

Knowledge, Attitude and Practice of Modern Contraceptive Use among Adolescent Girls in Muhanga District, Rwanda

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Abstract: Modern contraceptive use is an effective strategy for preventing unintended pregnancies among adolescent girls and young women. However, its utilization is influenced by socio-demographic, cultural, and behavioral factors. This study assessed the level of knowledge, attitudes, and practices regarding modern contraceptive use and identified factors associated with its utilization among adolescent girls aged 15–19 years in Muhanga District, Rwanda. A cross-sectional study design was employed among 398 adolescent girls selected using the Yamane formula. Data were collected using a structured questionnaire and analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics and logistic regression analysis were conducted to examine factors associated with modern contraceptive use. Ethical approval and informed consent procedures were observed before data collection. The mean age of respondents was 17.3 years, with those aged 18 years constituting the largest proportion (29.2%). Most respondents were attending secondary school (60.1%), were Catholic (44.2%), lived with parents or guardians (91.2%), and were covered by Mutuelle de Santé (97.2%). Overall, 56.2% of respondents had a high level of knowledge about modern contraceptive use, while 29.1% had a low level of knowledge. Regarding attitudes, 69.3% demonstrated a positive attitude toward modern contraceptive use, whereas 36.1% demonstrated a negative attitude. The prevalence of lifetime modern contraceptive use was 33.4%. Bivariate analysis identified significant associations between contraceptive use and age, living arrangement, awareness of risks associated with unprotected sex, and discussion of sexual and reproductive health. In multivariable logistic regression, age, awareness of risks associated with unprotected sex, and discussion of sexual and reproductive health remained significant independent predictors of modern contraceptive use. The findings indicate that despite relatively high knowledge and generally positive attitudes, modern contraceptive use among adolescent girls remains limited. Strengthening adolescent-friendly reproductive health services in schools and health facilities, with emphasis on accessibility, confidentiality, accurate information, and supportive communication, may contribute to increased contraceptive uptake and reduced unintended and teenage pregnancies.

Keywords: KAP, Modern Contraceptive, Adolescent Girls, Southern Province, Rwanda.

1. INTRODUCTION

Unintended pregnancy remains a major global public health concern, particularly among adolescents and young women. According to the United Nations Population Fund (UNFPA, 2015), approximately 85 million pregnancies worldwide were unintended in 2012, representing about 40% of all pregnancies. A substantial proportion of unintended pregnancies resulted in abortion, miscarriage, or unplanned births. Unsafe abortion also contributes significantly to maternal morbidity and mortality, particularly in low- and middle-income countries (Uwamariya et al., 2015). Adolescents may have general awareness of contraceptive methods such as implants, intrauterine devices (IUDs), and natural family planning; however,

gaps remain in their knowledge of available methods, appropriate use, effectiveness, and possible adverse effects (Ruiz et al., 2012; UNFPA, 2015).

Adolescence is a critical stage characterized by physical, psychological, and social changes, as well as increased exposure to risk-taking behaviours, including unprotected sexual activity (Shallon et al., 2021). Unprotected sexual intercourse can result in unintended pregnancy, unsafe abortion, sexually transmitted infections (STIs), and adverse maternal and neonatal outcomes. Adolescent pregnancies are associated with increased risks of maternal and perinatal complications, including low birth weight and perinatal mortality (Abdul-razak, 2016). Consequently, promoting access to modern contraceptives and encouraging informed and safer sexual practices are important strategies for reducing unintended pregnancies and related reproductive health complications.

The burden of unmet reproductive health needs is particularly pronounced in low- and middle-income countries, where approximately nine out of ten adolescents live (UNFPA, 2015). In Africa, unmet reproductive health needs contribute to unintended pregnancies, maternal and child morbidity, and mortality (Blanc, 2018). Contraceptive use also varies considerably according to age, marital status, residence, education, and socioeconomic circumstances. For example, evidence from South Africa indicated that 19.6% of teenagers used contraception in 2015 (Keele et al., 2015). Similarly, substantial disparities in contraceptive use have been reported across African countries, demonstrating the continuing importance of improving access to appropriate and acceptable family-planning services.

Studies from other African countries further demonstrate challenges in adolescent contraceptive use. In Ghana, Abdul-razak (2016) reported that a large proportion of adolescents lacked adequate information about modern contraceptive methods, contributing to low contraceptive uptake. In Kenya, contraceptive prevalence has increased over time, although disparities have persisted according to residence and educational attainment (Oindo, 2012; Mutungi et al., 2019). In addition, inadequate knowledge about modern contraceptive methods has been associated with adolescent childbearing and abortion (Subedi, 2016). These findings suggest that knowledge, access to information, social circumstances, and other contextual factors may influence adolescents' contraceptive practices.

In Rwanda, adolescent sexual and reproductive health remains an important public health concern because of the potential consequences of unintended pregnancy and STIs, including HIV/AIDS (Uwamariya et al., 2015). According to the Rwanda Demographic and Health Survey (RDHS) 2019–20, contraceptive use among currently married women aged 15–49 years was 64%, with 58% using modern methods and 6% using traditional methods. Modern contraceptive use increased from 48% in 2014–15 to 58% in 2019–20 (RDHS, 2019–20). Despite this progress, adolescent pregnancy remains a concern. The same survey reported that 5% of Rwandan girls aged 15–19 years had begun childbearing, including 4% who had already given birth and 1% who were pregnant with their first child. The proportion was highest in the Eastern and Southern regions (6%) and lowest in the Western region and City of Kigali (4%) (RDHS, 2019–20).

Preventing adolescent pregnancy is therefore an important component of improving maternal and newborn health outcomes (Uwamariya et al., 2015). Evidence indicates that unintended pregnancies can have substantial health and social consequences for adolescent girls, including increased risks associated with pregnancy and childbirth and disruption of educational and social opportunities. Strengthening adolescents' access to accurate reproductive health information and appropriate contraceptive services is consequently essential.

Although national-level evidence demonstrates progress in contraceptive use in Rwanda, limited evidence may remain regarding the knowledge, attitudes, and practices of adolescent girls at the district level. Understanding the factors associated with modern contraceptive use among adolescents is important for developing context-specific interventions. Therefore, this study assessed the level of knowledge, attitudes, and practices regarding modern contraceptive use and identified factors associated with its utilization among adolescent girls aged 15–19 years in Muhanga District, Rwanda.

2. METHODOLOGY

2.1 Research Design

A cross-sectional design was used to conduct this study in which data was collected for adolescent girls aged between 15 to 19 years old who were residents of Muhanga District.

2.2 Study area

This study was carried out in Muhanga district located in southern province of Rwanda.

2.3 Study population

The study targeted adolescent girls aged 15 to 19 years old who were among the 98,347 adolescent girls' resident of Muhanga district from its 12 sectors during the period of data collection.

2.4 Sample size Determination

In this study, sample size was determined using a formula that was established by Yamane (1967). The formula used to produce sample size based on the desired precision, desired confidence level, and estimated percentage of the characteristic current population. In this form, sample size $n = N / [1 + N (e)^2]$.

Where:

n: Sample size,

N: Target population and

e: Marginal error

This study also assumes the 95% as confidence level and maximum variance ($P=95\%$). Therefore, $e = 1 - 0.95 = 0.05$ and 98,347 adolescent girls as target population.

Substituting

$N=98,347$

$e=0.05$

$n = 98347 / [1 + 98347 (0.05)^2]$

$n = 98347 / [1 + (98347 \times 0.0025)]$

$n = 98347 / (1 + 245.8675)$

$n = 98347 / 246.8675$

$n=398.3 \approx 398$ respondents.

Therefore, the sample size is **398**.

2.5 Research Instruments

A structured survey tool was used to collect primary data from respondents and it was established in English language and was used by data collectors by interviewing each participant in local language (Kinyarwanda).

3. RESULTS

3.1 Socio-demographic characteristics of Respondents

A total of 398 participants were interviewed. The age between 15-19 years old with a mean age of 17.3 and standard deviation of 1.16 years. The table 4.1 presents the socio-demographic characteristics of participants. Slightly more than half that the majority of respondents ($n=221$, 57.0%) were in the age band of 15 to 17 years old while 187 (47.0%) were in the age band of 18 to 19 years old. The level of education was taken as point of analysis to understand the population study characteristics and Majority of the respondents were secondary school ($n=239$, 60.1%) followed by primary school ($n=153$, 38.4%) and then vocational training ($n=6$, 1.5%) and finally, no education ($n=0$, 0.0%) had the least respondents and show how the level of education influence the use of modern contraceptive.

The most common religion was Catholic ($n=176$, 44.2%), then Protestant ($n=121$, 30.4%), followed Adventist ($n=73$, 18.4%) of respondents, whilst Muslim ($n=22$, 5.5%) and other ($n=6$, 1.5%) illustrates that religion was the predominant by Christianity and the role of religious organization to the use of contraceptive among young girls needs more attention. The most common medical insurance was mutuelle de sante ($n=387$, 97.2%), then RSSB ($n=9$, 2.3%) whilst no concerned ($n=2$, 0.5%) illustrates that medical insurance status was the predominant by government initiative and public medical insurance RSSB and the role of government to the provision of the access to the use of contraceptive among adolescent girls needs more attention and policy to be concerned the provision of the such contraceptives such pills.

The majority of respondents were single ($n=391$, 98.2%), whilst cohabitating/ living with a partner ($n=7$, 1.8%). The majority of respondents were living with their parents/guardian ($n=363$, 91.2%), living with siblings ($n=27$, 6.8%), living alone ($n=1$, 0.3%), whilst living with a partner ($n=7$, 1.7%) illustrates that there still adolescent girls engaged in the sexual intercourse not only they were supposed to, but because they don't have choice to live alone. The level of parents/guardians education was taken as point of analysis to understand the population study characteristics. Majority of the parents/guardians were primary school ($n=197$, 49.5%) followed by secondary schooled ($n=116$, 29.1%) then by no educational level ($n=66$, 16.6%) and vocation training ($n=12$, 3.0%) and finally, university ($n=7$, 1.8%) had the least respondents.

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Frequency (n= 398)	Percent (%)
Age in years		
15-17	211	53.0
18-19	187	47.0
Level of education		
Primary school	153	38.4
Secondary school	239	60.1
Vocational training	6	1.5
No education	0	0.0
Religion		
Catholic	176	44.2
Adventist	73	18.4
Protestant	121	30.4
Muslim	22	5.5
Others	6	1.5
Health insurance		
Mutuelle de santé	387	97.2
RSSB	9	2.3
Sanlam	0	0.0
Radiant	0	0.0
Britam	0	0.0
UAP	0	0.0
Other	0	0.0
No medical insurance	2	0.5
Marital status		
Single	391	98.2
Cohabitating/living with a partner	7	1.8
Living status		
Herself	1	0.3
Living with her parents/guardian	363	91.2
Living with partner	7	1.7
Living with siblings	27	6.8
Other	0	0.0
Parent/Guardian education Level		
Primary	197	49.5
Secondary	116	29.1
University	7	1.8
Vocational training	12	3.0
No education level	66	16.6

Source: Primary Data

3.2 Presentation of Findings

3.2.1 Knowledge about modern contraceptives use

All participants were asked to express their perception on the statements were asked to freely give their view about knowledge of the use of modern contraceptives, how they know about it, access it, use it and frequently usage. Table 1: demonstrates that the majority ($n=331$, 83.1%) of participants answered Yes when asked if they have ever discussed or attended any session related to sexual and reproductive health and the same number ($n=331$, 83.1%) of participants answered Yes when asked if they have ever heard of modern contraceptive and also the majority ($n=285$, 71.6%) of participants answered Yes when asked if they were aware of risk associated with un protected sex, 331(83.1%) of adolescent girls interviewed are aware of where they can obtain modern contraceptive from and 226(56.8%) know about side effects modern contraceptives can cause.

Table 2: Knowledge of modern Contraceptive Use

Knowledge of modern contraceptive use			
Responses, N=398			
Statement	Variables	Yes, n (%)	No, n (%)
Having discussed of sexual and reproductive health	Have you ever discussed or attended any sessions about sexual and reproductive health?	331(83.1%)	67(16.8%)
	Have you ever heard of modern contraception?	331(83.1%)	67(16.8%)
Source of information about modern contraceptives	Family/ Partner	18(4.5%)	380(95.5%)
	Health Professional	40(10.1%)	358(89.9%)
	Friends/ Boy friend	20(5.0%)	378(95.0%)
	School	218(54.8%)	180(45.2%)
	Church/Mosque	0(0.0%)	398(0.0%)
	Media/Radio/TV/Magazine/Books	35(8.8%)	363(91.2%)
Being aware of risk associated with unprotected sex	Are you aware of the risks associated with unprotected sexual intercourse?	285(71.6%)	113(28.4%)
Modern Contraception a method of preventing unintended pregnancy	Is modern contraception a method or process of preventing unintended pregnancy	289(72.6%)	109(27.4%)
Which type of modern contraceptive do you know?	Condoms	89(22.4%)	309(77.6%)
	Pills	36(9.0%)	362(91.0%)
	Injectable	14(3.5%)	384(96.5%)
	Implants	0(0.0%)	398(100.0%)
	Intra-Uterine Devices	0(0.0%)	398(100.0%)
	More than one	192(48.2%)	206(51.8%)
	Don't know	67(16.8%)	331(83.2%)
Where can be modern contraceptives obtained from	Health facility	172(43.2%)	226(56.8%)
	Pharmacy	57(14.3%)	341(85.7%)
	Community health workers	14(3.5%)	384(96.5%)
	School/Youth corner (safe spaces)	36(9.0%)	362(91.0%)
	More than one	52(13.1%)	346(86.9%)
	Don't know	67(16.8%)	331(83.2%)
There are side effects associated with use of modern contraceptives	There are side effects associated with modern contraceptives use	226(56.8%)	172(43.2%)

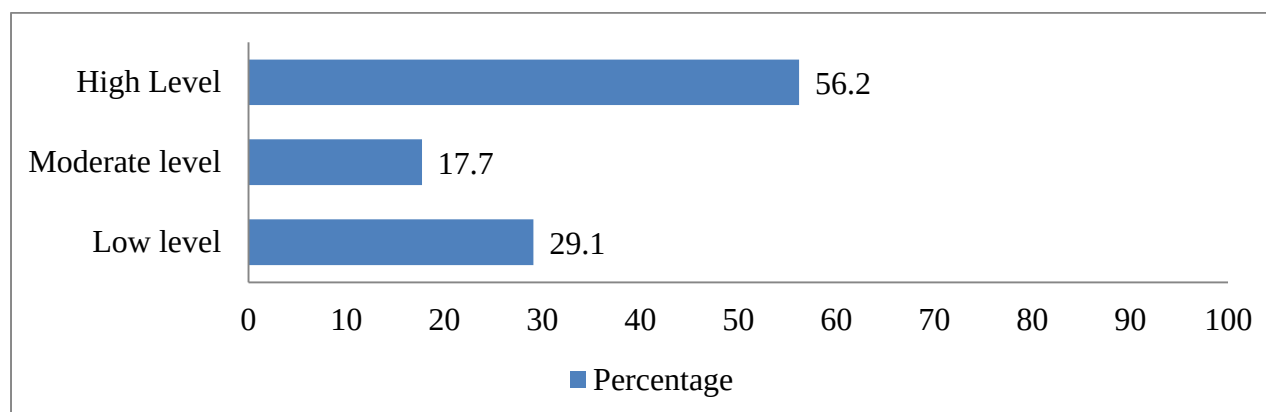
List the side effects of using modern contraceptive do you know?	Abdominal pain	11(2.8%)	387(97.2%)
	Back pain	25(6.3%)	373(93.7%)
	Bleeding	23(5.8%)	375(94.2%)
	Change in body weight	29(7.3%)	369(92.7%)
	Dizziness	10(2.5%)	388(97.5%)
	Fertility issues	41(10.3%)	357(89.7%)
	Headache	23(5.8%)	375(94.2%)
	Libido changes	8(2.0%)	390(98.0%)
	Menstrual irregularities	10(2.5%)	388(97.5%)
	Nausea	31(7.8%)	367(92.2%)
	Uterine fibroid	15(3.8%)	383(96.2%)

Source: Primary data

Overall score of knowledge about modern contraceptive use among adolescent girls

Seven (7) questions intended to assess the level of knowledge of participants were from question 8 to question 16 as evidence by appendix 3. Thus were evaluated using SPSS score assessment. The overall score was calculated by adding up the scores for each respondent across all 7 questions. The maximum score was 7 and minimum 0. The total scores were converted into a percentage and categorized using the modified Bloom's cut off points and those who obtained 80% and above were considered as a high level of knowledge, 50 to 79% as moderate level of knowledge and those scored below 50% were classified as a low level of knowledge about modern contraceptive use. After aggregating the scores and converting into percentages as shown in the figure 4.2, the highest percentage (56.2%) had high level of knowledge, 17.7 % had moderate level while 29.1% were classified as having low level of knowledge.

Figure 1: Level of knowledge about Modern Contraceptive use



3.2.2 Attitude towards Modern Contraceptive use

All respondents were asked to express their perception on the statements that were asked to freely give their response about their attitude on modern contraceptives use among adolescent girls. As indicated in the table 4.3, majority (n=277, 69.6%) agreed that adolescent girls should be allowed and facilitated to obtain modern contraceptives and (n=53, 13.3%) strongly agreed on the statement while (n=4, 1.0%) remained uncertain, (n=51, 12.8%) disagreed and (n=13, 3.3%) strongly disagreed on the statement. When asked about the discussion of modern contraceptives where girls meet, majority (n=259, 65.1%) agreed on the statement and (n=50, 12.6%) strongly agreed while (n=51, 12.8%) disagreed, (n=18, 4.5%) strongly disagreed and (n=20, 5.0%) remained uncertain. The majority (n=283, 71.1%) again responded that they agreed with the statement when asked if adolescent girls should pay attention to the use of modern contraceptive while (n=74, 18.6%) strongly agreed with them and (n=37, 9.3%) disagreed while (n=4, 1.0%) remained uncertain. 218(54.8%) agreed that they could advise their friends and other adolescent girls to use modern contraceptive, (n=112, 28.1%) disagreed on the statement while (n=63, 15.8%) strongly agreed on the statement and (n=5, 1.3%) remained uncertain on the statement.

When asked if inappropriate use of modern contraceptives is due to low level of knowledge, majority (n=261, 65.6%) agreed on the statement and (n=79, 19.8%) while (n=54, 13.6%) disagreed and (n=4, 1.0% remained uncertain on the statement. Majority (n=323, 81.1%) of the respondents disagreed when asked if modern contraceptives should be available without prescription and (n=47, 11.8%) agreed on the statement while (n=15, 3.8) were uncertain and (n=13, 3.3%) strongly disagreed on the statement.

When asked if repeated use of modern contraceptive by adolescent girls causes health risk, majority (n=233, 58.5%) agreed and (n=80, 20.1%) strongly agreed while (n=58, 14.6%) disagreed, (n=23, 5.8%) were uncertain and (n=4, 1.0%) strongly disagreed on the statement. They were also asked if adolescent girls should be allowed to access modern contraceptive without parents/guardians consent, here their majority (n=207, 52.0%) agreed while (n=155, 39.0%) disagreed on the statement and (n=28, 7.0%) were uncertain and (n=8, 2.0%) strongly disagreed on the statement.

When asked if sexual intercourse with modern contraceptives is not good, majority (n=300, 75.4%) disagreed while (73, 18.3%) agreed and (n=17, 4.3%) were uncertain and other (n=4, 1.0%) strongly disagreed on the statement. The last statement on attitude was asking if the process of obtaining modern contraceptive is embarrassing, their majority (n=253, 63.5%) agreed and (n=95, 23.9%) strongly agreed while (n=45, 11.3%) disagreed and (n=5, 1.3%) were uncertain. Therefore, public health institution and private, NGOs supporting the provision of modern contraceptive need to create strategies that make the adolescent girls comfortable with the use of modern contraceptive.

Table 3: Attitude toward Modern Contraceptives

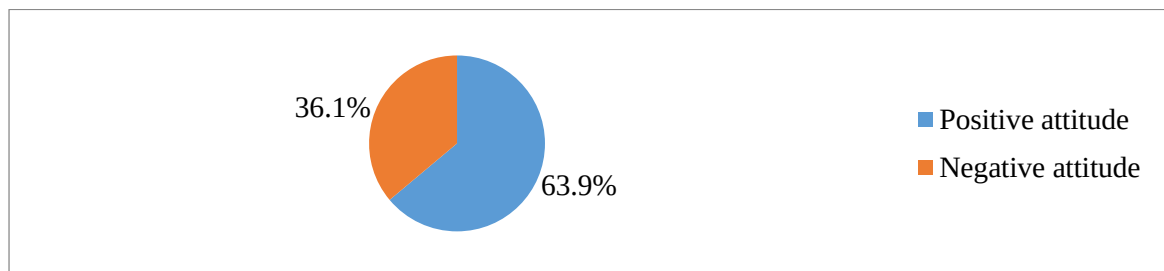
Attitude towards Modern Contraceptives					
Statements	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
	Positive	Statement			
Adolescent girls should be allowed and facilitated to obtain modern contraceptive	13 (3.3)	51 (12.8)	4 (1.0)	277 (69.6)	53 (13.3)
Modern contraceptives use should be discussed where adolescent girls meet like at school, safe spaces, youth clubs, ...	18(4.5)	51(12.8)	20(5.0)	259(65.1)	50(12.6)
Adolescent girls should pay attention to the use of modern contraceptive	0 (0.0)	37 (9.3)	4 (1.0)	283 (71.1)	74 (18.6)
Could you advise your friends and other adolescent girls to use modern contraceptive	0 (0.0)	112 (28.1)	5 (1.3)	218 (54.8)	63 (15.8)
Inappropriate use of modern contraceptives is due to low level of knowledge	0 (0.0)	54 (13.6)	4 (1.0)	261 (65.6)	79 (19.8)
	Negative	Statement			
Modern contraceptives should be available without prescription	13 (3.3)	323 (81.1)	15 (3.8)	47 (11.8)	0 (0.0)
Repeated use of modern contraceptive by adolescent girls causes health risk	4 (1.0)	58 (14.6)	23 (5.8)	233 (58.5)	80 (20.1)
Adolescent girls should be allowed to access modern contraceptive without parents/guardians consent	8 (2.0)	155 (39.0)	28 (7.0)	207(52.0)	0 (0.0)
Sex intercourse with modern contraceptive is not good	4 (1.0)	300 (75.4)	17 (4.3)	73 (18.3)	4 (1.0)
The process of obtaining modern contraceptive is embarrassing	0 (0.0)	45 (11.3)	5 (1.3)	253 (63.5)	95 (23.9)

Source: Primary data

Overall score of attitudes

The structure of determining the level of attitude is presented in Appendix 4 using ten statements with five positive and five negative statements. The following scores Strongly Agree = 4, Agree = 3; Uncertain=2, Disagree =1, Strongly Disagree = 0 used for positive statement while Strongly Agree=0, Agree = 1; Uncertain=2, Disagree =3, Strongly Disagree=4 used for negative statements. The top score was 40 and possible minimum score was 0. The mean of the score was computed and it was 23.36% the overall mean percentage score equals to 58.4%. Therefore, those scored greater than the mean were classified as having positive attitude while those performed below the mean were considered as having negative attitude. As indicated in Figure 4.3, more than the mean percentage score (63.9%) of the respondents had a positive attitude towards modern contraceptive use among adolescent girls in Muhanga District.

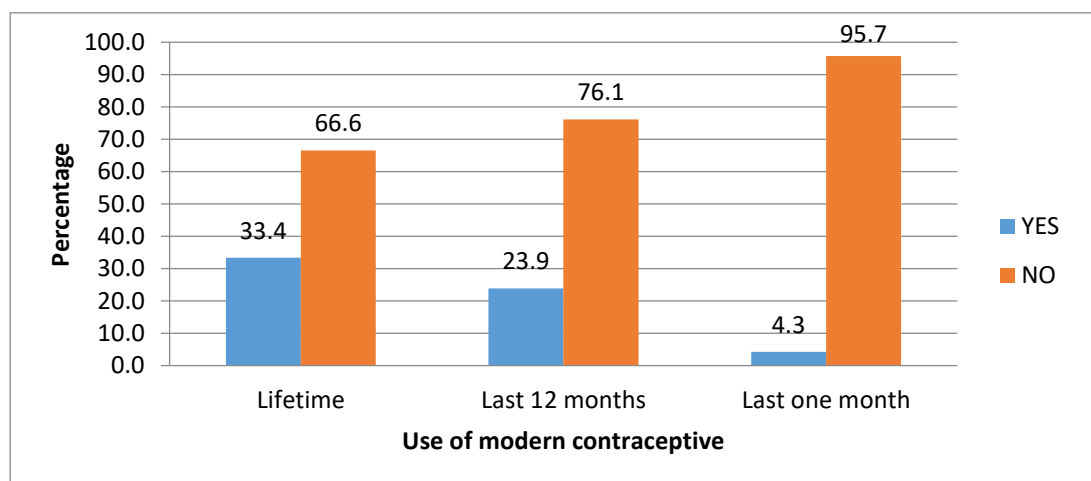
Figure 3: The Level attitude of Modern contraceptive use among Adolescent Girls



Practice of Modern Contraceptives

The participants responded about whether they have used modern contraceptive in lifetime, in the last 12 months (Last year) and in the last one month and the distribution is presented in the figure 4 below; The prevalence rate of modern contraceptive use among adolescent girls in lifetime was 33.4%, 29.9% in the last 12 months and 4% in the last one month. In this study as the main outcome was in lifetime.

Figure 4: Practice of modern Contraceptives among Adolescent Girls



Frequencies, types and Reasons of Modern Contraceptives Use

Table 4 below shows the descriptive analysis of frequencies of modern contraceptives used in the different times including life time, last one year and in the last one month. The table further presents the methods of modern contraceptives used and also the reasons for using the them. About half (47.4%) of the respondents were using once in their lifetime and about (48.4%) used them more twice in the last 12 months. Among those who used in the last one month, most (94.1%) used them once. The main type of modern contraceptives used was condoms (58.6%) followed by pills (18.8%) and injectable (2.3%). The highest percentage (42.9%) indicated that they started using modern contraceptives at age of 17 followed by (24.8 %) at the age of 18 years. The most common reason for using modern contraceptives was to prevent unplanned pregnancy (66.2%) followed by prevention of HIV/AIDS (24.8%).

Table 3: Practice of using Modern Contraceptives

Variable	Frequency	Percent
Frequency for modern contraceptives use in lifetime (n=133)		
Once	63	47.4
Twice	33	24.8
Three times and above	37	27.8
Frequency of modern contraceptive use in last 12 months(n=95)		
Once	44	46.3
Twice	46	48.4
Three times and above	5	5.3
Frequency of modern contraceptive use in last one month (n=17)		
Once	16	94.1
Twice	1	5.9
Three times and above	0	0.0
Type of modern contraceptives used in lifetime (n=133)		
Condoms	78	58.6
Pills	25	18.8
Injectable	3	2.3
Implant	0	0.0
Intra Uterine Devices (IUD)	0	0.0
More than one method	27	20.3
Side effect after using modern contraceptive (n=133)		
Yes	15	11.3
No	118	88.7
At which age did you use modern contraceptives at the first time (n=133)		
15	0	0.0
16	17	12.8
17	57	42.9
18	33	24.8
19	26	19.5
Reason for modern contraceptive use (n=133)		
To prevent unplanned pregnancy	88	66.2
To prevent HIV/AIDS	33	24.8
To prevent sexual transmittable diseases (STI)	8	6.0
Medical reason	0	0.0
Curiosity	2	1.5
I don't know		

Source: Primary data

3.2.3. Factors associated with modern contraceptives use among adolescent girls

The bivariate analysis using Chi-square (χ^2) test was performed to establish factors influencing modern contraceptive use among adolescent girls in Muhanga District.

Table 4: Factorss associated with modern Contraceptive use among adolescent Girls

Demographic variables	Modern contraceptive use		Chi square	df	p-value
	Yes n (%)	No n (%)			
Age group in years			13.57	1	<0.001
15–17 years	39 (18.5)	172 (81.5)			
18–19 years	66 (35.3)	121 (64.7)			
Education level			0.19	1	0.663
Primary school	38 (24.8)	115 (75.2)			
Secondary school and above	67 (27.3)	178 (72.7)			
Living status			9.72	3	0.021
Living with parents/guardian	89 (24.5)	274 (75.5)			
Living with siblings	11 (40.7)	16 (59.3)			
Living with partner	4 (57.1)	3 (42.9)			
Herself	1 (100.0)	0 (0.0)			
Ever discussed sexual and reproductive health			27.26	1	<0.001
No	0 (0.0)	67 (100.0)			
Yes	105 (31.7)	226 (68.3)			
Awareness of risks associated with unprotected sex			34.58	1	<0.001
No	6 (5.3)	107 (94.7)			
Yes	99 (34.7)	186 (65.3)			

Source: Primary data

Table 4, demonstrate that age group ($\chi^2 = 13.57$, $p < 0.001$), living status ($\chi^2 = 9.72$, $p = 0.021$), discussion about sexual and reproductive health ($\chi^2 = 27.26$, $p < 0.001$), and awareness of risks associated with unprotected sex ($\chi^2 = 34.58$, $p < 0.001$) were significantly associated with modern contraceptive use. Older adolescents aged 18–19 years, respondents living with partners, those who had discussed sexual and reproductive health issues, and those aware of the risks of unprotected sex were more likely to use modern contraceptives compared to their counterparts. However, education level was not significantly associated with modern contraceptive use among the respondents ($\chi^2 = 0.19$, $p = 0.663$).

4. CONCLUSION

The study concludes that adolescent girls in Muhanga District demonstrated a relatively high level of knowledge and generally positive attitudes toward modern contraceptive use; however, the reported level of contraceptive practice remained comparatively low. The findings further indicate that age, awareness of the risks associated with unprotected sexual intercourse, and discussion of sexual and reproductive health were significant independent factors associated with modern contraceptive use. Older adolescents and those who were aware of the risks of unprotected sex or engaged in discussions about sexual and reproductive health were more likely to report modern contraceptive use than their counterparts.

Overall, the findings suggest that knowledge and positive attitudes alone may not necessarily translate into contraceptive use among adolescent girls. Strengthening adolescent-friendly reproductive health services, improving access to accurate and confidential contraceptive information, and promoting open and appropriate communication about sexual and reproductive health may help address barriers to contraceptive utilization. These measures could contribute to improved reproductive health outcomes and reduced unintended pregnancies among adolescent girls in Muhanga District.

5. RECOMMENDATION

Based on the study findings and conclusions, the Ministry of Health, health facilities, schools, and educational institutions should strengthen adolescent-friendly reproductive health services and education. Health facilities should ensure that contraceptive information and services are accessible, confidential, respectful, and responsive to adolescents' needs, while health education programs should provide accurate information on available modern contraceptive methods and their appropriate use. Schools should integrate comprehensive sexual and reproductive health education into relevant programs

and strengthen guidance, counselling, and youth clubs to facilitate informed discussions about contraception. Particular attention should be given to improving adolescents' awareness of the risks associated with unprotected sexual intercourse and promoting age-appropriate communication on sexual and reproductive health.

Parents and guardians should foster open, supportive, and age-appropriate communication with adolescents about sexual and reproductive health to reduce misinformation, fear, stigma, and risky sexual behaviours. Community and religious leaders should collaborate with health facilities, schools, and government programs to address misconceptions and stigma surrounding modern contraceptive use among adolescents. Non-governmental organizations and other reproductive health stakeholders should strengthen community sensitization activities and support youth-friendly safe spaces where adolescent girls can obtain reliable reproductive health information and services in a confidential and supportive environment. These coordinated efforts may contribute to improved contraceptive utilization and better reproductive health outcomes among adolescent girls in Muhanga District.

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