

Emergency Contraception Knowledge and Practices Among Advanced-Level Secondary School Female Students in Geita Town Council, Tanzania

Cretus Cosmas Karwani ¹; Idda Hubert Moshia ²; Winfrida Onesmo Akyoo ²

1. AngloGold Ashanti, Geita Gold Mining Limited (GGML), P.O. Box 532, Geita, Tanzania.
2. Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, P.O. Box 65015, Dar es Salaam, Tanzania

Correspondence to: Idda Hubert Moshia, Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, P.O. Box 65015, Dar es Salaam, Tanzania. Tel: +255 787 122 568. E-mail: ihmosha@yahoo.co.uk

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Abstract

Background

Pregnancy in young girls negatively affects their health, their unborn and later-born child, and their social and psychological life. Effective use of Emergency Contraceptives (EC) significantly decreases abortion-related morbidity and mortality. This study aimed to assess knowledge and practices towards EC among female secondary school students in Geita Town Council in the Geita Region, Tanzania.

Materials and methods

This was a descriptive cross-section study design that used an interviewer-administered questionnaire to gather information from 384 participants who were advanced secondary school-level female students in Geita. Multistage sampling was used to select study participants. Data was analysed using Stata software version 14.0. Frequency was estimated for categorical variables and mean, and standard deviation were used to summarize continuous variables. The Chi-Square test was used to establish the relationship between knowledge of EC and independent variables such as demographic characteristics and practices on EC.

Results

The majority, 336 (87.5%) of study participants had never heard of EC, and 208 (61.9%) had adequate knowledge of EC. Pills were the most reported form of EC 266 (79.2%) while 231 (68.7%) mentioned the correct dose of EC pill. More than half 198 (58.9%) agreed that using EC lowers the risk of getting pregnant and only 99 (29.5%) knew the correct timing of taking EC. The school was reported to be the most source of information 135 (40.2%). Students aged 15-19 years have a higher proportion, 138 (66.3%) of adequate knowledge than those aged 19 years and above. Students in form five classes were more knowledgeable (51.4%) about EC compared to form six classes (48.6%). Students with mothers who have a primary level of education have a higher proportion of 82 (39.4%) of adequate knowledge compared to other categories. Respondents whose fathers have ordinary college/University levels of education have a higher proportion of adequate knowledge than others.

Conclusion

Female secondary school students in Geita have adequate knowledge of EC, but very few have ever used it. More education and information on EC are needed for female students and the general population.

Keywords: Emergency contraceptive, knowledge, practices secondary school female students, Tanzania

INTRODUCTION

Globally, it is estimated that 11% of the total births are given by adolescents every year, of which 95% take place in developing countries (WHO, 2020). The evidence from the literature demonstrates that pregnancies among adolescents during the early stage of their marriage are due to norms and cultural beliefs. Generally, pregnancy in adolescents affects their health and their born child and hurts the social and psychological life of the girl (Dixit et al., 2012). The high rate of unwanted pregnancies among young women is due to the adaptation of risky sexual behaviours among young women such as teenage sexual activities, with the majority of them starting very early, particularly at the age of 15 to 18 years old (Okigbo & Speizer., 2015).

Unwanted pregnancies continue to pose great reproductive health challenges globally especially, to female school students as they seem to interfere with their studies (Finer & Zolna, 2011). Apart from interfering with their study timelines, female students are also affected socially and economically (Dixit et al., 2012). One of the common and obvious impacts and consequences of unwanted and unplanned pregnancies is induced abortion among young women, which is highly reported to be one of the illegal practices (Gipson et al., 2008). Abortion is illegal in Tanzania. Additionally, Tanzania has one of the most restrictive abortion laws in the world, with abortion only allowed to save the life of the mother. People convicted of performing abortions can be imprisoned for up to 14 years, while women convicted of procuring an abortion can be imprisoned for up to seven years. Other parties involved in an illegal abortion, such as those who supply medications or instruments, may be imprisoned for up to three years (Sambaiga et al., 2019).

Worldwide, from 2015 to 2019, about 73.3 million induced abortions were conducted annually, with 45% of these abortions being performed unsafely. Almost half of these unsafe abortions occurred in developing countries, including Tanzania. Developing countries accounted for more than 98% of all unsafe abortions (Bearak et al., 2020). In Africa, the situation of the high rate of unwanted pregnancies is mostly alarming. It is estimated that 70% of pregnancies among adolescents are reported to be unwanted. These unwanted pregnancies are mostly associated with the lack of use of contraceptives, failure in the contraceptive method, rape, and lack of knowledge specifically on effective contraceptive methods (Tilahun et al., 2010).

Some adolescents in Tanzania are sexually active and 22% of women aged 15–19 have ever been pregnant (TDHS, 2022). Tanzania is also reported to be included of the countries with the highest rate of adolescent pregnancy with an estimated 23% of girls between 15 to 19 years old

beginning childbearing (Sik, 2015). It is also estimated that 39% of the adolescent girls, by the time, they reached 18 years old, were already called mothers or had pregnancies. In this case, unwanted pregnancies have become a major public health issue, specifically, nowadays since few people use modern contraceptives, the low utilization is attributed to existing myths and misconceptions among other factors plus a lack of adequate knowledge for effective usage of contraceptives (Plan, 2014).

Some studies have shown that female adolescents and unmarried women are often very vulnerable to sexual coercion and violence leading to unintended pregnancies and abortions (Shiferaw et al. 2015; Anteneh & Bosena, 2019). Furthermore, adolescent and young adult women fall under the sexually active age group and form a high-risk group for unintended pregnancies, since the likelihood for them to engage in sporadic pre-marital sex is high (Anteneh & Bosena, 2019). Some studies suggest that early involvement in sexual activity and low contraceptive use are some known reasons that contribute to unintended pregnancies in Africa (Chandra-Mouli et al., 2014, Savage-Oyekunle, 2017). The use of EC is very important, especially in preventing unplanned pregnancies in different contexts. For example, EC pills are used for preventing unplanned pregnancies which are widely used after having sex without using any protection like condoms, not taking regular contraceptive doses, and after forceful sexual intercourse with a woman without her consent (Mir & Malik, 2010).

EC can reduce the risk of unintended pregnancy by 75% to 99% when taken within 72 hours of sexual intercourse (Mishore et al., 2019, Hoque et al., 2012). EC has a 75% to 85% chance of preventing unintended pregnancies (ICEC, 2004). ECs are cost-effective (Mir & Malik, 2010) with prices ranging from US\$ 1.20 to US\$ 5.78 (ICEC, 2021). Additionally, ECs are medically safe, yet accompanied by minor side effects such as nausea, vomiting, menstrual irregularity, fatigue, slight irregular vaginal bleeding, and breast tenderness (Mir & Malik, 2010).

Some studies conducted in developing and developed countries on EC focused on the level of knowledge and practices and involved students from high-learning institutions, ordinary colleges, and universities (Kara et al., 2019, Mir & Malik, 2010, Gemzell-Danielsson et al., 2013, Kongnyuy et al., 2007, Kara et al., 2019). However, few studies have been conducted in Tanzania especially among females at the secondary school level hence, no documentation about their knowledge and practices regarding EC. Therefore, this study assessed the knowledge and practices of EC among female secondary school students in the Geita region, Tanzania.

Knowledge of Emergency Contraception

According to research done on traditional dancers in Ethiopia, 62.1% had heard of EC from friends, followed by a healthcare professional (19.7%). More than 78.0% of dancers were aware that EC can be used following unprotected intercourse, but fewer were aware that it can also be used following rape (13.6%) or condom breakage (15.9%). Most dancers were able to describe the proper dosage (71.2%) and window of time (58.3%) following sex for utilizing (Pem et al., 2018). Studies done in different parts of Ethiopia demonstrated different participants' levels of knowledge of EC. At Wolkite town, Southern Ethiopia, the level of knowledge was good by 54.8% (Mesfin, 2020), and among undergraduate female students in Nigeria, 58% (Aziken et al., 2003). Also, a low knowledge level was observed at Adama University, 27.2% (Tihuna et al., 2010) and Haramaya University (Desta & Regassa, 2011).

Regarding the source of information on EC, the study from Ethiopia revealed that 34.10% of the study participants had got the information from people of the approximately same age, status, and interest, next was 16.8%, who got information from health institutions, family and media (Ajzen, 2002). Formal education, 51.9% followed by the internet, 14.4%, and health facilities 12% were the common sources of information in a study done in Kilimanjaro among female university students. In the same study, it was proposed that multiple sources of information will aid in the wide dissemination of EC (Mariki et al., 2022). Additionally, a study conducted in Hai District showed that the most popular source of information was radio, 47.2% followed by newspapers 21.8%, television 18%, and the last friends 11.1% (Dangat & Njau, 2013). The differences in the level of awareness on EC comparing Cameroon's findings which revealed a 63.0% level of awareness (Kongnyuy et al., 2007), to Nepal with a 63.7% level of awareness (Pokharel et al., 2022), was attributed to the conducted public health learning events through strong media transmission coverage in large cities regarding EC.

Emergency Contraception Practices

The evidence from research done in Ethiopia demonstrates that practices of EC among young girls and adolescents have been both temporal and spatial varied globally (Mamboleo, 2012). The findings in Ethiopia indicated that practices of EC among adolescents are very low (Abrha et al., 2014) and (Kongnyuy et al., 2007). Unavailability of correct information, low promotion, lack of awareness of the facilities with pills, and availability of these pills in most health institutions are the main reasons for low emergency contraceptive practices rate among different studies that have been done. Findings from a study done in Southern Ethiopia among secondary school female students indicated that 90 (27.2%) of participants had practised sex at least once in their lifetime, 37(41.10%) of sexually active study participants, had sexual activity without protection and of those only 15 (40.5%) of them used EC (Mesfin, 2020). The key identified reason for taking EC was unplanned sexual intercourse

(33.3%) and next were those who did not take regular contraceptives 26.7%. In almost all studies, EC practices have been highly attributed to unplanned pregnancies most of which happened either due to lower knowledge levels, negative attitudes, or an inability to access contraceptives (Bhatta et al., 2019).

METHODS

Study Design

A descriptive cross-sectional study design was applied in this study which involved both public and private advanced secondary schools with female students. The design facilitated the determination of relationships between EC knowledge and practices of the secondary school female students. In addition, we used this design to obtain and describe the information on EC Knowledge among female secondary students at that particular time that could be used in planning future interventional studies. Data were collected in March 2023.

Study area

The study was conducted in the Geita Town Council in Geita district which is among five districts of Geita Region. Geita region is among the leading regions in Tanzania with a high prevalence of 30% of adolescent pregnancy according to the Tanzania UNFPA factsheet (Tanzania.unfpa.org). Geita Town Council was selected purposely because it represents urban areas, and it is a place where such a study has not been done. Also, Geita is among the leading regions with the lowest Contraceptive Prevalence Rate of 13% and a high percentage of women aged 15 to 19 who had begun childbearing which is 22% (TDHS, 2022). Geita Town Council has a total of 16 secondary schools, but out of those, there are only five advanced-level secondary schools with female students. These are Nyankumbu Girls Secondary School, which is a single-sex public and boarding school, and Geita Adventist Secondary School, which is a privately owned, co-educational boarding school for both females and males. Shanta Mine Secondary is a publicly owned, coeducational boarding school for both female and male students in advanced-level classes and a day school for ordinary-level students. Other schools are Golden Ridge, which is a private boarding and coeducational and lastly, and Kasamwa Secondary School which is a public and coeducational with boarding facilities for advanced-level female students only.

Study population

The targeted study population was female students aged 15 years and above in advanced secondary school level from the five secondary schools in Geita Town Council. This age was selected because in this age group girls start menstrual bleeding and transition period from childhood to maturity and sexual drive starts, if they engage in sexual intercourse, they are likely to get unwanted pregnancies (Okigbo & Speizer, 2015).

Sampling technique and procedures

A multistage sampling technique was used. Firstly, all advanced-level secondary schools in the Geita Town Council were listed. Five advanced-level secondary schools named Nyankumbu, Shanta Mine, Golden Ridge, Kasamwa, and Geita Adventist Schools were used as sampling frames because they are the only available schools with advanced-level female students in the Geita town council. In total, advanced-level female students from these schools were 782. A simple sampling method using a proportional sampling ratio of approximately, $384/782 = 0.49$ (n/N), the number of participants from each school and class of study was calculated to get the number of students to be interviewed. A sampling unit which is the number of advanced-level secondary school female students from each class was identified by using a simple random technique. Those students who were present in the class were selected through a systematic sampling of the study. Those who consented to participate in this study were given a questionnaire to fill out.

Table 1: Advanced-level secondary Schools with female students in Geita Town Council

Class Level	Schools					Total
	Nyankumbu Girls	Shanta Mine	Geita Adventist	Kasamwa	Golden Ridge	
Form five	156	114	112	55	17	454
Form six	138	86	46	43	15	328
Total	294	200	158	98	32	782

The sample size estimation

The sample size for this study was 384 female students. Kish Leslie's formula (Desta & Regassa, 2011) calculation of the sample size for this study was employed. There have been no prior studies on EC among secondary school students in Tanzania. A sample size of 384 people was estimated using a prevalence of 50% of EC usage, with a 95 % confidence interval, and 5 % as a degree of error.

$$n = z^2 p (1-p) / \epsilon^2$$

The minimum sample size was 384 participants including the 10% estimated non-response rate.

Inclusion and exclusion criteria

The female students aged 15 years and above in advanced secondary school level that is form five and form six classes, who were present during the study period, and agreed to participate in the study signed consent form was an inclusion criterion. The exclusion criteria were those, who were very sick or mentally unsound during the study period.

Data collection

Data was collected by using a structured self-administered questionnaire. The socio-demographic variables of the study participants and questions asking about know-how, practices, and their perception of EC were included in the questionnaire. The questions were developed in the English language by reviewing literature and then translated into Kiswahili language, those who consented were given a Kiswahili questionnaire by the principal investigator to fill out, and one research assistant was there to clarify some questions if they were not clear. Afterward, the investigator and the research assistant collected the questionnaires after checking the returned questionnaires for completeness.

Data Management and Analysis

Checking for completeness and consistency of information filled on the questionnaires was done daily by the principal investigator and the research assistant. Data were entered into the SPSS data entry sheet then imported to Stata version 14.0 statistical analysis software (Stata Corp, 2016) for cleaning and analysis. Descriptive statistics were conducted to describe the socio-demographic and clinical characteristics of the study population. Frequency was estimated for categorical variables and mean, and standard deviation were used to summarize continuous variables.

Measurements and variables

Knowledge of EC was the outcome variable of interest, which used eight questions designed to measure knowledge. The knowledge level was measured using eight questions designed to test participants' knowledge of emergency contraceptives. For each question, a participant was assigned a score of 1 if the answer was correct and 0 for a wrong answer. Variables in measuring overall knowledge were computed by summing up the scores for all the questions. Scoring five and above was regarded as "adequate" and scoring below that was regarded as "inadequate".

Validity and reliability

Before the main data collection, the questionnaire was pretested on 5% of the students from one of the advanced-level secondary schools in Geita District to measure the variability and comprehensibility of the questionnaire. Students from one stream were given the questionnaire to fill and that stream was excluded from the main study. Then data collection tool was reviewed to accommodate questions that looked difficult or ambiguous to be answered by students.

Ethical Considerations

First, the research ethical clearance was obtained from MUHAS Institutional Review Board (IRB), (Ref No. DA-282/298/01.C/1536). Further permission to conduct the study was obtained from the Geita Regional Commissioner's office, the Geita District Executive Director, and the head of the respective schools where the research was conducted. Secondly, each student before being interviewed was asked to read and sign a written consent if she consented

to participate in the study. The participants under 18 years of age were involved in this study after discussing with their headmistress who approved their participation by signing the parental/guardian consent form which was also signed by that student herself. The aim and duration of the study were shared with participants before consenting to be involved in the study. Also, it was explained to them that there were no expected risks in participating in the study and that they had the right to quit or participate at any point in the study without any punishment whatsoever. Neither names nor personal identifying information was collected from the participants.

RESULTS

Characteristics of study participants

A total of 384 female students aged 15 years and above in advanced secondary schools in Geita Town Council were recruited in the study with a response rate of 100%. The mean age (Sd) was 18.0(2.1) while the minimum age was 15 and the maximum age was 23 years. The majority 271(70.6%) were aged between 15-19 years, and more than half 217 (56.5%) were in form five classes. In terms of mother education, more than one-third 149 (38.8%) reported that their mother has primary school education. Among respondents, 149(38.8%) reported their father has an ordinary college or University education. Table 2 below illustrates the information.

Table 2: Characteristics of study participants

Variable	Frequency	Percentages
Age group (Years)		
15-19	271	70.6
>19	113	29.4
Class		
Form five	217	56.5
Form Six	167	43.5
Mother's level of education		
No formal education	24	6.2
Primary	149	38.8
Secondary	119	31.0
Ordinary college/University	88	22.9
Don't know	4	1.0
Father's education		
No formal education	15	3.9
Primary	106	27.6
Secondary	110	38.7
Ordinary college/University	149	38.8
Don't know	4	1.0

Knowledge level of Emergency Contraception

Participants were asked if they had ever heard about EC. Of

the 336 students who had heard about EC, 208 (61.9%) had adequate knowledge of EC when overall knowledge was computed and 128 (38.1%) had inadequate knowledge. When asked specific questions about available forms of EC in Tanzania majority 79.2% reported pills as the most common contraceptives they know. Health facilities as the place where they can get emergency contraceptives were reported by 72.0% of those who had ever heard of EC. More than two-thirds 231 (68.7%) of those who heard about emergency contraceptives were able to mention the correct dose of EC. More than half (58.9%) reported that using EC has a lower risk of getting pregnant and 62.5% were not sure that an EC is effective up to 48 hours after you have taken it. More than half 199 (59.2%) of those who heard about EC reported that weight gain is not a common side effect of EC while 214 (63.7%) reported that EC increases the risk of cervical cancer. More than one-third 148 (44.0%) reported that EC is not given for free.

Emergency Contraception Knowledge by Demographic Characteristics

The Chi-Square test was conducted to assess the association between the demographic characteristics of the study participants and their knowledge of EC. Those aged between 15-19 years have a higher proportion, 138 (66.3%) of adequate knowledge than those aged 19 years and above. Students in form five classes were more knowledgeable (51.4%) of EC compared to form six classes (48.6%). Students with mothers who have a primary level of education have a higher proportion of 82 (39.4%) of adequate knowledge compared to other categories. Respondents whose fathers have ordinary college/university levels of education have a higher proportion of adequate knowledge compared to other categories. Socio-demographic characteristics were not statistically associated with knowledge. Table 3 below illustrates the information.

Table 3: Emergency Contraception Knowledge by Demographic

Demographic variable	Knowledge		P-value
	Poor	Good	
Age group (Years)			
15-19	94(73.4)	138(66.3)	0.172
>19	34(26.6)	70(33.6)	
Class			
Form five	76(59.4)	107(51.4)	0.156
Form Six	52(40.6)	101(48.6)	
Mother's level of education			
No formal education	5 (3.9)	15 (7.2)	0.170
Primary	56 (43.7)	82 (39.4)	
Secondary	40 (31.2)	56 (26.9)	
Ordinary college/University	24 (18.7)	54 (26.0)	
Don't know	3 (2.3)	1(0.5)	

Father's education

No formal education	5 (3.9)	7 (3.4)	0.262
Primary	36 (28.1)	63 (30.3)	
Secondary	42 (32.8)	47 (22.6)	
Ordinary college/University	43 (33.6)	89 (42.8)	
Don't know	2 (1.6)	2 (1.0)	

Sources of information about Emergency Contraception

Students were asked if they had heard about EC and the majority 336 (87.5%) reported they had heard about EC. Different sources of information about EC were reported. More than one-third 135 (40.2%) of the students reported school as the source of information, other sources reported were friends 67 (19.9%), health facilities 63(18.8%), and radio or television was the least with 57 (17.0%).

Emergency Contraception practices

The study participants were asked about their practices on EC. Only 27(8.0%) of those who were aware of EC had ever used the EC. The majority, 271 (80.6%) are aware of the availability of guidelines and protocols on the use of EC. More than quarter 98 (29.2%) attended training/workshops on the benefits and risks associated with EC. The majority 207 (61.6%) who had heard about EC discussed it with their friends about using emergency contraceptives in the past year. About 98 (28.9%) had discussed with their mother or female guardian about using EC in the past year. Only 29 (8.6%) had discussed with their father or male guardian about using EC in the past year.

Knowledge of Emergency Contraception by practices

The relationship between knowledge of EC and practices was established using the Chi-Square test. Only 19 (9.1%) of those having good knowledge of EC utilization had used EC. The majority 177 (85.1%) of those with good knowledge were aware of the availability of guidelines and protocols on the use of EC, and the availability of guidelines and protocols is associated with knowledge (p-value 0.009). Of those who had good knowledge, only 58 (27.9%) attended training or workshops on the benefits and risks associated with EC. The majority 135 (64.9%) of those with good knowledge had discussed with their friends about using EC in the past year. More than a quarter 58 (27.9%) of the students with good knowledge had discussed with their mother or female guardian about using EC in the past year. Only 19 (9.1%) of the students with good knowledge had discussed with their father or male guardian about using EC in the past year. See table 4 below

Table 4: Knowledge of EC by practices

Variables	Knowledge		P-value
	Poor	Good	
Used EC before	8(6.2)	19(9.1)	0.345
The presence of guidelines and	94(73.4)	177(85.1)	0.009*

protocols on the use of EC

Attended any training/workshop

on the benefits and risks 40(31.2) 58(27.9) 0.510

associated with EC

Discussed with their friends about

using EC last year. 72(56.2) 135(64.9) 0.113

Discussed with their

mother/female guardian about

using EC in the last year 39(30.5) 58(27.9) 0.612

Discussed with their father/male

guardian about using EC in the 10(7.8) 19(9.1) 0.675

last year

*Significant at $p < 0.05$

Discussion

The study aimed to assess the knowledge and practices of EC among female secondary school students aged 15 years and above in the Geita Town Council in the Geita region. The study revealed that the majority 336/384 (87.5%) of study participants were aware of EC. This is slightly higher than a similar study conducted in Wolkite Town in Ethiopia which was, 84.5% (Tajure, 2010) and Nepal, 83.4% (Mir & Malik, 2010) but lower than a study conducted among undergraduate students in Dodoma, 96.0% (Kara et al., 2019). This difference might be due to better access to media information and reproductive health information among university students.

More than one-third (40.2%) of the students reported the school as the source of information followed by friends 19.9%. The results differ slightly from a similar study done in Ethiopia where the major source of information was friends, 47.7% followed by school 25.8% (Tilahun et al., 2010). This difference could be due to boarding scholars from this study spending more time at school than probably day scholars in other studies. This implies that formal sources (school/classroom) are better than informal sources (peers and media) of information in delivering reliable messages on EC.

About two-thirds (61.9%) of those who ever heard of EC had adequate knowledge of EC which means they knew the forms, timing, and benefits of the morning-after pills. The results are relatively similar to a study done in Cameroon, which revealed a 63.0% level of awareness (Ahmed et al., 2012), and Nepal revealed a 63.7% level of awareness (Mesfin, 2020). However, the level of knowledge was higher than that of a similar study conducted in Wolkite Town in Ethiopia where the level of knowledge was 54.8%. This difference may be due to information and education delivered on sexual and reproductive health at school.

More than two-thirds of participants 68.7% correctly mentioned the right dose of EC but only 29.5% were able to

know the correct time within which the EC is effective. This agrees with a similar study done among undergraduate female students at Jimma University in, the Southwest part of Ethiopia and other studies done in Cameroon, Uganda, and Nigeria (Tajure, 2010), Kongnyuy et al., 2007. The reason could be the sources of information are friends/peers mostly found at school and lack of correct reproductive health information from reliable sources like governmental and non-governmental health institutions in developing countries. About 72% reported health facilities as appropriate places to get EC.

Students aged between 15 and 19 years showed adequate knowledge higher than those aged 19 years and above by 66.3% and 33.6% respectively. This is contrary to the study done among female students at Adama University in Ethiopia (Tilahun et al., 2010) where adequate knowledge was higher in students above 20 years. Also, students whose mothers had primary, and whose fathers had Ordinary college/University level education had a higher proportion of adequate knowledge compared to other categories by 39.4% and 42.8% respectively though it was not statistically significant. Therefore, it can be urged that parents' education level might have some influence on students' knowledge of family planning including EC.

Despite the good percentage of awareness among female students on emergency contraceptives, less than a quarter (8%) of those students had ever practiced the EC method. The results are similar to a study done among university students in Cameroon 7.4% (Kongnyuy et al., 2007) but far below a study conducted in Mekelle Northern Ethiopia where 60.5% reported using EC (Abrha et al., 2014). Also, the practice was lower than a study done in Kilimanjaro among undergraduate students; about 40.3% were contraception users, (Sweya et al., 2016). This difference could be due to age, poor access to contraceptive services, and lack of partner support in secondary school students. The low uptake of these contraceptives could be due to a lack of proper reproductive health programs, misinformation, culture, religion regarding the methods, and inaccessibility to pills.

From the study, only 29.2% attended training/workshops on the benefits and risks associated with EC. Nevertheless, less than one-third of participants had already discussed with their parents/guardians concerning EC. However, 64.9% of those with good knowledge have discussed with their friends about using EC. This shows how difficult it is for adolescents to use the EC because the majority do not even discuss at the family level even though they can freely talk among themselves. Probably due to African culture and taboos that children are not supposed to engage in sexual relationships or even they are not expected to be aware of this until marriage. Again, only 9.1% of those with good knowledge of EC had practised this method of contraception. Among those with good knowledge of EC, 85% were aware of the availability of guidelines and protocols and this was statistically associated with the use of emergency contraceptives, p -value of 0.009.

Study limitations

This study has some potential limitations. First, it used a quantitative method to collect data with no further explanation. With that, a corresponding study using a qualitative methodology for a more narrative overview of the findings might be useful to explore the research question in greater depth. Second, the study was cross-sectional, and thus it was not possible to establish the causal relationship between variables. Additionally, findings from this study may be limited to self-reported bias. Self-reported data had several potential sources of bias including recall bias, social desirability, and bias. However, bias was controlled through a comprehensive description of the study's aim before enrolling the participants.

Conclusions and Recommendations

The findings from this study indicate that most of the secondary school female students are aware of EC and a good number of these students have adequate knowledge of EC. Parents' education level seems to have some association with students' EC knowledge although not statistically significant. The majority of students reported that pills were the available forms of EC in Tanzania and also knew the correct dose of EC. The practices of EC among female students are low. This could be attributed to a lack of family planning educational programs at school and in the community; misinformation and misconceptions related to EC myths and exaggerated side effects of EC.

Recommendations

The level of good knowledge of EC was proportionally high but the practice was relatively low. Therefore, favorable or user-friendly policies and laws should be made by policymakers to increase the utilization of emergency contraceptives and make sure they are readily available and accessible for all. The government and non-governmental organizations should extend family planning education to all secondary schools to correct information delivery to adolescents and young people. Despite the majority being aware of EC more promotion strategies on the time frame for the effectiveness of EC and their benefits in lowering the risk of getting pregnancy and unsafe abortion are still needed for young people, parents/ guardians, and the community at large. We recommend a qualitative study to be done on EC knowledge and practices among advanced-level secondary school female students in Geita Town Council, Tanzania to ascertain the practices and reasons beyond observed practices.

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Competing interest

The authors declare that they have no competing interests.

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