5.913	0.015
Partner	0 (0.00)	8 (100)		
Mother's occupation				
Formal	5 (23.8)	16 (76.2)	3.156	0.076
Informal	21 (33.3)	42 (66.7)		
Father's occupation				
Formal	6 (25.0)	18 (75.0)	3.326	0.068
Informal	17 (48.6)	39 (51.4)		

Knowledge variables associated with use of contraceptives

Bivariate analysis of statistically significant variables related to knowledge; ever heard of contraception (p=0.007), can define contraception (p=0.013), knows specific method (pills, condoms, injection, intrauterine devices, all p<0.05), knows a place to obtain contraception (p=0.030), and contraception is female business (p=0.004) were associated with the use of contraceptive use. Whereas, knowledge of contraceptive method (implants, diaphragm, and tubal ligation), and contraceptive users become promiscuous were not statistically significant (p>0.05). (Table 3)

Table 3. Bivariate analysis of knowledge and contraceptive use

Variables	Use of Contraception n (%)		Chi-square	p-value
	Yes	No		
Heard of contraception				
Yes	23 (38.3)	37 (61.7)	7.276	0.007
No	0 (100)	13 (100)		
Can define contraception				
Yes	23 (47.9)	25 (52.1)		
No	0 (0.00)	4 (100)	8.638	0.013
Don't know	0 (0.00)	7 (100)		
Knows specific method				
Pills				
Yes	23 (51.1)	22 (48.9)	11.727	0.001
No	0 (0.00)	14 (100)		
Condoms				
Yes	23 (100)	35 (60.0)	0.650	0.042
No	0 (0.00)	1 (100)		
Injection				
Yes	23 (51.1)	22 (48.9)	11.727	0.001
No	0 (0.00)	14 (38.9)		
Implants				
Yes	18 (41.9)	25 (58.1)	0.552	0.458
No	5 (31.2)	11 (68.8)		
Intrauterine devices				
Yes	15 (100)	0 (0.00)	31.482	0.000
No	8 (18.2)	36 (81.8)		
Diaphragm				
Yes	1 (100)	0 (0.00)	1.592	0.207
No	22 (37.9)	36 (100)		
Tubal ligation				
Yes	8 (53.3)	29 (65.9)	1.741	0.187
No	15 (34.1)	7 (46.7)		
Knows a place for contraception				
Yes	18 (50.0)	18 (50.0)	4.712	0.030
No	5 (21.7)	18 (78.3)		
Contraception is female business				
Yes	15 (45.5)	18 (54.5)	10.975	0.004
No	12 (30.8)	27 (69.2)		
I do not know	0 (0.00)	17 (100)		
Method users become promiscuous				
Yes	21 (33.3)	42 (66.7)	0.916	0.339
No	6 (23.1)	20 (76.9)		

Multiple logistic regression results of significant variables

Table 4. Results from multiple logistic regressions of variables

Variables	OR	95%CI	P value
Year of study			
Year 1(Ref)			
Year 2	1.111	0.977-1.786	0.093
Year 3	1.542	1.123-2.086	0.038
Religion of participants			
Christian(Ref)			
Muslim	1.061	0.762-1.336	0.158
Mother's education			
Primary (Ref)			
Secondary	1.374	0.998-1.585	0.091
University	1.438	1.113-1.613	0.061
Vocational training	1.211	0.831-1.583	0.073
Father's education			
Primary(Ref)			
Secondary	0.634-1.381	0.634-1.381	0.431
University	0.741-1.141	0.741-1.141	0.313
Vocational training	0.422-1.313	0.422-1.313	0.624
Live with participants			
Parents(Ref)	1.246	0.943-1.564	0.123
Partner	0.376	0.123-0.954	0.131
Ever had sex			
Yes(Ref)	1.162	9.011- 1.506	0.184
No	0.544	0.221-0.923	0.094
Age at first sex			
Under 14(Ref)			
14-16	1.013	0.778-1.432	0.111
17-19	1.386	0.994-1.501	0.182
Feelpressure for unprotected sex			
Yes (Ref)			
No	1.123	0.713-1.486	0.243
Ever sought RHS			
Yes (Ref)			
No	1.123	0.713-1.486	0.243

Table 4. Results from multiple logistic regressions of variables

Variables	OR	95%CI	P value
Heard of contraception			
Yes (Ref)			
No	0.535	0.475-0.924	0.144
Knows what contraception is			
Yes (Ref)			
No	1.122	0.854-1.532	0.321
Knows place to get a method			
Yes (Ref)			
No	0.553	0.211-0.704	0.065
Knows specific method			
Yes (Ref)			
No	0.432	0.122-0.734	0.023
woman's business			
Yes (Ref)			
No	0.653	0.212-0.986	0.047
Parent approval of method			
Would object(Ref)	0.342	0.122-0.945	0.023
Would not object			
Discuss contraceptives			
Yes (Ref)			
No	0.342	0.122-0.945	0.023
Reason for contraception			
To avoid pregnancy	0.365	0.123-0.876	0.014
No (Ref)			
Yes			
To prevent STIs			
Yes (Ref)	2.343	1.453-5.143	0.002
No			
Who should use the method			
Married couples only (Ref)			
All sexually active persons	1.211	0.865-1.654	0.231
Adults only	0.932	0.675-1.567	0.421
Unmarried couples only	1.134	0.789-1453	0.311

Variables that demonstrated significant associations with the dependent variable were recruited to multiple logistic regression analysis to identify their independent effects to the use of contraception (Table 4). Particpants in year 3 were more than one time more likely to use contraceptive methods than those who in other years (OR=1.542, 95% CI=1.123-2.086, p=0.038). Those who reported that they used contraception to prevent STIs were two times more likely to use contraception than those who did not report that reason (OR=2.343, 95% CI=1.453-5.143, p=0.002). Participants who reported that they used contraception to avoid pregnancy were more than two times more likely use contraception than those who didn't report that reason (OR=0.365,

95% CI=1.123-0.876, p=0.014). Those who did not know a specific modern contraception method had a 34.7% reduction in the odds of using contraception relative to those who knew a specific modern method (OR=0.653, 95% CI=0.212-0.986, p= 0.047). Participants who did not consider contraception female business had a 34.7 % reduction in the odds of using contraception than those who thought it was female business (0.653, CL=0.212-0.986, p=0.047). Those who reported that their parents would not object had a 65.8% reduction in the odds of using contraception relative to those whose parent would object (OR=0.342, 95% CI=0.122-0.945, p= 0.023). Participants who do not discuss the use of contraception had a 63.5% reduction in the odds of using contraception relative to those who discuss the use of it (OR=0.342, 95% CI=0.123-0.876, p= 0.014). (Table 4)

Discussion

This study assessed the knowledge and contraceptive use among secondary school female adolescents at a selected secondary school in Rwamagana district, Rwanda. On sociodemographic variables, the findings of this study tally with ones from the study done in in Atwima Kwanwoma District, Ashanti region-Ghana assessing contraceptive use and associated factors among sexually active female adolescents where it was found that more than half of the participants (52.5%) were between 16 to 19 years.[16] Out of the total number of respondents, 22.5% of their parents had formal education.

Most of the respondents (37.5%) were Christians. This agrees with the findings of the study conducted by Chukwuma and colleagues to assess sexual behaviour, contraceptive knowledge and use which demonstrated that the majority of participants were predominantly Christians (97%),[17] and the study by which revealed 41% representing 41% and 9% representing Islam.[18] On the other hand, the findings disagree with the results of the study conducted in Ethiopia to assess contraceptive use among sexually active female adolescents which revealed that the majority of participants (39.5%) of the participants were Muslims.[19]

As far as Knowledge of contraceptives is concerned, this study agrees with the study conducted in Nigeria which revealed that the majority of participants (98%) stated that they had ever heard about modern methods of contraception. Similarly, a study one in Ghana to assess the knowledge and use of contraception reported that a big number of participants (96%) could tell that they understood some methods of contraception. [16] This however, differs from findings of a study done in India where the percentage of participants who were unaware of contraceptives was higher (51.0%) than those who had heard something about contraceptives (49.0%).[20]

Knowledge level of secondary school female adolescents on contraception was assessed in this study and the results showed that the majority (61.54%) had inadequate knowledge on contraceptives. This is in line with a similar study, knowledge of contraceptives among high school female adolescents carried out in the central region of Sudan which demonstrated that less than a half (49%) had adequate knowledge. [5] However, different results were found in the study done in Nigeria which showed that the majority (61.5%) of participants had adequate knowledge about contraceptives. [5] In similar vein, another study revealed that the majority of participants (95%) had adequate knowledge on contraceptives in Ghana.[21] This is probably due to the difference in cultures between Rwanda and Nigeria/Ghana.

The utilization of contraceptive methods among secondary school female adolescents was assessed in this study. The results showed that the overall use of contraception was low (17%). This is consistent with the literature from WHO and a study done in Guinea which state that the use rate of modern contraceptives by female adolescents is lower and the unmet needs for contraception in adolescent girls is higher in comparison to married women between 20-24 years.[22,23]

The low level of contraceptives among this age group contributes to a significant prevalence of adolescent pregnancy. This is probably because the government focuses on married women when encouraging the use of contraception and the culture in Rwanda which does not give room for contraception in adolescents.

Adolescents' access to contraception is a much bigger concern especially unmarried ones, because of policy and cultural constraints.[23] This is also much applicable in Rwamagana community and Rwanda in general as far as culture is concerned. Similarly, Chhabra and Singh in India reported that none among the participants has used contraception during first sexual intercourse.[24] In a similar vein, a descriptive study on effect of peer counselors on adolescent compliance in use of oral contraceptives revealed that adolescent usually participate in accidental, sporadic sexual acts.[24] As a result, they don't use contraceptives during sexual act. When they first become sexually active, adolescents tend to rely on condoms, withdrawal, and informal ovulation-timing methods.[25] As they become more sexually active, they tend to do transition to hormonal methods of contraception, which requires formal engagement with a health service provider.[25] They are less likely to have the enthusiasm and ability to consume a contraceptive method appropriately. However, another study revealed that the levels of contraceptive use among senior high school female adolescents were substantially and consistently higher in Latin America in some regions of Cuba (83%).[26] This may be due to culture constraints or poor quality of available health services in these counties.

The findings on socio-demographic variables associated with use of contraception tally with the information documented,[27–29] which revealed that low or absence of sex education in school, at home or in youth centers predisposes adolescents to incorrect or deficient information about contraception. Unfortunately, the topic of sexual intercourse is taboo even in most developed countries for example in American households where it is known that few schools in America have adequate sex education programs. As a result, most adolescents first learn about sex from their misinformed and misguided peers.[26,27,30]

To corroborate this study,[27,31] revealed that contraceptive education aims to provide clients with the basic information they need to make informed decisions about the use of contraception and to effectively use the contraceptive methods they have selected. He also claimed that the importance of contraceptive education can be seen in the impact of knowledge on the selection and correct and consistent use of contraception. Many female school adolescents indicate that contraceptive effectiveness is one of the most important means to prevent unwanted pregnancy.[26]

The findings on the knowledge factors associated with use of contraceptives agree with the findings from the study which concluded there is little indication of consistent and regular use of contraception. [18,32] In a study carried out in Nigeria, over 60% of participants have heard of at least one method but only 4.7% of sexually active female students use contraceptives.[5,33]

The findings from this study disagree with the results Ghana where the knowledge on contraceptives did not translate into use as the knowledge on contraceptive methods was high (87.7%) but utilization was low (17.9%). [34] This is due to incorrect perceptions of the risks and side effects of contraceptive use. Despite the importance of education, gaps in contraceptive knowledge have been documented frequently.[31,35]

Conclusion

This study shows that, the participants' level of knowledge about contraceptives was low and the utilization of contraceptives was low. Level of education and the knowledge of participants were significantly associated with the use of contraceptive methods. There is a need to enhance sex education to improve the knowledge of contraceptives as well as the utilization of various contraceptive methods.

The authors recommend a change in attitude, mobilization of female adolescents to pick contraceptives and fostering the connection of culture in education of female adolescents. A qualitative study using conventional content analysis to explore more about factors contributing to non-use of contraceptives among female high school adolescents is needed.

Conflict of interest statement

The authors declare no conflict of interest in this study

Authors' contributions

IN developed the proposal, collected and entered data, drafted the manuscript. MM and AN developed the proposal, read, corrected and approved the manuscript. EB did the data analysis and interpretation of data, EU collected and entered data. DM, JM, FB, EN, JM, PN, DM, MLT and VM participated in data collection, data entry, and literature review. All authors drafted, read and approved the manuscript.

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