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Knowledge, Attitudes, and Practice of abortion among Adolescent female students in selected Secondary Schools in Moshi Municipality, Kilimanjaro region.

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Abstract

Background: Induced abortion is an intentional termination of intrauterine pregnancy by medical or surgical means. Unsafe abortion is a serious public health problem most significant for adolescent females and one of the leading causes of maternal mortality globally. In Africa, unsafe abortion accounts for more than a quarter of causes of maternal mortality. Tanzania, where abortion is illegal, has the highest incidence of unsafe abortion. This study aimed to determine the knowledge, attitude, and practices towards induced abortion among adolescent female students in four selected secondary schools in Moshi municipality, Kilimanjaro region, Northern Tanzania.

Methods: A descriptive cross-sectional study was conducted among 342 secondary school girls aged 15-19 years from April to June 2019. A multistage sampling technique selected eligible participants. Semi-structured, self-administered questionnaires were used for data collection. Data were entered and analyzed using SPSS software.

Results: The mean age of respondents was 16.7(SD 3.7), and 50.6% (n= 173/342; mean knowledge score =38.9 ±1.4) had inadequate knowledge of induced abortion. More than half, 55.8% (n= 191/342; mean attitude score = 18.9 ± 1.9) had unfavourable attitudes towards induced abortion. Nineteen respondents had induced abortion from unplanned pregnancies. The two main reasons for induced abortion were to finish school (26.3%), and fear of parents' reactions (26.3%).

Conclusion: There was no significant difference in the level of knowledge on induced abortion among study participants. However, the unfavourable attitude towards induced abortion observed is mostly influenced by cultural and religious factors. Two main reasons for induced abortion were fear of termination from school and fear of parents' reactions. Comprehensive sexuality education, contraception counselling and provision, access to post-abortion care services, and parent-daughter communication interventions may be beneficial to prevent unplanned pregnancies may be beneficial to adolescent students attending secondary schools in this setting.

Keywords: adolescent, attitude, knowledge, induced abortion, practice, Tanzania.

Introduction

According to the World Health Organization (WHO) definition induced abortion is the intentional termination of a pregnancy before the foetus can live independently (WHO, 2007, 2011). Induced abortion

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may be voluntarily based on the woman's personal choice or medically indicated to preserve the health or save the life of a pregnant woman. However, existing evidence suggests that most induced abortions are conducted in unsafe conditions. By definition, unsafe abortion is the termination of unintended pregnancy conducted by an untrained personnel, or a trained personnel, in an environment that does not meet the medical safety standards (WHO, 2007, 2011).

Annually, it is estimated that out of 19 million pregnancies that end with unsafe abortion globally, 5.7 million occurred in Low and middle-income countries (LMICs) between 2010 and 2014 (Ganatra et al., 2017). In Africa, 59 % of all unsafe abortions occur in women aged less than 25 years, and 90% live in countries with restrictive abortion laws (WHO, 2007, 2011). Abortion is not permitted under any circumstances in 12 out of 54 African countries. Only four countries, namely Cape Verde, Mozambique, South Africa, and Tunisia have relatively liberal abortion laws (WHO, 2007, 2011). Tanzania is among African countries with high unsafe abortion rates approximated at 36 per 1000 women under 25 years old. The highest rates are reported in Lake Zone (51 per 1000) and the lowest rates in Zanzibar (11 per 1000) among women aged 15 - 44 years (Keogh et al., 2015; Norris, Harrington, Grossman, Hemed, & Hindin, 2016).

The most at-risk group for induced abortion in LMICs are adolescent girls aged 15-19 years who are less likely than adult women to obtain safe abortion. Compared with older women, adolescents are more likely to experience unsafe abortion from untrained personnel, have a self-induced abortion, delay seeking post-abortion care, and terminate pregnancy in the first three months (Ganatra et al., 2017). As a result of unsafe abortion adolescents experience life-threatening complications such as severe haemorrhage, and sepsis from childbirth. Other disabilities include reproductive tract infections (RTI), pelvic inflammatory diseases, and infertility (Keogh et al., 2015; Norris et al., 2016).

Abortion is illegal in Tanzania and carries a heavy jail sentence unless the termination of pregnancy is under a medical emergency (Keogh et al., 2015; Nkata, Barros, & Nyamhanga, 2017; Norris et al., 2016). Although the penal code explicitly states that termination of pregnancy is legally permitted if it is to save a woman's life, the law does not specify what level of healthcare provider may perform a legal termination. The Tanzanian government however has not incorporated this provision into its national laws, despite the ratification (Woog & Pembe, 2013).

In Tanzania, adolescent girls with unplanned pregnancies face social consequences, such as being expelled from the education system (Keogh et al., 2015; Nkata et al., 2017; Norris et al., 2016). Two main reasons most adolescent girls undergo unsafe abortion are because of the existing restrictive abortion law (Johnson, Mishra, Francheska, Khoslaa, & Ganatraa, 2017; Keogh et al., 2015; Norris et al., 2016; Sorensen et al., 2010), and fear of being curtailed from education (Nkata et al., 2017).

Given the above-cited punitive restrictions most induced abortions are conducted under unsafe, covert situations, putting adolescent girls at high risk of maternal mortality caused by severe bleeding, and sepsis (Abiola, Oke, Balogun, Olatona, & Adegbesan-Omilabu, 2016; Atakro et al., 2019; Espinoza, Samandari, & Andersen, 2020; Lin et al., 2018; Sorensen et al., 2010).

The secondary education system in Tanzania is categorized into public or private and includes two tiers. The first tier is four years for the ordinary level and the second tier is two years for the advanced level. In Tanzania, the education policy permits children enrolment at the age of seven for primary education thus starting ordinary level secondary education at 15. Sexuality education in Tanzania is guided by the national guidelines for implementing HIV/AIDS and life-skills education programmes in schools. It is not a standalone subject but is mainstreamed in other subjects namely Biology and Civics for O-level and General Studies and Biology for A-level (United Republic of Tanzania, 2017a).

This study aimed at determining the knowledge, attitude, and practice towards induced abortion among adolescent female students aged 15 to 19 years in four selected secondary schools in Moshi municipality, Kilimanjaro region, Northern Tanzania. The study findings would add information to the existing evidence on knowledge, attitude, and practice towards induced abortion and recommendations for appropriate interventions that will ensure universal access to legal, safe and comprehensive sexual and reproductive healthcare services among adolescent female students in secondary schools in this study setting.

Material and methods

Study design

This was a descriptive cross-sectional study conducted between April to June 2019 to assess the knowledge, attitude, and practice of adolescent female students towards induced abortion in Moshi municipality, Kilimanjaro region, Northern Tanzania.

Study area

This study was conducted in the Moshi Urban district, which is one of the seven districts of the Kilimanjaro region of Tanzania. Moshi Urban District is bordered to the North, South, and East by the Moshi Rural District and to the West by the Hai District. According to the 2012 Tanzania national census, the population of the Moshi urban district was 184,292 with Chaga and Pare as predominant tribes. Moshi Urban district has 23 secondary schools with 2538 female students. These include 14 public and 9 private schools where one is a boy only and the remaining 22 are mixed-sex schools.

Study population

The study population was adolescent female students aged 15-19 years old from four selected secondary schools in Moshi municipality.

Eligibility criteria

The study include all eligible female students aged 15-19 years old while excluding those either not consenting or absent from school during data collection day.

Sample size determination

The following assumptions were used to arrive at the required minimum sample size, using Epi-info statistical software to calculate the sample size. To determine the sample size with a 95% level of confidence, a 5 % margin of error, and a proportion of 50.0% (for unknown prevalence), we used the formula for a descriptive cross-sectional study where the target is less than 10,000. The estimated minimum sample size including the 10% of the estimated size to adjust for non-response rate was 422 respondents.

Sampling technique

The multistage sampling technique was used to recruit 422 study respondents from 4 mixed-sex secondary schools. In stage one, four out of 22 secondary schools, were selected using a simple random sampling method by lottery procedure. In stage two students were stratified by their classes (i.e., forms 1 to 6) to make different stratum in each school. The primary sample frame was a list of all female students from forms 1 to 6 forming the sampling units. Every year level in a school formed a secondary sampling frame.

In stage three, the required numbers of students were selected from each stratum proportional to their size using a systematic random sampling technique.

To decide on the sampling interval 10% of the total female population in a school was calculated. The number of the year levels in the school was divided by the result to determine the sample size per class. The sampling interval (*n*th) was then calculated by dividing the number of female students in a class (N) by the class sample size (n). The female students were arranged alphabetically and the first participant was selected blindly using a table of random numbers after which the remaining participants were selected at regular intervals (*n*th) from the secondary sampling frames. The process was repeated until the required school sample size was achieved.

Study variables

The dependent variables in this study were knowledge of induced abortion, attitude towards induced abortion, and practice of induced abortion. Independent variables include socio-demographic characteristics and the sexual behaviour of respondents.

Measurements

Knowledge scores: The level of knowledge of induced abortion was measured using 10 questions (e.g., induced abortion is abortion done by oneself). The expected response 6-point Likert scale ranged from 1= "Strongly disagree", to 6 = "Strongly agree". Responses in each domain were added to create an overall knowledge score, which ranged from a minimum of 10 to a maximum of 60. The mean score of 30 or above was categorized into adequate knowledge (> mean score), and the mean score of below 30 was categorized into inadequate knowledge (< /= mean score). The reliability scale was Cronbach's alpha = .61.

Attitude scores: Attitude towards induced abortion was measured using 6 questions (e.g. It is a sin to induce abortion). The expected response 6-point Likert scale ranged from 1= "Strongly disagree", to 6 = "Strongly agree". Responses in each domain were added to create an overall attitude score, which ranged from a minimum of 6 to a maximum of 36. The mean score of 18 or above was categorized into favourable attitude (> mean score), and the mean score of below 18 was categorized into unfavourable attitude (< /= mean score). The reliability scale was Cronbach's alpha = .62.

Practice: Asking the respondents if they had ever had an abortion in their lifetime assessed the practice of induced abortion. The expected response was 1= Yes, and 2= No.

Data collection

Primary data were collected using a pre-tested self-administered, semi-structured questionnaire adopted from Ethiopia (Yaecob, Abera, & Meleko, 2018), and adapted to fit the study objectives, to assess knowledge, attitude, and practice towards induced abortion from study respondents. The self-administered questionnaire was conducted in English, which is the language used as the medium of teaching in secondary schools in Tanzania. No secondary data was used in this study.

Data analysis

The filled questionnaires were cross-checked daily for accuracy, completeness, and uniformity, and then double-entered in a database. Data were analyzed using Statistical Package for Social Science (SPSS) for Windows Version 20.0 statistical software (Chicago, IL, USA). Descriptive analysis was estimated as

frequency and proportions. A Chi-square test was used to compare proportions between categorical variables. A p-value of .05 or less was considered to be significant.

Ethical considerations

Research and ethical clearance were obtained from the Kilimanjaro Christian Medical University College Ethics Committee (CRERC Number 884). Permission to conduct the study was sought from the local education officer and headmasters of the four selected schools. Written consent was obtained after potential respondents were informed of the study objectives, and their participation was voluntary and free to withdraw from the study. All parents / or guardians of respondents below 18 years received a parental consent form. Written assent to participate in the study was sought from respondents below 18 years old. Adolescents below 18 years who refused to participate in the study were not forced to do so, even if their parents/or guardians consent.

Results

Out of the 422 respondents recruited in this study, 342 (80.7 % response rate) participated in this study. Forty-six respondents refused to participate in this study, 4 participants did not return their questionnaires, and 30 questionnaires were discarded because of incompleteness and inconsistency of data (n=80).

Characteristics of the participants

The age range and the mean age (standard deviation) of the study respondents were 15 to 19 years and 16.7± 3.7 respectively. More than two-thirds, 66.1% of respondents were aged 15 to 17 years, Christians (81.0%), forms 1 to 4 (70.2%), forms 5 to 6 (29.8%), living at home (61.4%), and Chagga tribe (52.3%) [Table 1].

Table 1: Socio-demographic characteristics among adolescent female students in four selected secondary schools in Moshi municipality (N =342).

Variables	Frequency (%)
Age group (years)	
15 – 17	226(66.1)
18-19	116(33.9)
Mean age	16.7±3.7
Religion	
Christian	277(81)
Muslim	65(19)
Class	
Forms 1 to 4	240(70.2)
Forms 5 to 6	102(29.8)
Ethnicity	
Chaga tribe	179(52.3)
Other tribes	163(47.7)
Living arrangement	
At hostel	132(38.6)

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At home	210(61.4)

Knowledge of induced abortion

There was no significant difference in the level of knowledge of induced abortion among study participants. Almost half, 50.6% (173/342) had inadequate knowledge compared to 49.4 % who had adequate knowledge of induced abortion. The mean knowledge score was 38.9 ± 1.4. The majority (94. 7%) of the respondents knew that induced abortion can lead to death, while more than a quarter (25.1 %) of respondents were unaware that induced abortion can be done alone by an individual [Table 2].

Table 2: Adolescent female students' knowledge of induced abortion (N=342).

Statements on knowledge of induced abortion	Agreeing response [Frequency (%)]
Induced abortion is an abortion done by myself.	86(25.1)
Induced abortion is an abortion done in the hospital by an untrained person.	124(36.3)
Induced abortion is an abortion done by taking local herbs.	190(55.5)
Induced abortion is an abortion done by a trained doctor in his house.	125(36.5)
Induced abortion is an abortion done by an elderly woman in the community.	135(39.5)
Induced abortion can lead to infection.	288(84.2)
Induced abortion can lead to excessive bleeding.	315(92.1)
Induced abortion can lead to death.	322(94.2)
Induced abortion can be performed through surgical instruments/modern medicines.	299(87.4)
Taking local herbs can induce abortion.	237(69.3)

In bivariate analysis, there was a statistically significant association between the living arrangements of the respondents and their level of knowledge of induced abortion. Respondents staying at the hostel were more likely to be knowledgeable compared to those who were staying at home [Table 3].

Table 3: Association between socio-demographics and knowledge of induced **abortion among adolescent female students in four selected secondary schools in Moshi municipality (n=342).**

Socio-demographic characteristics	Knowledge of induced abortion [Frequency (%)]			P-value
	Adequate	Inadequate	Total	
Age group (years)				
15 – 17	105(46.5)	121(53.5)	226(100)	0.13
18-19	64(55.2)	52(44.8)	116(100)	
Religion				
Christian	143(51.6)	134(48.4)	277(100)	0.43
Muslim	35(53.8)	30(46.2)	65(100)	
Class				
Forms 1 to 4	112(46.7)	128(53.3)	240(100)	0.12
Forms 5 to 6	57(55.9)	45(44.1)	102(100)	
Living arrangement				
At hostel	77(58.3)	55(41.7)	132(100)	< 0.009*
At home	92(43.8)	118(56.2)	210(100)	

*$p < 0.01$.

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Attitude towards induced abortion

More than half, 55.8 %, (191/342) of the respondents had an unfavourable attitude towards induced abortion compared to 44.2 % who had a favourable attitude. The mean attitude score was 18.9 ± 1.9. The majority, 307/342 (89.8%) of respondents agreed that using family planning methods can prevent unwanted pregnancy, and 12% agreed that they would abort if pregnant, or encourage a friend to abort [Table 4].

Table 4. Adolescent female students' attitude towards induced abortion (N=342).

Statements of attitude towards induced abortion	Agreeing response [Frequency (%)]
It's a sin to perform an abortion.	303(88.6)
Induced abortion can kill because of its complications.	305(89.2)
Using family planning methods can prevent unplanned pregnancies.	307(89.8)
Unplanned pregnancy should be aborted.	56(16.4)
I would undergo an abortion if pregnant.	41(12)
I would encourage my friend to abort if pregnant.	41(12)

The practice of induced abortion

Table 5 below presents the respondents' practice of induced abortion. Out of 342 respondents 19 (5.6%), reported having an abortion. Five respondents had an abortion at 15 years or below, and the remaining 14 had an abortion at age 16 years or above. Ten respondents had one previous abortion, compared with nine who had 2 or more. Sixteen respondents reported their abortions were done in a private health facility, two at home, and one in a public health facility. Seventeen respondents reported their abortions were performed by a health professional, and two by traditional healers. Nine respondents reported their abortion was carried out using the surgical method, while eight used medical aborting drugs, and two used local herbs to induce their abortion. Five of the respondents induced abortion to finish school, five because of fear of parents' reactions, four because of lack of money to support the child, three because of rejection by partner and family, and two because of the shame in society. Thirteen respondents, experienced complications, compared with six who did not. Of thirteen respondents who experienced complications post-abortion, eight reported excessive bleeding, four had abdominal pains, and one had nausea/vomiting.

Table 5. Adolescent female students' practice of induced abortion (n=19).

Variables	Frequency (%)
Age at first abortion	
15 years or below	5(26.3)
16 years or above	14(73.7)
Number of previous abortion(s)	
1	10(52.6)
2 or more	9(47.4)

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A place where abortion was done	
Public health facility	1(5.3)
Private health facility	16(84.2)
Home	2(10.5)
A person who performed an abortion	
Health professional	17(89.5)
Traditional healer	2(10.5)
Material used to induce abortion	
Surgical methods of abortion	9(47.4)
Medical abortion drugs	8(42.1)
Local herbs	2(10.5)
Reasons for inducing abortion	
To finish school	5(26.3)
Fear of parents	5(26.3)
Lack of money to support the child	4(21.1)
Rejection by partner and family	3(15.8)
Shame in society	2(10.5)
Experienced any complications	
Yes	13(68.4)
No	6(31.6)
Type of complications (n=13)	
Excessive bleeding	8(61.5)
Abdominal pains	4(30.8)
Nausea /vomiting	1(7.7)

Discussion

This study aimed to determine the knowledge, attitude, and practice towards induced abortion among adolescent female students in 4 selected secondary schools in Moshi municipality. The study established that there was no significant difference among respondents related to their knowledge of induced abortion. This is contrary to studies done in Nigeria (Abiola et al., 2016), and Goma (Paluku, Kalisoke, Wandabwa, & Kiondo, 2013b), in which 88.3 % and 61.3% respectively of respondents were knowledgeable on induced abortion. On the other hand, inadequate knowledge of induced abortion was observed in a study among female students in different settings in Ethiopia (Gelaye, Nigussie, & Mekonen, 2014; Yaecob et al., 2018). The observed non-differential in the level of knowledge on induced abortion could be a result of ineffective sexuality education programs delivered in secondary schools in Tanzania Although this study

did not assess sexuality education or any form of life skills taught in the respective schools, existing literature suggests that sexuality education taught in Tanzania is inadequate (Mkumbo, 2010). An alternative explanation could be the difference in the sources of information about induced abortion in different study settings (Abiola et al., 2016; Paluku et al., 2013b; Yaecob et al., 2018).

In the current study, respondents who were living in hostels were more likely to be knowledgeable of induced abortion compared to those who stayed at home. This is in line with findings from a study done by Abiola et al (2016) in Nigeria where most respondents first heard about abortion from their friends, with whom they interact frequently (Abiola et al., 2016).

More than half of the respondents in this study had an unfavourable attitude towards induced abortion, which could be influenced by religious beliefs. Most respondents in this study were either Christians or Muslims-both doctrines did not advocate abortion and agreed that abortion was a sin against God. This is in line with the proposals suggested by several studies, which claim that religious abhorrence of abortion, impedes health-seeking behaviour for PAC services in SSA (Abiola et al., 2016; Paluku et al., 2013b; Yaecob et al., 2018). Also, based on religious belief, becoming pregnant before marriage, or inducing abortion is seen as an abomination, and may promote the stigma related to abortion (Abiola et al., 2016). It is important to increase awareness of the benefits of PAC services in this setting regardless of the social, cultural and religious stigmatisation towards abortion, to reduce the mortality and morbidity associated with induced abortion (Atakro et al., 2019).

Countries such as Tanzania, with restrictive abortion law (Johnson et al., 2017; Keogh et al., 2015; Nkata et al., 2017; Sorensen et al., 2010), need to introduce a curriculum-based comprehensive sexuality education (CSE) to young adolescents during the primary school education level (7-14-year-olds) to address multiple sexual psychosocial risk and protective behaviours, including knowledge, perceived risk, values attitudes, perceived norms and self-efficacy (WHO., 2018). Currently, sex education in Tanzania focuses on increasing knowledge alone and is limited in addressing skills, relationships, attitudes, and values, which are essential components of CSE (Mkumbo 2010). For example, one important sub-topic covered in sex education for secondary schools is family planning. However, the content only covers the meaning and importance of family planning. Such deficits are inconsistent with the Government's efforts to address the problem of increasing rates of teenage pregnancy among school girls (Mkumbo 2010). Existing evidence suggests that CSE has a positive effect on increasing adolescents' knowledge and refining their attitudes towards sexual and reproductive health, by delaying risky sexual behaviours and increasing contraception use (WHO., 2018).

Most respondents reported their first abortion at a young age (16 years or above), although most had aborted only once. This study revealed that health professionals working in private for-profit health facilities did most of the abortions. Very few respondents attended a traditional healer to induce abortion. The Tanzanian health system is categorized as public (government-owned), private (not-for-profit owned/or private for-profit owned). Government-owned health facilities are supervised directly by the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), and follow government regulations, including the restrictive abortion law, making it difficult for adolescent girls with unplanned pregnancy to access PAC services (United Republic of Tanzania, 2017b). Hence, the only option for adolescent girls to undergo an abortion is the private-for-profit health facilities (Keogh et al., 2015; Nkata et al., 2017; Norris et al., 2016). Further, this study showed that most respondents who underwent an abortion used surgical methods of abortion or medical abortion drugs. Similar findings were reported

from a study conducted in Zanzibar, where adolescent girls, used a blend of herbs, and medical abortion drugs to ensure that the abortion does not fail (Norris et al., 2016).

The most common complications mentioned by respondents who induced abortion were excessive bleeding and abdominal pains. Surprisingly, in this study, most respondents experienced complications post-abortion even though health professionals working in private-for-profit facilities did most of the abortions. The most probable explanation for this observation could be that most health professionals working in private-for-profit facilities are not well-trained and competent to perform safe abortions (Norris et al., 2016). Further, existing literature on induced abortion suggests that excessive bleeding is the main cause of both morbidity and mortality, which impact the health of adolescent girls with unplanned pregnancies worldwide (Espinoza et al., 2020; Johnson et al., 2017; WHO, 2007, 2011). The Tanzania Ministry of Health must make efforts to train health professionals working in private-for-profit health facilities on PAC services to reduce the risk of severe complications post-abortion among adolescent girls (Espinoza et al., 2020; Johnson et al., 2017; WHO, 2007, 2011).

In this study, the two main reasons mentioned by most respondents who induced abortion were to finish their education and fear of parents' reaction. These results concur with findings from studies conducted in Ethiopia (Cadmus & Owoaje, 2011; Yaecob et al., 2018), Tanzania (Keogh et al., 2015; Nkata et al., 2017; Norris et al., 2016), and Ghana (Atakro et al., 2019). The restrictive abortion law existing currently in Tanzania may be perceived as a barrier; therefore to avoid having their educational aspirations terminated most female students opt for an abortion (Cadmus & Owoaje, 2011; Keogh et al., 2015; Nkata et al., 2017; Paluku, Kalisoke, Wandabwa, & Kiondo, 2013a). Recently the Government of Tanzania, through the Ministry of Education, Science and Technology have announced that pregnant schoolgirls will be allowed to continue with formal education after delivery. However, female students will be banned from attending school while pregnant (Guardian, 26th Nov 2021).

Fear of parents' reactions arises from the fact that in most African societies, culturally abortion is a taboo, and seen as an embarrassing and shameful act associated with stigma, and a sign of disrespect to discuss premarital sex and pregnancies with parents. Atakro et al. in Ghana also reported that fear of parental/ guardian disappointment and resentment was one of the contributing factors to induced abortion practices (Atakro et al., 2019). The solution to this challenge is to increase parent-daughter communication about sexuality issues, by training parents in the requisite knowledge and communication skills to impart to their adolescent girls on how to deal with sexual challenges confronting them (Babalola, Vondrasek, & Brown, 2001).

Further qualitative research to explore the views and perceptions of parents, religious leaders, and health care providers of contributing factors to induced abortion practices among female secondary school students in this study setting is warranted.

Study limitations

This study is not exempted from limitations. First, this is a cross-sectional study design; hence it is unable to demonstrate the causal-effect relationships reported in this study. Second, the study enrolled only female students from selected secondary schools and the findings can only be generalizable to the study population and setting. Third, the study respondents were asked very sensitive issues such as their practices of abortion, which is illegal in Tanzania hence the possibility of recall bias and social desirability bias cannot be excluded and may influence the respondent's responses regarding their practices. Finally, the validity of the study findings may be affected by the below-normal acceptable range of Cronbach's

alpha internal reliability scales used to assess the level of knowledge (α = .61) and attitude (α = .62) toward induced abortion.

Conclusion

In conclusion, there was no significant difference in the level of knowledge on induced abortion among study participants. However, the unfavourable attitude towards induced abortion observed is mostly influenced by cultural and religious factors. Two main reasons for induced abortion were fear of termination from school and fear of parents' reactions. Comprehensive sexuality education (CSE), contraception counselling and provision, access to post-abortion care (PAC) services, and parent-daughter communication interventions may be beneficial to prevent unplanned pregnancies in adolescent students attending secondary schools in this setting.

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Competing interests

No competing interests.

Authors' contributions

BN is the guarantor. All authors contributed to the conception and design of this manuscript as follows. FAK, JSN and ALM conceived the study and wrote the manuscript under the supervision of BN.
All authors read the final draft of the manuscript and provided feedback. All authors read and approved the final manuscript.

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