Knowledge, attitudes, and use of family planning methods among female secondary school students in Tanzania

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Research article

Keywords: Family planning, knowledge, attitude, family planning method use, adolescent, student

Posted Date: August 23rd, 2019

DOI: <https://doi.org/10.21203/rs.2.13447/v1>

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Abstract

Background The secondary school student population comprises adolescents aged 12–19 years, who represent around 15% of the global population. Many adolescents are sexually active and at high risk for unwanted/unintended pregnancies and sexually transmitted infections; however, access to family planning (FP) services for this group is limited. Girls are more susceptible to sexual reproductive health problems than boys, and are less likely to use contraceptives. Despite these challenges, there are few studies on knowledge and attitudes about FP methods among female secondary school students. This study aimed to assess knowledge, use, and attitudes toward FP methods among female secondary school students in Ilala, Dar es Salaam, Tanzania. **Methods** A descriptive cross section study was conducted from February to April 2017 among 120 female secondary school students, using multi-stage sampling. Data were collected using a structured self-administered questionnaire. Descriptive and inferential statistics were used to examine relationships between participants' knowledge, attitudes, and use of FP methods. **Results** Most (93.33%) participants had heard about FP methods, but the majority (85.8%) had low knowledge about how these methods functioned. Although 70.83% of participants had a positive attitude toward FP methods, 29.17% thought they were at risk for sexually transmitted diseases and pregnancy, and few (8.33%) had used FP. There was a significant relationship between awareness and use of FP methods ($p=0.003$). **Conclusion** Female secondary school students in Tanzania have low knowledge of FP methods. Knowledge of FP methods can help to prevent the consequences of unprotected sex among adolescent girls, and assessment of their knowledge and attitudes regarding FP methods will help in designing and implementing appropriate interventions. **Key words:** Family planning, knowledge, attitude, family planning method use, adolescent, student

Background

Globally, the coverage of family planning is low. An estimated 45 million unplanned pregnancies are terminated each year, with 19 million terminated in unsafe conditions (1). More than 40% of all unsafe abortions are performed for adolescents and young women aged 15–24 years; where adolescents accounts for around 15% of the world's population, with the majority living in developing countries (1).

World Health Organization defines an adolescent as an individual in the group aged 10–19 years.

Studies on sexual and reproductive health in low-income countries have reported that abortion morbidity is common among adolescents (2). Previous studies indicate that one in six women aged 15–19 years started sexual activity before marriage (3, 4). Over the past several years, initiation of sexual activity has occurred among younger adolescents; this younger age group tends to have inadequate knowledge about contraception and protection, which increases the likelihood of unplanned and unwanted pregnancies (5, 6). Pregnancy problems and sexually transmitted infections in adolescence can permanently affect girls' future reproductive ability as well as the future of their community (7). The Tanzania Demographic Health Survey (TDHS) conducted in 2010 indicated knowledge of contraception or family planning (FP) methods among adolescents aged 15–19 years was low (10.7%). However, Tanzania is among the sub-Saharan African countries with the maximum total fertility rate (5.4%), with the adolescent pregnancy rate reported

as 27% (8, 9). Adolescents (married and unmarried) constitute about two-thirds of the unmet need for contraceptives in Tanzania (10). This call for concerted effort from multidisciplinary stakeholders to address reproductive issues, with special attention directed to reproductive health services for adolescents.

Other studies on adolescent sexual and reproductive health have shown that adolescents lack knowledge on family planning and have negative attitudes towards FP; the use of FP methods was low, even in the few studies that showed positive attitudes (4, 11). International household survey data representative of the developing world (excluding China) suggest that around 11% of females and 6% of males aged 15–19 years have had sex before age 15 years (4, 11). However, information from low- and middle-income countries indicates that sexual and reproductive health knowledge, attitudes, and behaviors among younger adolescents are poor. This low knowledge and poor attitudes towards FP methods pose a major challenge to the reproductive health of young people in low-income countries. There is a clear need to improve adolescents' knowledge and attitudes regarding FP methods (12). Despite the challenges faced by adolescents, little evidence-based information is available about female secondary school students' knowledge and attitudes regarding FP methods. Without accurate information, adolescents may lack the knowledge and attitudes that would empower them and instill confidence to support informed decisions about their sexual and reproductive health and safety—decisions that may have life-long consequences. Findings from a previous study (13) revealed that a majority of participants would not recommend use of FP methods to their peers nor use contraceptives themselves.

Most previous studies focused on adolescents' sexual and reproductive health in general, the use of FP, teenage pregnancies, and age at initiation of sex. Few studies investigated knowledge and attitudes regarding FP methods among female students. Knowledge about and positive attitudes toward FP methods among adolescents may help to promote FP use and reduce the complications associated with unprotected sex. This study aimed to assess knowledge and attitudes toward and use of FP methods among female secondary school students in Ilala district, which is located in Dar es Salaam, Tanzania. It is anticipated that the findings will provide important information on adolescents' knowledge and attitudes regarding FP methods, which may inform decisions on effective intervention strategies.

Methods

Study design

This study used a cross-sectional study design, and was conducted among female secondary school students (of forms two, three, and four aged 12–21 years) in Dar es Salaam. This study aimed to determine the magnitude of knowledge and attitudes regarding FP methods and use of these methods among female secondary school students.

Study setting

Dar es Salaam is the largest city in Tanzania. It serves as the main administrative center and economic hub for the country, and is located in the Coastal Zone along the Indian Ocean. The population of Dar es Salaam exceeds 4 million people, and the city has a large adolescent population who are sexually active. The city is subdivided into five districts: Ubungo, Kinondoni, Temeke, Kigamboni, and Ilala municipalities. The study site was a girls-only secondary school admitting both day and boarding students; it is located in Ilala district, Upanga West. The school has 240 students aged 12–21 years from all five districts of Dar es Salaam City.

Inclusion and exclusion criteria

The inclusion criteria were students aged 12–21 years, willing to participate in this study, and able to communicate in English or Swahili. Students that did not meet these criteria were excluded.

Sampling method

A multi-stage sampling method was used to select eligible participants. Ilala district was selected in the first stage. One girls-only school from among the schools in Ilala district was selected in the second stage, with students aged 12–21 years invited to participate in this study. This sampling method was considered the best way to include all subjects that met the researchers' criteria (14), which in this case was girls from girls-only secondary schools in Ilala district.

Sample size calculation

The sample size was calculated using the Leslie Kish sample size formula. According to (15) it is essential to use the correct sample size to accurately represent the population. Therefore, the percentage of the total population used for the sample size in this study was 34%. The sample size was calculated using the formula as follows.

$$N = \frac{Z^2 P (100 - P)}{E^2}$$

N = estimated sample size, P = expected population, E = margin of error, Z = level of significance, where Z is 1.96 = 95% (16)

$$N = \frac{(1.96)^2 \times 10.7 (100 - 10.7)}{(5)^2} = 146.7$$

$$(5)^2$$

Data collection

Data were collected using a structured self-administered questionnaire that covered demographic information and knowledge about, attitudes toward, and use of FP. The tool was developed by the present researchers, and questions were formulated based on knowledge of sexual and reproductive health. Experts in sexual and reproductive health were consulted for their input. A pilot study was conducted with 20 students from a secondary school for girls in Dar es Salaam. These participants were randomly

selected and had the same characteristics as the study group. This facilitated our understanding of the feasibility of the study instrument. These participants were excluded during the actual data collection to avoid contamination of the study sample. The results of the pilot study were used to modify the content of the questionnaire.

Data collection procedure

The questionnaire was distributed to study participants. After providing informed consent, participants were required to respond to questions covering demographic information and their knowledge, attitudes, and use of FP methods. The questionnaire was completed at school in a classroom and it took about 30 minutes.

Outcome measures

FP method was regarded as the dependent variable. The independent variables were age, education, knowledge of FP methods, use of FP, and attitude toward FP. Students that responded correctly to questions regarding functions and types of FP methods were considered to have adequate knowledge, whereas those with incorrect responses were regarded as having inadequate knowledge. With regard to attitude, participants were asked: "Would you advise your peers to use family planning" ("yes" or "no"). Those who responded "yes" were considered to have a positive attitude toward FP methods.

Data analysis

Data analysis was performed using SPSS version 20.0 (Armonk, NY: IBM Corp.). Descriptive and inferential statistics were calculated. The frequencies of study variables were computed and represented as numbers and percentages. Further analyses using Pearson's chi-square tests were used to determine associations between categorical variables.

Results

Participant's demographic characteristics

Most participants (90%) were aged 15–17 years, and 56.67% were of Christians. The most common education level among the heads of participants' households was secondary school."

Knowledge about FP methods

Table 2: provides a summary of participants' reported knowledge about FP methods.

Although most participants (93.33%) had heard about FP, the overall level of knowledge based on correct answers to questions about types and functions of FP methods was low. Abortion was the most commonly recognized function of FP methods, and condoms were the most commonly known FP method."

Attitude towards FP

Table 3 provides a summary of participants' attitudes toward FP. A majority of participants (70.83%) had a positive attitude toward FP methods, based on their response that they would recommend FP to their peers. A minority of participants (29.17%) reported that they were not at risk for pregnancy or sexually transmitted infections."

Relationship between knowledge and attitude toward FP methods

The relationship between participants' knowledge of FP methods and their attitude towards FP was not significant ($\chi^2 = 1.17$, $df = 1$, $p = 0.28$)

Relationship between knowledge and use of FP methods

The relationship between participants' knowledge and use of FP methods was significant

($\chi^2 = 8.92$, $df = 1$, $p = 0.003$)

Discussion

In this study, a majority of participants had inadequate knowledge about FP methods, although many had heard about FP and were able to mention at least one method. These findings are similar to those of the TDHS 2010, which showed that only 10.7% of adolescents aged 15–19 years were knowledgeable about contraceptive methods. Teachers were the most common source of information about FP methods among our participants. A similar study conducted in North East Tanzania (Hai district) showed participants had adequate knowledge (67%) about FP services, with the most common source of information being radio; however, use of FP services was low (6%) and attitudes toward FP services were poor, with 72.1% responding that adolescents should not use FP services (13). In contrast, our study found that a majority of participants would recommend use of FP methods to their peers. In addition, the use of FP methods was considerably higher (8.8%) in our study compared with the previous study (13).

Our findings also differed from the results of a national survey and other studies that reported high levels of knowledge and mass media as a major source of information among those aged 15–19 years (8, 17). One explanation for the differences in the findings may be the study setting and population, as our study was conducted in one district and focused on secondary school girls. In contrast, previous studies were based on surveys that covered wide geographical areas and included male and female students and adolescents out of school.

This study showed that participants had inadequate knowledge about FP methods. A concerning finding was that only 29.17% of participants thought they were at risk for a sexually transmitted disease or pregnancy, despite the overall low level of knowledge (e.g., only one participant indicated that pregnancy prevention was a function of FP). This suggests that participants were unaware of being at risk for sexually transmitted infections/pregnancy. This lack of knowledge put them at high risk for sexually

transmitted infections or unwanted/unplanned pregnancies. However, we found a significant relationship between knowledge and use of FP methods ($p = 0.003$). This finding was consistent with a global report that estimated that 45 million unplanned pregnancies are terminated each year, with 19 million terminated in unsafe conditions. More than 40% of all unsafe abortions are performed for young women (aged 15–24 years) (1). The majority of participants in this study thought that the right place to access FP methods was reproductive clinics compared with other settings outside the hospital. Other studies have shown that providing family planning services in a health facility may be a barrier to service use among adolescents (18, 19).

This study also showed that three-quarters of participants' households did not discuss FP methods with their children. This is consistent with related studies (5, 13) conducted in Dar es Salaam and Kilimanjaro, which revealed parents were not a common source of information on FP methods. This may be explained by the education background of the household head, as a majority had a secondary education and might therefore have inadequate knowledge or not understand the importance of FP for adolescents. Other possibilities are religious and cultural influences that make it difficult for parents to discuss FP with their children because of fear that it may lead to early sexual activity. This is supported by a study on parents' perceptions of adolescent use of contraception conducted in Nigeria, which showed that a majority of parents were reluctant to discuss contraception and its use with adolescents for reasons such as cultural, religious beliefs, and lack of knowledge/information about FP methods (20). This suggests that this is an area that needs to be explored, as the role of parents in this matter is vital.

A study on how gender and religion impact FP up take in Northern Tanzania indicated that some religious beliefs compete against use of FP methods for birth control (21). This may also contribute to lack of access to accurate information for adolescents.

Adolescents need to be provided with information about FP so that they are able to make informed decisions. Our finding that 70% of participants had positive attitudes towards FP methods but few had used a FP method may reflect students' lack of knowledge and misconceptions about FP methods, as documented in several studies involving adolescents (17, 22). This finding also concurs with another study (23) that showed that despite a positive attitude toward FP, there was lack of awareness regarding different contraceptive methods. In contrast, a study on the use of contraceptives by secondary school students in Dar es Salaam revealed a high level of knowledge and use of contraceptives (73% and 34%, respectively) (5).

Conclusions

This study showed that a majority of female secondary school students have inadequate knowledge about FP methods. Interventions to improve knowledge about FP methods among secondary school students are urgently needed. The lack of correct information on FP methods places these students at high risk for unintended pregnancy and sexually transmitted infections, especially as many of these adolescents are sexually active. Failure to help young people access FP methods may lead to higher

incidences of pregnancy, sexual transmitted infections, HIV, and AIDS, as well as contributing to high maternal and infant mortality rates. Teachers, family members, communities, and health providers need to empower young adolescents with reproductive education and FP services to help them make informed decisions about their sexual activity.

Abbreviations

FP, family planning

TDHS, Tanzania Demographic Health Survey

Declarations

Ethical considerations

The research proposal was approved by the Aga Khan University Research Ethics and Publication Committee. Permission to conduct the study and collect data was obtained from the headmaster of the selected school. Parents were verbally informed in a meeting during parent's day and agree that the headmaster provide consent. As participants were minors, they were asked for written informed assent after receiving an explanation of the purpose, benefits, risks, and duration of the study. A written consent was also obtained from headmaster who serves at the capacity of the guardian. The Participants were informed that they were free to withdraw from participation at any point during this study without any consequences. Participants' confidentiality and privacy was protected at all times.

Consent for publication: Not applicable.

Availability of Data and materials: The data used and analyzed during the present study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests.

Funding: This study was partially funded by the Aga Khan Health Services, Tanzania the funding included support with stationaries, secretarial services and in data collection (transportation).

Authors' Contributions

AEA and LDK conceptualized, designed, and organized the study and collected the data. LKM analyzed and interpreted the data and is the corresponding author. AEA drafted the manuscript, which was critically reviewed and revised by LKM. This manuscript has been fully revised and approved by all authors.

Acknowledgements

We would like to acknowledge Associate Professor Tumbwene Mwansisya (PhD) for support and guidance during writing the manuscript. We also thank the regional local government and the Ilala Education Officer for allowing the study to be conducted in Ilala district.

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Tables

Table 1. Participants' sociodemographic characteristics

Variable	Description	Frequency	Percentage
Age, years	12-14	10	8.33
	15-17	108	90.00
	18-20	2	1.67
Religion	Christian	68	56.67
	Muslim	51	42.5
	Traditional religion	1	0.83
Education level of household head	Primary school	7	5.83
	Secondary school	101	84.17
	University	12	10.00

Table 2. Knowledge about family planning methods

Variable	Response	Frequency	Percentage
Had heard about family planning	Yes	112	93.33
	No	8	6.66
Function of family planning methods	Pregnancy prevention	1	0.83
	It serves the woman's life	11	9.17
	It causes abortion	103	85.83
	It helps in planning number of children	5	4.17
	Reproductive health clinic	72	60.00
	Shopping malls	1	0.83
Family planning can prevent pregnancy	Yes	115	95.83
	No	5	4.17
Types of family planning methods	Condoms	107	89.17
	Pregnancy	11	9.17
	Paracetamol	2	1.67

Table 3. Attitudes toward family planning

Variable		Frequency	Percentage	Cumulative response rate (%)
Would you advise your friends to use family planning?	Yes	10	8.33	
	No	110	91.67	100
Are you at risk for STIs and pregnancy?	Yes	35	29.17	
	No	85	70.83	100
Should girls continue with studies after delivery?	Yes	90	75.00	
	no	30	25.00	100
Do you think adolescents should use family planning?"	Yes	85	70.83	
	No	35	29.17	100

STIs, sexually transmitted infections.