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Status of reproductive health knowledge amongst High School girls in selected secondary schools, Limpopo Province, South Africa

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Abstract

Among all age groups, knowledge of reproductive health can prevent unplanned pregnancy and STIs. The study assessed the status of reproductive health knowledge among secondary school girls in Limpopo Province, South Africa. A cross-sectional descriptive study design was conducted among secondary school girls between the ages of 14 and 19. A total of three hundred and forty (N=340) eligible learners were selected using stratified random sampling method. A self-administered questionnaire was used for data collection and data was analysed using Statistical Package for Social Sciences (SPSS) version 25. All ethical considerations were ensured throughout the study. About 184(56%) of the respondents were aged between 14 and 16 years, and 59% were grade nine and ten. The majority (72%; n=239) of the respondents stayed in rural areas and attended public schools (83%;n=274). Half (51%) of the study respondents had no idea about menstruation. Nine percent (24) of the respondents mentioned ICUD as a method of contraception. HIV/AIDS was the most common STI infection known by respondents at 52%. Oral and injectable contraceptives 72(35%) were cited as the most known methods to prevent unplanned pregnancies. The study found that respondents exposed little or lack of knowledge about reproductive health. Therefore, the Department of Education must carry out reproductive education among girls to promote reproductive health. Parents should be encouraged to explain reproductive health issues to their girl child. *(Afr J Reprod Health 2024; 28 [4]: 60-70).*

Keywords: Conception; contraception; girls; menstruation; reproductive health

Résumé

Dans tous les groupes d'âge, la connaissance de la santé reproductive peut prévenir les grossesses non planifiées et les IST. L'étude a évalué l'état des connaissances en matière de santé reproductive chez les filles du secondaire de la province du Limpopo, en Afrique du Sud. Un plan d'étude descriptif transversal a été mené auprès de filles du secondaire âgées de 14 à 19 ans. Un total de trois cent quarante (N = 340) les apprenants éligibles ont été sélectionnés à l'aide d'une méthode d'échantillonnage aléatoire stratifié. Un questionnaire auto-administré a été utilisé pour la collecte de données et les données ont été analysées à l'aide du progiciel statistique pour les sciences sociales (SPSS) version 25. Toutes les considérations éthiques ont été respectées tout au long de l'étude. Environ 184 (56 %) des répondants étaient âgés de 14 à 16 ans, et 59 % étaient en neuvième et dixième années. La majorité (72 % ; n = 239) des personnes interrogées sont restées dans les zones rurales et ont fréquenté les écoles publiques (83 % ; n = 274). La moitié (51 %) des personnes interrogées n'avaient aucune idée de la menstruation. Neuf pour cent (24) des personnes interrogées ont mentionné l'ICUD comme méthode de contraception. Le VIH/SIDA était l'infection IST la plus courante connue par les répondants (52 %). Les contraceptifs oraux et injectables 72 (35 %) ont été cités comme les méthodes les plus connues pour prévenir les grossesses non planifiées. L'étude a révélé que les personnes interrogées ont montré peu ou pas de connaissances sur la santé reproductive. Par conséquent, le ministère de l'Éducation doit mener une éducation reproductive auprès des filles pour promouvoir la santé reproductive. Les parents devraient être encouragés à expliquer les problèmes de santé reproductive à leurs petites filles. *(Afr J Reprod Health 2024; 28 [4]: 60-70).*

Mots-clés: Conception ; la contraception; filles; menstruation; la santé reproductive

Introduction

Reproductive health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes[1]. Adolescence is a stage of development that includes physical and emotional changes that prepare a person for sexual maturity. Globally, there are over 1.2 billion young people

between the ages of 15 and 24[2]. This population is at risk for behavioural health risks, which can have potentially dangerous outcomes. These young people are more susceptible to health-related risks like unwanted pregnancies that often lead to unsafe abortions and death of mothers and babies. To reduce the risks to life, it is crucial to evaluate students' reproductive knowledge since they are in a stage of life where they are experimenting and discovering their sexuality[3]. Teenagers worry and are unclear about their sexuality, and this leads to be nervousness and confusion[4].

Weiss-Wolf[5] states that reproductive health is a worldwide issue because even developed countries like America are also affected by these issues. Sommer, Caruso, Sahin *et al*[6] and Calderon, Cavil, Mahon, and Phillips-Howard[7] indicate that cultural behaviours and attitudes in rural and poor areas feed the misconceptions about reproductive health.

An estimated 11% of births worldwide are attributed to teenage girls between the ages of 15 and 19, with 95% of these births occurring in low-income nations, Ethiopia and South Africa are some of the countries with a high adolescent birth rate[8,9]. Every year, 16 million adolescent girls become mothers worldwide due to a lack of sexuality and reproductive health education. Many of these women experience the negative effects of an unintended pregnancy. Teenage pregnant women also have a high rate of abortions. Around 250 million pregnancies occur annually worldwide; around one-third of these are unwanted, and 20% of them result in an induced abortion[10].

In addition, Darroch[3] found that 3.9 million young girls perform unsafe abortions due to unintended pregnancies worldwide. UNFPA (2015) found that an estimated 16 million girls between the ages of 15 and 19 years experienced poor reproductive health, and 2.5 million girls under the age of 16 gave birth each year nationwide. Therefore, various influencing variables such as cultural beliefs and faiths, might present alongside a lack of information about girls' development and various influencing variables such as cultural beliefs and faiths contribute to the problems girls are facing regarding reproductive health.

About seventy percent of British teenage girls reported that learning about reproductive issues made them feel unpleasant and embarrassed. The study further indicated that it was not easy to ask for information on reproductive health because such topics are taboo in their families and communities[11]. This reveals the need for more open conversation in families and community about reproductive health.

Similar findings were reported by Hennegan *et al*[12] in sub-Saharan Africa, Asia, and South-America who found that socio-cultural contexts such as menstrual shame, gender norms, and economy affect girls' understanding before their first period. The study further showed a need to address social barriers to menstruation in various cultural groups. A Nigerian study on knowledge of menstruation, contraception, and conception information showed that 56% of the participants showed sufficient knowledge of menstruation and menstrual hygiene while 96.4% of participants said they had heard about menstruation before menarche as reported by Fehintola and colleagues[13]. Comparable percentages are found in low-income nations, where 19% of the 182 million unwanted pregnancies—of which over one-third are aborted. However, 11% of these abortions are risky. Approximately 2.5 million unsafe abortions (or nearly 14%) in these countries are performed on women under the age of 20. In Africa, 25% of unsafe abortions occur in girls aged 15 to 19, while this percentage is significantly lower in Asia, Latin America, and the Caribbean. South Africa has approximately 9.68 million adolescents. The adolescent pregnancy of ages between 15 and 19 years is at 47 births per 1000 per annum. Adolescent pregnancy and childbearing are recognized as severe public health concerns.

The South African National Integrated Policy on Sexual and Reproductive Health and Rights (SRHR) states that free healthcare services give individuals and couples the best chance of having a healthy child and the right to manage pregnancy and delivery safely. Govender, Naidoo and Taylor [14] In Kwazulu Natal, Govender, Naidoo and Taylor[14] found that contraception was not covered in the Life Orientation subject at schools. Ajayi and Ezegbe[15] also reported high teenage pregnancies among adolescent girls because of a lack of understanding of the menstrual cycle. This exposed learners to the risk of unwanted and

unplanned pregnancies. Therefore, the current study sought to understand the status of reproductive health knowledge among high school girls in a selected secondary school in Limpopo Province. The gaps in knowledge that motivated the current study have not been clearly defined.

Methods

Study design

A cross-sectional study design was used in three randomly selected secondary schools in Vhembe District two were public schools and one was private. The aim was to assess the level of Reproductive Health (RH) knowledge amongst female students in secondary schools. Quantitative methods were used to gather information from Grade 9-12respondents.

Study setting

The study was conducted in Thulamela Municipality in Thohoyandou, Vhembe District, Limpopo Province, South Africa.Vhembe District is one of the largest of the five district municipalities of the Limpopo Province (Stats, 2011).Thulamela is a Category B municipality established in terms of Local Government Structures Act number 117 of 1998 (Thulamela Municipality IDP 2019). The Kruger National Park forms the boundary in the east and the municipality borders Mutale Municipality in the north-east and Makhado Municipality in the south-west. Thulamela Local Municipality has a population size of 618 462. About 47,7% of the entire Vhembe district's population lives in Thulamela Local municipality. Most (85%) people in this municipality live in tribal territories and 63, 2% speak Tshivenda as their first language. The age group 15-35 years dominate the municipality at 37.6%. Most individuals in the district are unemployment and residents make their living through farming. All study's respondents were locals and from rural and semi urban areas. The area is very dry and hot during summer and springs and the rainfall is concentrated in the summer months.

Study population and sampling

The target population of this study were high school learners between the ages of 14 and 19 years from Vhembe East District and the accessible population were learners from high schools that fall under selected sub-districts. The schools were chosen due to the alarming rate of teenage pregnancy despite the availability and accessibility contraceptive services in the area. All rural adolescents who live and attend school in the Thulamela municipality were eligible for the study. The potential respondents were provided with a written document containing information regarding the study. Teenagers between 14 and 17 years whose parents or legal guardians provided informed consent were included in the study. The other inclusion criteria were children who gave verbal assent or signed assent. All-female learners who had not had menarche or those who refused to sign the consent forms were excluded from the study.

The study used a stratified random sampling method to select secondary schools. To achieve representativeness, schools were classified into two strata depending on whether they were private and public secondary schools. Purposive sampling technique was used to select three secondary schools, one from each stratum. Therefore, one secondary school (private) from semi-urban area and two public secondary schools, both from rural areas where there were none or limited healthcare services, were selected. Systematic random sampling was applied to choose 340 respondents according to class registers. Sampling was also used to ensure that the number of recruited respondents from each grade was proportional to the estimated proportional sizes in the population.

Data collection procedure

Data was collected using a self-administered questionnaire. This was done after consulting relevant literature. Data were collected from August 2022 to September 2022. To guarantee data quality selected secondary schools were visited in advance to ask for permission and cooperation from the school governing body and the principals. An invitation to participate in the study, consent forms

and information sheet were sent to parents or guardians of the recruited study respondents. Details of the study were clearly outlined at a meeting between the teachers, parents and the school governing body held before the actual date of the survey. Prior to data collection, the learners were informed about the technical terms that were used in the questionnaire and respondents were guided on how to fill out the form. Respondents were also informed about their right to skip or ignore any questions or withdraw from participation at any stage during data collection if ever they wished to do so. Names and personal identifiers were excluded while numbers were assigned to the questionnaires to ensure the anonymity and confidentiality of the respondents. The researcher took the selected learners from the classrooms to private rooms situated away from the other classes and the main hall during their 60-minutes break and distributed the self-administered questionnaires.

Data collection process

A pretested self-administered structured questionnaire including instrument was developed in English by the researcher. The instrument was not translated to any locally languages because respondents were proficient in the English language. The questionnaire was divided into demographic and knowledge sections on reproductive health. Two research assistants received training on the questionnaire's contents, data gathering procedures, and data completeness and correctness. The field work was done under careful monitoring.

A formal communication was utilized in each school to determine the best time to collect data. Prior to filling out the questionnaire, respondents received a concise overview outlining the goals and objectives of the research. The respondents also received assurances on the privacy and confidentiality of their answers. Data were gathered in each participating school over a single day to prevent information flaws from the respondents. Students sat separately from one another to protect their privacy and prevent shared responses and talk was not permitted while respondents were filling in the surveys. Upon completion, respondents were asked to place their filled-out questionnaires into a sealed cartoon box rather than handing them in to research assistants.

Data analysis

The completed questionnaires were scrutinized after data collection. The researcher used codes rather than respondents' names and checked data by frequency to identify missing or incorrect values and incomplete questionnaires were excluded. Data were captured into the Statistical Package for Social Sciences (SPSS) software's latest version. Descriptive statistics were used to describe demographic characteristics and knowledge of reproductive health which was placed in bar charts and frequency tables.

Ethical considerations

The University of Venda's Research Ethics committee (FHS/21/PH/20/2211) approved the project. The Limpopo Province Department of Education (Ref: 14/7/R), school administration, and representatives of the learners' parents gave their consent to the study. Informed consent was obtained from respondents aged 18years and above, and for those below 18 years, informed consent was obtained from their parents or guardians. Assent was obtained from the learners themselves before the questionnaire was administered. The study's objective was explained to the respondents and they were told that their responses would be kept private, and that participation was utterly optional. All the respondents were informed that the gathered data was for the study purposes and could benefit them too.

Results

Participants' socio-demographic characteristics

Out of the 340 respondents who were recruited, 330 completed the forms correctly and returned them. This was a response rate of 98%. More than half (184 or 56%) of the respondents were aged between 14 and 16 years while 146(44%) were between 17 and19 years. Most (195 or 59%) of the respondents were in Grade nine and ten.

Table 1: Respondents socio-demographic characteristics (n=330)

Variable	Category	Frequency	Percentage (%)
Gender	Female	181	55
	Male	149	45
Age	14-16	184	56
	17-19	146	44
Grade	Grade 9-10	195	59
	Grade 11-12	135	41
Religion	Christianity	240	73
	Non-Christianity	90	27
Who are you living with	Both parents	159	48
	Single parent	119	36
	Child-headed Family	52	16
Type of residential area	Rural	227	69
	Urban	103	31
Type of school	Public	274	83
	Private	56	17

Table 2: Knowledge regarding menstruation(n=330)

Variable	Category	Frequency	Percentage (%)
What is menstruation?	Curse from God	66	20
	Physiological process	114	34
	Pathological Process	92	28
	Don't know	58	18
Causes of menstruation	Hormone	101	30
	Curse	42	13
	Disease	19	6
	Don't know	168	51
From which organ does the menstrual blood discharge from?	Abdomen	20	6
	Vagina	106	32
	Bladder	92	28
	Don't know	112	34
Age of which girls start to have their first period	9-11 years	70	21
	12-14 years	212	64
	>15 years	48	15
Source of knowledge of menstruation before the onset of the menstrual period	Mothers	69	21
	Friends	97	29
	Teachers	121	37
	Media	43	13

The majority (87%; n=288) of the respondents belonged to the Christian religion. About 159 (48%) of the respondents lived with both parents, while 52(16) lived in a child-headed families. More than half 239(72%) of the respondents were from the rural areas, and more than three quarters (83%; n= 274) attended public schools (Table 1). Analysis to establish the association between the age of the respondents and STI knowledge was done. The chi-squared p-value at 0.05 was used. The findings show significant association between age and STI infection knowledge (.037). Many learners who indicated that HIV is the most known STI infection were between the ages of 16 and 19years.This implies that older girls have adequate knowledge than younger ones. The Pearson Chi-square did not show any significance between level of education and the above variables.

Table 3: Knowledge of respondents regarding Contraceptives(n=330)

Characteristics	Classification	Frequency	Percentage (%)
Have you ever heard about contraceptives?	Yes	260	79
	No	70	21
Source of information about contraceptives (n=260)	Friends	52	20
	Family members	44	17
	Media	72	28
	Health Care workers	92	35
Types of contraceptives that you know (n=260)	Condoms	91	35
	Oral contraceptive	77	30
	Injection	68	26
	Loop (IUCD	24	9
Knowledge about morning after pill	Yes	122	37
	No	208	63
knowledge of emergency contraceptive	Yes	104	32
	No	226	68
Knowledge of legal abortion	Yes	88	27
	No	242	73

Table 4: Knowledge on sexual transmitted infections (n=330)

Variable	Classification	Frequency	Percentage (%)
Knowledge about STI	Yes	211	78%
	No	73	22%
Known STI infections	HIV and AIDS	172	52%
	Syphilis and Gonorrhea	98	30%
	Genital Warts and Herpes	60	18%
Known ways in which people get infected with HIV/AIDS	Unsafe sexual intercourse	178	54%
	Sharing sharp materials like needles and syringe	110	33%
	Mother-to child transmission	42	13%
Source of information	Health care workers	102	31%
	Media	93	28%
	Friends	88	27%
	Parents	47	14%
Known methods of preventing STIs infections	Condoms	122	37%
	Abstinence	108	33%
	Sticking to one partner	100	30%

Table 2 presents respondents' knowledge regarding menstruation. About thirty four percent (114) of the respondents mentioned that menstruation is a physiological process while less than twenty percent 18(58) said they did not know what menstruation is. Half 168(51%) of the respondents had no idea about menstruation and its cause. Thirty two percent (106) of the respondents knew that menstrual blood is discharged from the vagina, and thirty percent (101) of the respondents knew that hormones cause menstruation. 212(64%) respondents thought that girls usually get their first period between the age of 12-14 years, and 121(37%) of the respondents got information about menstruation from their teachers 121(37%).

Knowledge regarding contraceptives

Most respondents (79%; n = 260) said they knew about contraceptives, and they got the information (35%) from health professionals. The Intrauterine contraceptive device (IUCD) or Loop was

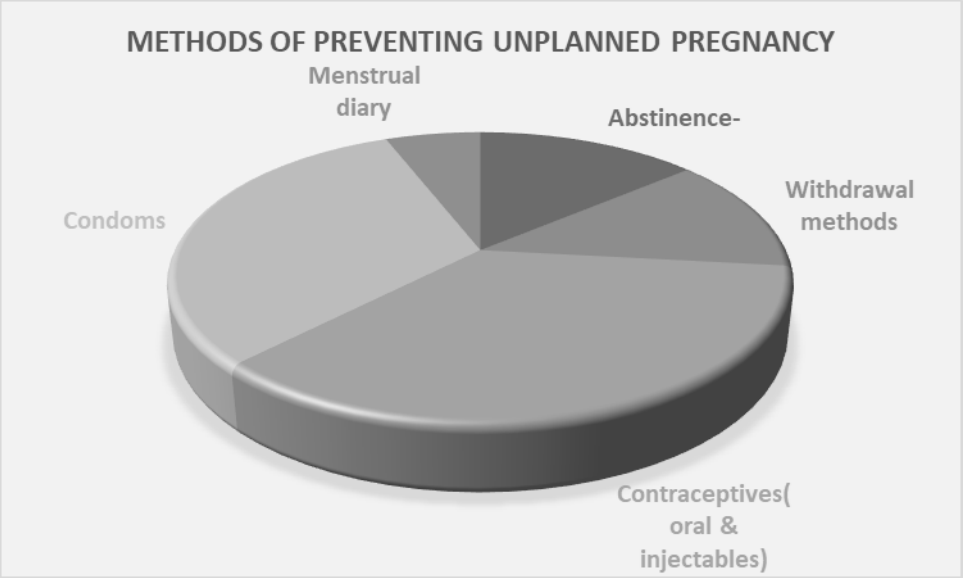


Figure 1: Knowledge of methods of preventing unplanned pregnancy

mentioned by 21(7%) respondents and was the least known method of contraception. A total of 208 (63%) respondents stated that they did not know of the morning-after pill and legal abortion(73%;n=242). Sixty eight percent (226) of the respondents did not know about emergency contraception while 32% (104 knew about it (Table 3).

Among the respondents, 211 (78%) indicated that they knew about sexually transmitted infections (STIs), while 73 (22%) showed inadequate knowledge regarding STIs (See Table 4). HIV/AIDS was the most common STI infection 172(52%) known by the respondents, whereas genital warts/herpes was the least STIs infections known, at 18% (60). Of the 178 respondents, over 54% cited unsafe sexual intercourse as the primary means of contracting HIV/AIDS, while 42 (13%) respondents, listed mother-to-child transmission. Respondents, knew that condoms 122(37%) and abstinence (33%) are methods of preventing the spread of STIs infections. Healthcare workers were cited as the main source of STIs information at 31% (102) and the least were parents at 14% (47). The majority (94%;n=202) of respondents knew that a girl could get pregnant the first time she has sex while only six percent did not know. Respondents knew that the most known methods of preventing unplanned pregnancy were oral/injectable contraceptives and condoms at 72% and 31% respectively.

Discussion

Adolescence is a period of rapid physical and mental change, including improvements in reproductive health. Despite this, research indicates that most teenagers do not possess basic information about their bodies, sexuality, or contraception. Unsafe abortions result in 3.9 million unexpected pregnancies caused by a lack of understanding of reproductive health[16].

In the current survey, most girls were in Grade 11 and between the ages of 14 and 16. A sizable portion of those surveyed identified as Christians. Abajobir and Seme[17] confirmed similar findings in their study, stating that approximately 99.2% of the survey participants were orthodox Christians. According to the survey, sixteen percent of the respondents lived in a child headed family because some parents have died and others were absent because of work obligations. Forty-eight percent of the respondents lived with both parents.

Some girls started menstruating as early as nine years, while most started menstruating between the ages of 12 and 14years. This is in line with what was reported in South Africa and Nigeria that the average age of menarche was 13 years[16,18].

However, in Brazil, Barros, Kuschnir, Bloch, and Silva reported that fifteen percent of the girl's started menstruating at the age of eleven years[19]. Furthermore, 3.9% of girls reached their first menarche before the age of eight years[20].

The findings of the current study revealed teachers as the main source of menstruation related information. Mothers were indicated as the last persons to share information with their daughters. This might be due to the fact that parents in the current study setting were not used to discuss reproductive issues such as menstruation with their children because this topic is regarded as an uncomfortable one to discuss with children. However, in Western Ethiopia, Upashe,*et al*[21] found that friends were followed by the mass media as the main sources of menstruation-related information. In other studies conducted in South Africa, Nepal and India, mothers were followed by sisters as the main source of menstruation related information[22-24].

Girls in the current study had adequate knowledge about menstruation. Most knew that menstruation was a physiological process and they further stated that it was caused by hormones. However, they lacked knowledge of the source of menstrual bleeding because most said it was the vagina. Similarly, Upashe[21] found that girls possessed adequate knowledge about menstruation. The findings of the current study concurs with those carried out in Ethiopia and Bangladesh, where it was stated that over 60% of the girls knew that menstrual blood flows from the vagina[21,25,26]. However, Khanna *et al*[27] found that 97.5% of their study participants did not know what causes monthly menstrual bleeding. The authors indicated that teachers were the main cited source of information. However, it was revealed that these teachers could have been giving wrong information because various studies indicated that they did not have relevant knowledge. Furthermore, research by Light *et al*[28], Deshmukh[29] as well as Shah *et al*[30] noted an improvement in learners' knowledge of menstruation.

In the study, respondents had some knowledge about methods of contraception. Condoms and oral contraceptives were the most known methods of contraceptives. Other contraceptive methods like IUDs, morning after pill, emergency contraceptives and legal abortion, were generally not known. This may be due to the fact that condoms are widely accessible in public spaces like stores and restrooms, and also by frequent public campaigns and media coverage of condoms. Melaki *et al*[8] reported inadequate knowledge (39%) of Emergency Oral Contraceptive (EOC) while Wasie *et al*[31], Belyhun, Moges Amare (2012) indicated adequate knowledge (84.2%) regarding EOC amongst university students at Addis Ababa university. The results of the current study concur with thoses of Kagashe and Honest[32], Mesfin[33] who found that condoms and oral contraceptives were the most used forms of birth control. However, in South Africa, Mostert *et al*.[34] reported a low (41%) knowledge of condoms as contraceptives.

The current study results are inconsistent with those by Timothy, Dimoso, and Dede[35'] who reported that 61% of the respondents had adequate knowledge regarding the morning after pill. In their study, participants mentioned the pill was safer than other forms of contraceptives.

Findings from this study indicate that most study respondents had good knowledge of sexually transmitted infections, ways of being infected by HIV/AIDS, and strategies of preventing STIs infections. HIV/AIDS and syphilis were the most STIs infections mentioned by the respondents. However, Abajobir and Seme[36] reported that Gonorrhea and HIV/AIDS were the most known STIs infections. The study indicated that condoms and abstinence were the main known strategies of preventing the spread of sexually transmitted infections. This can be attributed to the fact that sex before marriage was not allowed as most girls where from Christians background and most girls in the current study viewed sex before marriage as a sin. Health care workers and media were mentioned as the main sources of information about STIs infections (Table 4). This suggests that healthcare providers in the study setting provide schools with adequate health education. Similarly, Mamilla and Goundla[37], found that 88% of their respondents knew about HIV/AIDS. Vasudevae *et al*[38'] also found that 85% of their participants knew that HIV,

syphilis, and vaginal ulcers are sexually transmitted infections (STIs).

The findings from the current study indicate that respondents knew about different contraceptive methods for preventing unplanned pregnancies. Oral contraceptives and condoms were mentioned by most of the respondents at 36% and 31% respectively as methods of preventing unplanned pregnancies. This could be due to the fact that most health facilities have condoms and oral contraceptives. Similarly, in Kenya, Mbugua and Karonjo[39] indicated condom use and sexual abstinence were the main strategies known in the prevention of unplanned pregnancies and STI. However, Pascual *et al*[40] and Ayehu *et al*[41] reported inconsistent results as compared to the current study where participants identified abstinence as the primary protective measure against unplanned pregnancy.

Limitation

This study used self-administered questionnaire data which is subject to bias, particularly when it comes to sexual health issues. But bias was minimised by ensuring privacy during the completion of the questionnaire. Moreover, bias introduced due to underreporting is possible as sexual health is a sensitive issue and is considered socially unacceptable in most African cultural settings.

Conclusion

This study showed that high schoolgirls had inadequate knowledge about reproductive health regarding menstruation and preventive strategies against STI and unplanned pregnancies. This might lead to the increase of unwanted pregnancies amongst girls in the current study settings. The study also showed that parents were not actively involved in sharing sexual reproductive health information to their daughters. Therefore, it is recommended that parents should share reproductive health information with their children. The Department of Health should partner with the Department of Education in offering youth-friendly reproductive health care at all schools.

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