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KNOWLEDGE, ATTITUDE AND PRACTICES OF CONTRACEPTIVES AMONG SECONDARY SCHOOLS ADOLESCENTS IN BUGESERA DISTRICT, RWANDA

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1. 0. Introduction

Contraceptive is a significant pillar for the inhibition of unplanned pregnancies in adolescents (Todd & Black, 2020). According to Mugoyela and Kimaro (2010) the percentage of sexually active adolescents including those in secondary schools has been rising globally. About 225 million of women from developing countries do not have access to family planning where they wish to delay gestation but they lack some contraceptive methods to be used. This put them to unplanned pregnancies, unsafe abortions, morbidity, maternal and childhood deaths, sexually transmitted diseases (STDs) including HIV/AIDS (Van den Akker, 2016).

Globally, contraceptive practice among women aged between 15 and 24 years old either unmarried or married is low compared to that among old women in the undeveloped countries. The study of Cleland *et al.* (2018) revealed that the use of contraceptives was lowest in Ukraine (7.3%), Egypt (8.8%) and Indonesia (8.0%) but was high in Senegal (69.5%), Haiti (44.8%), and in Ghana (45.7%).

MacQuarrie (2014) stated that above 39.5% of unmarried young women and about 25.9% of married young women in developing world don't have access to contraceptives when they need them. This need of family planning services that is not met among this group of young women is highest in Africa especially in the Central and West Africa with 29.3% among married young women and 41.7% among unmarried young women and in the North and Middle East Africa, it's 10.8% of young unmarried women that have unmet need of contraceptive services. In Malawi, about 22% males and 13% females had the first sexual intercourse earlier than the age of 15 and in addition to that, 7% of girls between 15-19 years old get pregnant before the age of 15 (Dombola *et al.*, 2021).

The increase of pregnancy rates among teenage girls in Rwanda is worrying in recent years. The data from national institute of statistics of Rwanda (NISR) indicate that teenage pregnancy increased from 14% in 2007/2008 to 21% in 2014/2015 among young women of 19 years old countrywide and an average of 49.6% of adolescent mothers had their first pregnancy at ages between 12 and 17 (NISR, 2015). (RDHS, 2020) showed that adolescents aged 15-19 years old don't have enough knowledge about contraceptives and it didn't show any information about the practice of contraceptives.

At least 550 teenagers from Bugesera district were impregnated from 2019 to 2020, of whom 150 teenagers were impregnated during the pandemic of COVID-19 in 2020 (Uwizeye *et al.*, 2020). Fortunately, the early pregnancies among young women can be prevented by increasing knowledge and practice of contraception (Munakampe *et al.*, 2018). This research was chosen to assess the knowledge, attitudes and practices of contraceptives among secondary schools' adolescents of Bugesera District in Eastern province of Rwanda.

1.1. Research objective

The research objective of this study was to assess the knowledge, attitudes and practices of contraceptives among secondary schools' adolescents in Bugesera District, Rwanda.

2.0. Literature Review

2.1. Theoretical Literature

Types of Contraceptives

Contraceptive is the birth control that includes only or more activities, devices, sexual practices, or medicines to purposely avoid or decrease the possibility of gestation or delivery (Chandra-Mouli *et al.*, 2014). Regulation of births has always been tried to be done over numerous means including the use of one or more actions like medicines, sexual practices, surgical processes or agents to inhibit pregnancy and/or conception, this is known as contraception. The contraceptives applied in birth control involve traditional and modern methods. Traditional methods are sexual abstinence and withdrawal while the modern methods are such as condoms of male and female, spermicide, diaphragm, vasectomy or pills (Aliyu & Onwuchekwa, 2018).

The contraception methods available to men include condoms, withdrawal, spermicides, abstinence (or rhythm) and vasectomy. In fact, a contraceptive used by males work in two forms, the hormonal methods (sperm production) or non-hormonal means such as physical barriers (stopping sperm to reach egg) (Page *et al.*, 2008). Non-hormonal male contraceptives include: male condom, vasectomy (sterilization of men through surgical technique), intra vas device (IVD) a tiny implant that plays as a barrier to the flow of sperms. The compound called Adjudin also works as a contraceptive by avoiding the binding of spermatids to sertoli cells to lead to sterility. The most hormonal male contraception used includes testosterone as contraceptive and testosterone with progestin (Aliyu & Onwuchekwa, 2018).

In the female, contraceptives used include: female condom, spermicides (this is chemical barrier placed in vagina before intercourse) contraceptive sponge (a barrier stops the sperm to reach ovum and also acts as a spermicide). Diaphragm is a device positioned over the cervix and fits behind the pubic bone (Somba *et al.*, 2014). Cervical cap is an elastic barrier device fixed above the cervix and hinders the entry of sperm to the uterus. A soft and flexible container with a form of a cup and that has a ring, lea contraceptive, is implanted into vagina before having sex to stop sperms. Another method is the pill; a collective contraceptive pill with 2 hormones, estrogen and progestin, they stop the egg release known as ovulation and make inner part of the uterus very thin. Contraceptive patch is a spot used to the skin and discharges the hormones of estrogen and progestin which are synthetic (Amory *et al.*, 2011). Contraceptive vaginal ring is a flexible plastic ring that discharges a low dose of progestin and estrogen hormones in three weeks. Medroxyprogesterone acetate, a progestin which reversibly act as a long-term hormonal contraceptive birth control and is injected once in 3 months (Chandra-Mouli *et al.*, 2014). Implants is a stick with main of progestin hormone inserted into the upper arm skin of a female (Amory *et al.*, 2011). Emergency contraception or emergency post-coital contraception pill used after intercourse for preventing gestation, this is not medical abortion methods as used before zygote formation (Somba *et al.*, 2014). Intra-uterine device (IUD) which is small device of a T-form used in the uterus (Turjanmaa, 1994). The other method is the female sterilization known as tubal ligation and is permanent method (Amory *et al.*, 2011).

Role and importance of contraceptives

Contraceptive practice aids couples or individuals to decide their responsibility of having a baby on their own right (Watkins, 2012). The growing contraceptive practice do not only enhance the health outcomes like reduction of maternal and infant mortality (Bhutta *et al.*, 2014) but also increases developmental and

economic outcomes of girls and women. Contraceptives are also prescribed for reasons unrelated to sexual activity such as in the treatment of acne or in regulating menstrual periods (Canning & Schultz, 2012).

The practice of emergency contraception helps women and adolescent girls that are either sexually violated or are not intending to have pregnancy, to avoid unwanted pregnancies (Kazmerski *et al.*, 2015). According to Cleland *et al.* (2013) contraceptive practice have a series of interest other than their main role of stopping pregnancy that include; reduction of morbidity and mortality related to pregnancy and reducing the risk of the development of reproductive cancers. They are also sometimes applied in the treatment of some symptoms and disorders related to menstruation.

The practice of highly effective contraception methods is among the pillars of preventing unplanned pregnancy and involved in a common decision-making process of rights-based structure (Ueno *et al.*, 2020). Contraceptive practice could have other non-contraceptive assistances that address other requirements or concerns of the adolescents. The encouragement of the use of double method in adolescents to prevent both unplanned pregnancies and STIs is recommended (Todd & Black, 2020).

The burden of unplanned pregnancies

Unintended pregnancy has a range of negative consequences including shortened educational careers, labor-market struggles, higher crime rates, more abortions, increased levels of household stress, and other related outcomes (Finer & Zolna 2011). Unintended pregnancy is among the most troubling public health problems and a major reproductive health issue including accidental pregnancy and defined as a pregnancy that was undesired for one or both of the partners. According to WHO (2005) approximately 210 million pregnancies occur each year worldwide, among them 87 million are unplanned and 41 million continue to birth.

The total number of unsafe abortions in 2008 was reported between 21 and 22 million worldwide and there were 22 unsafe abortions per 1000 women aged 15-44 years. While the report on mortality due to unsafe abortion estimates 47000 maternal deaths (that is 13% of maternal mortality in 2008). Statistics show that when compared to wanted ones, unwanted children are exposed to greater risk factors, they more likely experience negative psychological and physical health issues and dropout of high school and tend to show delinquent behavior during adolescence (Sonfield *et al.*, 2011).

Research conducted in Australia reported higher level of depression, anxiety and delinquency than compared with those in wanted children group thus child smoking was self-reported at 14-years. According to several micro-level studies, a child's overall health has an impact on his or her ability to achieve academic success. Existing studies at the macro level suggest population health has a significant effect on a nation's economic performance and growth (Hayatbakhsh *et al.*, 2011). Overall, the evidence suggests that unintended pregnancy is one of the most critical challenges facing the public health system and imposes significant financial and social costs on society (Yazdkhasti *et al.*, 2015).

Rwanda reproductive health and rights of adolescents

In Rwanda there is a lack of sufficient knowledge about Adolescent Sexual and Reproductive Health and Rights (ASRH&R) and have difficulty in accessing services, especially for young girls to practice safer sexual behaviors (NTIGENGWA, 2018). Youth-friendly services are still limited in scope and coverage; currently, only 13.6% of health facilities nationally offer these services. Primary Healthcare (PHC) centers lack healthcare providers with knowledge of ASRH&R as well as an environment that is youth-friendly. In addition, discussion about sexuality is, culturally, a taboo topic. Religion limits contraceptive and protective

services and there is stigma around ASRH. In view of this, Health Builders is addressing the need for systems change to ensure current and future generations of female adolescents are educated, employable, and living a positive life (Habimana, 2018).

2.2. Empirical Literature

Knowledge of Contraceptives among Adolescents

According to Aggarwal *et al.* (2000) on his study conducted on knowledge, attitude and practice of contraceptive use among teenagers in Delhi, India revealed that contraception awareness rate among teenagers was 83.5%. A study conducted on contraception among adolescents in Bangladesh showed that the level of knowledge of contraceptive method was 26.3% of the adolescents, the contraceptive prevalence rate was 15.3% among adolescents with 10.7% of modern and 4.6% of traditional methods (Islam & Mahmud, 2015). The knowledge of contraceptive use was high among Chinese youth where 95% know and use condoms, 91% like oral contraceptives and 71% applied emergency contraceptives (Wang *et al.*, 2020). According to Gbagbo (2020) 65% of school adolescents' awareness and contraceptives practice have ever heard any contraceptive method in Ghana. Other study conducted in Ghana claimed that male condoms' awareness was highest with 84% than other methods (Boamah *et al.*, 2014). The research of Araoye *et al.* (1998) specified that 97.7% of males and 98.4% of women has awareness of one contraception method in Nigeria. In Tanzania, research on awareness of using contraceptive among adolescents attending high schools revealed that 67.4% of study participants had sufficient level of knowledge on contraceptive practice. More than 71.2% said that contraceptive practice must not be useful for adolescents and mentioned several reasons about this statement and only less than 6% had ever used contraceptive (Dangat & Njau, 2013). According to Sserwanja *et al.* (2021) the level of awareness of modern contraceptive utilization among female adolescents in Uganda was 9.4% (401/4264: (95% CI: 8.6–10.3). In Rwanda, some conducted studies show a high level of knowledge on contraceptives, like that conducted by (Innocent, 2019) found a high level of knowledge of contraceptives to be at 88% high school female adolescents and the women with a range of age from 15 to 19 years old have knowledge about contraceptives (RDHS, 2020).

Attitude towards Contraceptives among Adolescents

In Senegal, a study conducted on assessment of knowledge, attitudes and practices related to contraceptive use among teenagers in high schools and colleges in Dakar revealed that attitude towards contraceptive was slightly low with 27.8% of respondents agreed strongly their positive thought of contraceptive (Sougou *et al.*, 2019). A study conducted in Ghana by Ofosu (2020) showed that 67 % of the participants strongly agreed that contraceptive practice by girls before the first child can cause the permanent sterility, there was also observed 71 % of those respondents stated that condom reduce of omit enjoyment from sex intercourse, about 56 % of those respondents strongly agreed that contraception practice is against religion doctrine. In Zimbabwe, the study showed that knowledge reflects to the attitude about modern contraceptives is universal (96%) among adolescents in Mhondoro-Ngezi (Moyo & Rusinga, 2017). There were many negative beliefs like impotence after condom use, weakness after sterilization, fear of becoming obese as reasons for choosing different contraceptive methods, this affects negatively attitude of contraceptive use in Ethiopia (Shah *et al.*, 2011). In Kenya, There was a positive attitude towards contraception practice where 85% of adolescents showed the need of present and future contraceptive services for young people. The negative attitude towards contraceptive practice among young people was attributed to the perceived health

risks and the perception of infertility (Oindo, 2002). It was said that 70% had ever experienced sexual intercourse and among them 51.2% know contraceptives practice and use it frequently in Uganda (Nsubuga *et al.*, 2016). Other study done in Uganda perceived acceptability of contraceptive use at the university (93 %) or being beneficial to male partners too (97.8 %) were high. Overall, 46.6 % reported positive attitude of contraceptive use (Nsubuga *et al.*, 2015). Burundi was the only country where modern contraceptive use was higher among adolescents and have positive attitude (Oindo, 2002). In Rwanda attitude toward the practice of contraceptive was positive with 39% among adolescent (Innocent, 2019).

The practice of Contraceptives among Adolescents

The study assessing attitude of using contraceptive methods among teenagers in USA, 78% and 85% of women and men respectively reported contraceptive practice at their first time of having sex; 86% of women and 93% of men confirmed contraceptive practice last time they had sex (Martinez *et al.*, 2011). Other studies such as a study conducted by Lindberg *et al.* (2016) in the USA, 2.5 million of women of 15-19 years' old who were sexually active reported to use contraceptives in 2011 and 2013, among them 55% trusted condom use, 35% used pill, 20% used withdrawal and 8% used injectable method while 3% used IUD. A study conducted between 2015 and 2017 revealed that about 78% and 89% of females and males respectively had between 15 and 24 years old used contraceptive at first sexual intercourse before 20 years old in USA (Jaramillo *et al.*, 2017). In Ghana, 21% of school adolescents have at least once used a contraceptive method with predominant emergency contraceptive pill at 48%. About 83% of adolescents testified the use of male condom, the majority of them 71% specified to start with condoms but finished with raw sex intercourse. About 86% of respondents indicated that the choice of using condom was a decision of both male and female as a couple (Gbagbo, 2020). Other study conducted in Ghana by Ofori (2020) revealed that 94% of adolescents experienced sexual intercourse but have never used any contraception before. Other study conducted in Ghana claimed that the very common contraceptive method practiced was male condom with 82.0% followed by pills with 7.9%, injection with 0.9% and foam with 0.3% (Boamah *et al.*, 2014). In Zambia, contraceptive practice remained lower as was 7.6% in 1996 and 10.9% in 2013/14, increasing of 3.3% over 18 years (Chola *et al.*, 2020). In Kenya, studies estimate that 70% of single male adolescents and about 25% of single female adolescents experienced sexual intercourse and use contraceptive occasionally (Oindo, 2002). In Rwanda, young women that begun sexual intercourse before 18 years old and did not apply any method of contraceptive was at 94%, only 5.5% applied modern method (RDHS, 2015). In 2020, 20% of young women use contraceptive while among young men was at 14%. According to RDHS (2020) unmarried women have a higher demand of contraceptive practice with 87% than married women 78%.

Factors related to the contraceptive practices among adolescents

In developing countries; the poor contraceptive practice among teenagers is the results of the lack of access to contraceptive services, health system problems, including lack of special health services and health care workers' attitudes towards contraceptives practices for teenagers (Chandra-Mouli *et al.*, 2014). In East Asia and the Pacific, the lack of accessibility of contraceptive at public health facilities affects the information and availability of contraceptive for teenagers. Researches revealed that poor knowledge of family planning is an additional issue to low contraceptive practice and inadequate access to services and information for adolescents. (Kennedy *et al.*, 2011). In Indonesia, (Suharto S. 1980) found that the factors disturb contraceptive practice are frequency of teenagers exposed to media, level of education, children living together and the age. In Ghana, about 33% reported television as the highest source of contraceptive

information while 77% reported guardians, parents and relatives as sources of information on contraceptives practice (Gbagbo, 2020). In the same country, the contraceptive method of important to be used by adolescents was condom stated by 10%. Most of those study participants were strongly confirmed infertility of girls using some contraceptive methods before their first born while others said that the use of condom does not make enjoyable sex (Ofosu, 2020). In South Africa, teenagers' first information source towards contraceptives was their peers unfortunately those are mostly untrusted and inaccurate information source spreading misunderstandings and myths about contraception among teenagers. The low practice of contraception among teenagers could consequently be partially because of inadequate access to the correct information and lack of delivering services (Lebese *et al.*, 2013). In Zambia, age, marital status and education level were significantly linked with the use of contraceptive. Mature adolescent girls and those with higher education levels were pointedly more expected to use contraception than young ones and those with low skills levels (Chola *et al.*, 2020).

3.0. Methodology

This was a cross-sectional study design and the participants were adolescents of 12 to 19 years' old from secondary schools of Bugesera District in Eastern Province of Rwanda. The sample size of 320 adolescents was calculated by using Fisher formula and the convenience sampling technique was used to select the study participants. A structured questionnaire was used for the data collection and the analysis was done using SPSS version 25.0 using descriptive statistics presented as frequencies, mean and standard deviation. Chi-square test was used to test for association between variables and regression analysis was used to test the strength of association between dependent and independent variables which were previously identified by Chi-square test. The level of significance (α) was set at 0.05 for all statistical tests and data were presented using tables and figures. Ethically, the researcher obtained the approval letters from Mount Kenya University and Bugesera District and consent forms were signed by the study participants before the start of data collection.

4.0. Results

4.1 Socio-demographic information of the Respondents

Table 4.1: Socio-demographic Characteristics of Respondents

Variables	Frequency (n=320)	Percent (%)
Gender of respondents		
Male	152	47.5
Female	168	52.5
Age group of respondents in years		
12-14	20	6.3
15-17	136	42.5
18-19	164	51.2
Relationship status		
Single	282	88.1
In Relationship	38	11.9
Religion		
Christian	302	94.4

Muslim	18	5.6
Year of Study		
S1	74	23.1
S2	55	17.2
S3	54	16.9
S4	89	27.8
S5	18	5.6
S6	30	9.4
School Type		
Day School	196	61.3
Boarding School	124	38.8
Having Children		
No	316	98.8
Yes	4	1.3
Level of Education of Father		
Primary	100	31.3
Secondary	141	44
University	53	16.6
None	26	8.1
Level of Education of Mother		
Primary	113	35.3
Secondary	163	50.9
University	31	9.7
None	13	4.1
Occupation of Father		
Government employed	37	11.6
Self employed	283	88.4
Occupation of Mother		
Government employed	28	8.8
Self employed	292	91.3
People Living Together		
Father and Mother	219	68.4
Father	19	5.9
Mother	64	20
Other	18	5.6
Area of Living		
Urban area	140	43.8
Rural area	180	56.3
Ubudehe Category		
Category 1	29	9.1
Category 2	117	36.6
Category 3 & 4	174	54.4

Source: Field data (2022)

The findings of this study show that the majority of respondents were Female (52.5%) while 47.5% were male. Among the respondents, 61.3% were from day schools and 38.8% from boarding schools. The findings also showed that majority were single (88.1%) while those in relationship were 11.9%. Those who were living in urban area were 43.8% while 56.3% were in rural area. The religion of participants was Christian in majority (94.4%) while the remaining (5.6%) were muslin. The majority of respondents did not have any child (98.8%) while those that had children were 1.2%. The majority of study participants were studying in Senior four (27.81%), followed by 23.13% that were studying in senior one, 17.19% in senior two, 16.88% in senior three, 9.38% in senior six while the least number of students (5.63%) were studying in senior five.

4.2. Knowledge of contraceptives

By assessing the knowledge of contraceptives among adolescents of secondary schools in Bugesera District. A total of six questions were asked to determine the knowledge of participants on contraceptives.

Table 4.2: Adolescents' knowledge of contraceptives

Variables	n	%
Ever heard of contraceptives		
Yes	291	90.9
No	29	9.1
Knowledge of types of contraceptive methods		
No method	8	2.5
One method	91	28.4
Two methods	49	15.3
Three methods	46	14.3
Four methods	43	13.4
Five methods	36	11.2
Six methods	16	5
Seven methods	12	3.7
Eight methods	7	2.1
Nine methods	6	1.8
Ten methods	6	1.8
Knowledge of how contraceptives work		
No method	10	3.1
One method	157	49
Two methods	72	22.5
Three methods	41	12.8
Four methods	20	6.2
Five methods	10	3.1
Six methods	4	1.2
Seven methods	3	0.9
Eight methods	1	0.3
Nine methods	1	0.3
Ten methods	1	0.3
Knowledge of importance of contraceptives		

Yes	316	98.8
No	4	1.3
Knowledge of place of access of contraceptives		
Yes	314	98.1
No	6	1.9
Study of contraceptives in schools		
Yes	291	90.9
No	29	9.1

Source: Primary data (2022)

In the table 4.2, the questions used to evaluate knowledge were given marks and the expected marks for all questions were 24 in total (100%). The mean score for all the respondents was 10.2, the students that scored above the mean were classified as having high level of knowledge on contraceptives while those who scored below the mean were classified as having low level of knowledge on contraceptives. The students that obtained the score above 10.2 are equal to 138 (43%) while those obtained the total score below the mean are 182 (57%) (Memon et al., 2015)

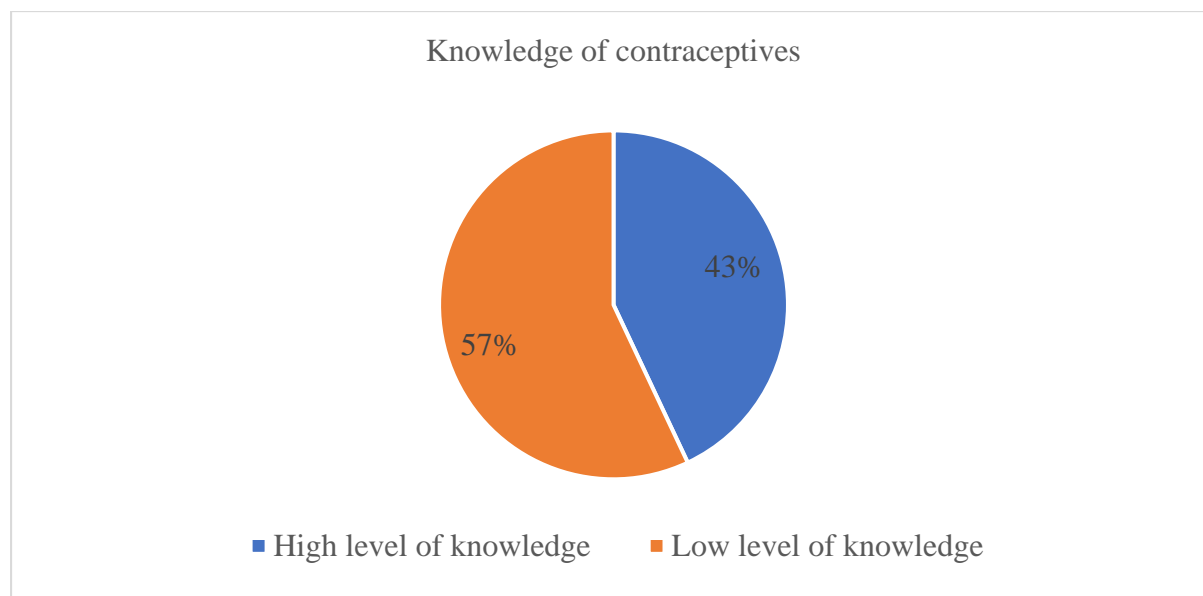


Figure 4.1: knowledge of contraceptives by adolescents

The figure 4.1 presents the level of knowledge of contraceptives by adolescents and indicates that 43% (138) have a high level of knowledge while 57% (182) have a low level of knowledge of contraceptives.

4.3. Attitudes of Adolescents towards contraceptives

To determine the attitudes of adolescents towards contraceptives, Attitude-related questions were 17 questions and five-point Likert scale (Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree) was used for each question. Responses were given a score ranging from "5" for the most appropriate answer to "1" for the least appropriate answer and summed up for each statement and for each respondent. The possible maximum score was 85. The mean score of all respondents was 55.6, the adolescents that

scored above the mean score were classified as having positive attitudes while those with score below the mean were classified as having negative attitudes towards contraceptives(Memon et al., 2015).

Table 4.3: Attitudes of respondents towards contraceptives [n (%)]

Attitudes	strongly agree	Agree	Neutral	Disagree	strongly disagree
Contraceptives' access is difficult	54 (16.9)	61(19.1)	54(16.9)	73(22.8)	77(24.1)
Sex with a condom is not enjoyable	55(17.2)	51(16)	103(32.3)	47(14.7)	62(19.4)
Contraceptives use is a sign of mistrust in your partner	37(11.6)	46(14.4)	74(23.2)	83(26)	79(24.8)
Contraceptive use increases the assurance of your relationship	92(28.8)	62(19.4)	62(19.4)	43(13.5)	60(18.8)
Difficulties in talking about sex with friends	60(18.8)	69(21.6)	70(21.9)	55(17.2)	65(20.4)
Contraceptives are fattening	40(12.5)	29(9.1)	145(45.3)	33(10.3)	72(22.5)
After using contraceptives, it is difficult to become pregnant	78(24.4)	79(24.7)	76(23.8)	48(15)	38(11.9)
Contraceptives enhance the sexual freedom	122(38.1)	61(19.1)	63(19.7)	32(10)	41(12.8)
Contraceptives are the female problem	41(12.8)	29(9.1)	59(18.4)	66(20.6)	124(38.8)
Use of contraceptives is difficult	50(15.6)	57(17.8)	70(21.9)	67(20.9)	75(23.4)
The couples should be responsible of contraceptives	74(23.1)	66(20.6)	50(15.6)	76(23.8)	53(16.6)
Pregnant is more fattening than contraceptives	56(17.6)	39(12.2)	119(37.3)	41(12.9)	64(20.1)
Schools should teach knowledge on contraceptives	199(62.2)	55(17.2)	21(6.6)	14(4.4)	30(9.4)
Contraceptives should be available at school	91(28.5)	74(23.2)	45(14.1)	43(13.5)	66(20.7)
You can get pregnant if you don't use contraceptives during sex	150(47)	74(23.2)	47(14.7)	26(8.2)	22(6.9)
Falling pregnant may affect completion of my studies	175(54.9)	70(21.9)	28(8.8)	18(5.6)	28(8.8)
Free to go look for contraceptive services anywhere	112(35.1)	78(24.5)	50(15.7)	25(7.8)	54(16.9)

Source: Primary data (2022)

In the table 4.3, The attitude-related questions were 17 questions and five-point Likert scale (Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree) was used. Responses were given a score ranging from “5” for the most appropriate answer to “1” for the least appropriate answer and summed up for each statement and for each respondent and the possible maximum total score was 85. The mean score for all the respondents was 55.6, the students that scored above the mean were classified as having positive attitudes towards contraceptives while those who scored below the mean were classified as having negative attitudes towards contraceptives. The respondents that obtained the total score above 55.6 are equal to 157 (49%) while those obtained the total score below 55.6 are 163(51%) (Nshimiyimana et al., 2022.).

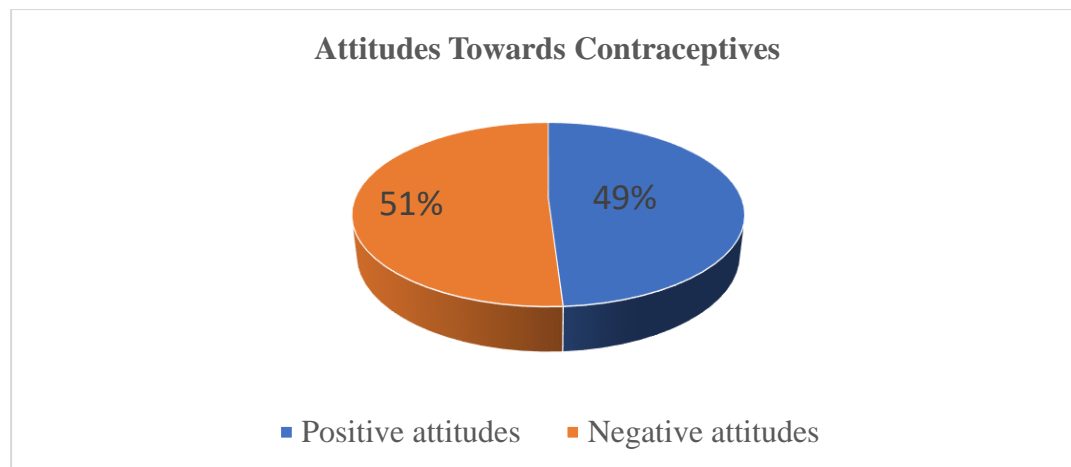


Figure 4.2: Adolescents’ attitudes towards contraceptives

The figure 4.2 shows that 49% of adolescents had positive attitudes towards contraceptives while 51% of the adolescent students had negative attitudes towards contraceptives.

4.4 Practices of contraceptives

To determine the practice of contraceptives among adolescents of secondary schools in Bugesera District, questions related to the practice of contraceptives were asked.

Table 4.4: Practices of contraceptives by the respondents

Variables	Yes [n (%)]	No [n (%)]
Ever had sex	69 (22)	251 (78)
Preventing sex for contraception purpose	81 (25)	239(75)
Ever used any contraceptive method rather than preventing sex	37 (12)	283 (88)
Regular use of contraceptives	104 (33)	216 (67)
Willingness of keep using contraceptives in the future	172 (54)	148 (46)
Attendance of ASRH sessions for learning and services purpose	97 (30)	223 (70)

Source: Primary data (2022)

The table 4.4, demonstrates that 22% of respondents had sex at least once and 78% did not have sex, among those who did not have sex, 25% were preventing sex for contraception purpose. Other methods of contraception rather than abstinence were used by 12% of participants. The respondents that use contraceptives regularly are 33% and 54% of respondents are willing to continue or start using contraceptives in the future.

The adolescent students with good practice of contraceptives were those who got 50% and above of the total score of all 6 questions asked. Those respondents who got the score below 50% of the possible maximum score were classified as having the poor practice of contraceptives(Haq et al., 2012).



Figure 4.3: Adolescents’ practice of contraceptives

The figure 4.3 shows that the majority of respondents (68%) scored less than 50% of desired score and were classified as having poor practice of contraceptives. In contrast, 32% of respondents scored 50% and above of the desired total score and were classified as having the good practice of contraceptives.

4.5. Factors associated with the practice of contraceptives

By establishing the factors associated with the Practice of contraceptives among secondary schools’ adolescents in Bugesera District, a Bivariate analysis was used to determine those factors as presented below.

Table 4.5: Factors associated with the practice of contraceptives among adolescents of secondary schools

Variables	Poor Practice [n (%)]	Good Practice [n (%)]	p-value
Gender			
Female	125 (74.4)	43 (25.5)	0.008
Male	92 (60.5)	60 (39.5)	
Age group			
12_14	18 (90)	2 (10)	0.045
15-17	95 (69.9)	41 (30.1)	
18-19	104 (63.4)	60 (36.6)	
Year of Study			
Senior 1	62(83.8)	12 (16.2)	0.001
Senior 2	35(63.6)	20 (36.4)	
Senior 3	28 (51.9)	26 (48.1)	
Senior 4	62(69.7)	27(30.3)	
Senior 5	8 (44.4)	10 (55.6)	
Senior 6	22 (73.3)	8 (26.7)	

School Type			
Day School	129 (65.8)	67 (34.2)	0.337
Boarding School	88 (71)	36 (29)	
Relationship status			
Single	192 (68.1)	90 (31.9)	0.776
In relationship	25 (65.8)	13 (34.2)	
Have children			
No	215 (68)	101 (32)	0.443
Yes	2 (50)	2 (50)	
Religion			
Christian	206 (68.2)	96 (31.8)	0.531
Muslim	11 (61.1)	7 (38.9)	
Level of Education of Mother			
Primary	78 (69)	35 (31)	0.374
Secondary	110 (67.5)	53 (32.5)	
University	18 (58.1)	13 (41.9)	
None	11 (84.6)	2 (15.4)	
Level of Education of Father			
Primary	63 (63)	37 (37)	0.326
Secondary	102 (72.3)	39 (27.7)	
University	33 (62.3)	20 (37.7)	
None	19 (73.1)	7 (26.9)	
Occupation of Father			
Public employed	24 (64.9)	13 (35.1)	0.683
Self employed	193 (68.2)	90 (31.8)	
Occupation of Mother			
Public employed	19 (67.9)	9 (32.1)	0.996
Self employed	198 (67.8)	94 (32.2)	
People living together with			
Father and mother	153 (69.9)	66 (30.1)	0.557
Father	13 (68.4)	6 (31.6)	
Mother	41 (64.1)	23 (35.9)	
Alone and Other guardian	10 (55.6)	8 (44.4)	
Area of living			
Urban area	98 (70)	42 (30)	0.46
Rural area	119 (66.1)	61 (33.9)	
Ubudehe category			
Category 1	18 (62.1)	11 (37.9)	0.69
Category 2	82 (70.1)	35 (29.9)	
Category 3 and 4	117 (67.2)	57 (32.8)	
Knowledge level			
Low level of knowledge	144 (79.1)	38 (20.9)	<0.001

High level of knowledge	73 (52.9)	65 (47.1)	
Attitudes			
Negative attitude	119 (73)	44 (27)	0.043
Positive attitude	98 (62.4)	59 (37.6)	

P<0.05 is statistically significant

From the table 4.5, the cross-tabulation has shown that Gender ($p=0.008$), age group ($p=0.045$), year of study ($p=0.001$), knowledge level of contraceptives ($p<0.001$) and attitudes towards contraceptives ($p=0.043$) were significantly associated with the practice of contraceptives among adolescents. While, school type, relationship status, religion, having children, level of education of the father, level of education of the mother, occupation of the father, occupation of the mother, area of living, people living together and ubudehe category were not associated with the practice of contraceptives among adolescents.

Table 4.6: Multivariable analysis of factors associated with Contraceptives practice among adolescents

Variables	AOR	95% CI	p-value
Gender			
Male	Reference		
Female	2.164	1.258-3.725	0.005
Year of study			
1	1.643	0.486-5.557	0.424
2	0.578	0.190-1.754	0.333
3	0.422	0.147-1.207	0.108
4	0.891	0.331-2.399	0.820
5	0.288	0.078-1.059	0.061
6	Reference		
Age Group			
12-14	2.081	0.380-11.400	0.398
15-17	0.830	0.438-1.573	0.568
18-19	Reference		
Level of Knowledge			
High level of knowledge	3.406	2.004-5.788	<0.001

Low level of knowledge	Reference		
Attitudes			
Negative attitude	1.331	0.789-2.245	0.284
Positive attitude	Reference		

AOR: Adjusted Odd Ratio, CI: Confidence Interval, p-value (p<=0.05) is statistically significant

The results of multivariable analysis of all variables that were statistically significant in bivariate analysis showed that the factors of gender (AOR=2.164; 95% CI= [1.258-3.725]; $p=0.005$), and the Level of knowledge of contraceptives (AOR=3.406, 95% CI= [2.004-5.778]; $p<0.001$) were significantly associated with the practice of contraceptives among adolescents. However, the year of study, age group, and the attitude towards contraceptives were not significant during multivariable analysis.

5.0. Summary

The participants (study sample) of this study were 320 adolescents, both male and female, and the findings on socio-demographic characteristics of respondents showed that the majority were female (52.5%), the study was targeting those adolescents with 12 to 19 years old, the majority were in the age group of 18-19 years' old (51.2%). The majority of respondents were studying in senior four (27.8%), most of them were single (88.1%) and had no children (98.8%). Day schools had many participants (61.3%) than boarding schools (38.8%). More than a half were living in rural area (56.3%) and above the half are in ubudehe category 3 and 4 (54.4%). The findings of this study revealed also that 43% of the participants had a high level of knowledge on contraceptives and those with a low level of knowledge were 57%. The attitudes towards contraceptives were negative at the percentage of 51% while the remaining (49%) had positive attitudes towards contraceptives. Concerning the practice of contraceptives among adolescents, the majority (68%) found to have a poor practice of contraceptives while the remaining (32%) had the good practice of contraceptives. And finally, it was found that the factors associated with the practices of contraceptives were gender and the knowledge of contraceptives.

6.0 Conclusion

This study found that majority of adolescents of secondary schools in Bugesera District in Eastern Province of Rwanda, had a low level of knowledge on contraceptives, negative attitudes towards contraceptives and a poor practice of contraceptives. The factors associated with the practice of contraceptives include gender and the knowledge of contraceptives.

7.0 Recommendations

Increasing the knowledge of contraceptives among adolescents results in the good practices of contraceptives. The ministry of education in partnership with Bugesera District should try to include the reproductive health subjects in the curriculum at all levels of education to increase the awareness of contraceptives, the media campaigns should also be used in schools to increase the knowledge and attitudes of students towards contraceptives without forgetting the availability of friendly infrastructure for accessing information and services on reproductive health.

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