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BMJ Open Barriers to access and utilisation of sexual and reproductive health services among adolescents in Ethiopia: a sequential mixed-methods study

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ABSTRACT

Objective To investigate and explore the barriers of access and utilisation of sexual and reproductive health (SRH) services among adolescents.

Design An explanatory sequential mixed-methods design was implemented with two phases. The questionnaire was created and used by five trained research assistants for the quantitative component of the study (phase I). In phase II, the qualitative component of the study included focus group discussions (FGDs) with adolescents.

Setting This study was conducted in rural areas of five secondary schools in Arsi zone, Ethiopia.

Participants In both phases, 15–19 years adolescents participated in the study. For the quantitative phase, a total of 800 randomly selected adolescents responded to the questionnaire, while 24 adolescents participated during FGDs until data saturation was reached.

Primary and secondary outcome measures For outcome variables, the respondents were asked if they used any SRH services in the past 12 months. It was recorded as 0=no and 1=yes.

Results Overall, SRH service utilisation was 208 (26.1%) among adolescents. Being aged 17–19 years (adjusted OR, AOR 3.44, 95% Cl 2.15 to 5.51). Grades 11 and 12 (AOR 2.70, 95% Cl 1.22 to 2.32). Lack of income (AOR 0.0.43, 95% Cl 0.31 to 0.61). Ever had sexual contact (AOR 3.04 Cl 95% Cl 2.15 to 4.29) and being knowledgeable on SRH service (AOR 1.47, 95% Cl 1.05 to 2.05) were factors associated with outcome variable. The barriers hindering access and use of SRH services were found at the facility level, provider level, community level and personal level. **Conclusion** The research found a low level of SRH services access and utilisation among adolescents due to several factors. Interventions to design-specific policies and educational programmes are needed to promote healthy practices.

INTRODUCTION

The word adolescence refers to the transitional phase of growth and development in which the people undergo vast, physical, physiological, psychological and social changes.¹ In addition, the WHO defines adolescence as the transition from childhood to adulthood, between the ages of 10 and 19 years.² Worldwide, approximately 1.2 billion people

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Mixed method gives a better insight and strength to the study topic.
- \Rightarrow The random sampling method used increases the generalisation of the findings.
- ⇒ The school-based study with relatively large sample size, high response rate and representative samples were used as strengths.
- ⇒ Owing to the cross-sectional nature of data, it is difficult to establish cause-and-effect relationships between sexual and reproductive health services utilisation and our explanatory variables.
- \Rightarrow As the nature of the subject matter allied with personal sensitivity, it might have caused bias as limitation.

are adolescents, and more than half of this population lives in low-income and middleincome countries.³ Ethiopia has the secondlargest adolescent population in Africa with about 37.4 million people aged 10-24 years. More than one of every four Ethiopians is an adolescent 10-19 years of age.⁴ Evidence showed that to meet the needs of this population group, adolescent and youth health programmes, including those focused on sexual and reproductive health (SRH) and youth development, have gained traction in Ethiopia in the last two decades.¹⁴ However, adolescents in Ethiopia continue to face a high burden of morbidity and mortality from multiple factors including, teenage pregnancy, unplanned pregnancy, compromised nutrition, sexually transmitted infections (STIs) including HIV, unsafe abortion, early and child marriage, and unmet needs for family planning.⁵ The SRH complications were more common in adolescents than adults.⁶ According to a national-level report of the Ethiopia Demographic Health Survey (2016), adolescent fertility rate was 80 births per 1000 adolescents.⁷ Female adolescents aged 15–19 years were seven times more likely to be HIV

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positive than male adolescents.⁸ Furthermore, the Inter-Agency Working Group on Reproductive Health report in 2018 showed that HIV-related death among adolescents are nearly tripled from 21000 in 2000 to 60000 in 2014, 1-in-4 women give birth during adolescence or before they reach their 18th birthday, and 3.9 million females aged 15–19 years undergo unsafe abortion every year.⁵⁹ However, adolescents in Ethiopia continue to suffer from a high burden of morbidity and mortality related to reproductive health consequences, Ethiopia has the 14th highest prevalence of child marriage in the world and the fourth highest absolute number of married women or have been married before the age of 18 years worldwide.¹⁰ In Ethiopia, the Federal Ministry of Health has introduced various strategies to facilitate national-level adolescent and youth reproductive health services to overcome SRH problems.¹¹ Despite these efforts, Ethiopian adolescents continue to face significant challenges to access and use of SRH services.^{6 10} Adolescents in rural and urban areas have different sociodemographic, socioeconomic and cultural characteristics, which influence how they are using SRH services.⁵ However, prior studies focused on adolescents' use and preference for SRH services with no focus on barriers to accessing and using adolescent SRH services. To the best of the authors' knowledge, no empirical study, neither qualitative nor quantitative, has been conducted in Ethiopia to investigate and explore these issues. Thus, having empirical evidence on barriers to accessing and utilisations of adolescents SRH services, especially from the adolescents' perspective, can inform adolescent health policies or interventions. Therefore, this study aimed to investigate and explore the barriers of access and utilisation of SRH services among adolescents.

METHODS

Study design and setting

An explanatory sequential mixed-methods design was conducted among school going adolescents in Arsi zone, Ethiopia. The Arsi zone is found in Oromia regional state and located 175 km from Addis Ababa city. There are eight hospitals and 106 health centres in the zone which provide SRH services to adolescents. The study was also conducted in randomly selected five secondary schools (Dodota, Hexosa, Bokoji, Sagure and Tiyo secondary schools).

Inclusion and exclusion criteria

Considering the nature of the topic and local cultural values, the adolescence age group (15–19 years) attending daytime school irrespective of gender from grades 9–12 were included in the study, whereas adolescents schooling at night time and who were physically or mentally seriously ill were excluded from the study.

Sample size and sampling procedure

For quantitative phase, the sample size was determined using single population proportion formula based on the following assumptions: p=57.3% (proportion of SRH services taken from previously study done in Ethiopia,¹² with 95% CI (1.96), 5% margin of error (d), 2 design effects and addition of 10% non-response rate. Accordingly, the final sample size was 827. In order to select the study site, from 19 rural secondary schools five of them were randomly selected. The study units were allocated to all five schools proportional to their population size. A systematic random sampling technique was employed to select 827 respondents, by using the list of students from the class roster. Study subjects were selected systematically every kth individual by dividing the total number of adolescents (N) to sample size (n) and simple random sampling technique was used to select each study unit. Regarding focus group discussions (FGDs) 24 participants participated until data saturation was reached. Four FGDs were carried out with 12 boys and 12 girls aged 15-19 years. Each FGD consisted of 8-12 participants. The FGDs participants were purposely recruited based on adolescents' similar age and gender to create relatively homogenous groups.

Data collection procedure and quality control

For the quantitative phase, a self-administered questionnaire with closed-ended questions was used to collect the data from the respondents. To improve the validity and consistency of the questionnaire, it was prepared in English and translated to Afan oromo language. The Afan oromo version was again translated back to English. Translation of a questionnaire was done by language experts in both cases. The content validity of the instrument was determined by experts' judgements. The two experts on the subject matter carefully analysed the instrument to judge on their appropriateness of the content and or need modification to achieve the study's objectives. The reliability of the questionnaire was established by pretesting the questionnaire on 5% adolescents (outside the study area but with the same characteristics with the respondents under study). Researchers and five bachelors of science (BSc) midwives trained research assistants administered the questionnaire. The research assistants used were below 25 years of age. This was to avoid much age disparity between the research assistants and the respondents in order for the respondents to communicate freely. During qualitative phase, participants were grouped for FGDs according to their same sex to avoid being reluctant to share personal experiences with their opposite sex peers and to create a friendly environment during discussion. The researcher moderated and conducted all the discussions. In addition, two research assistants took notes throughout the discussions and recorded verbal responses from participants. The discussions were all conducted in a separate room adequate to accommodate all the FGDs and allowed a circular seating. It was performed in a private classroom during the break when other learners were outside, without teacher/parents being present. Each discussion was completed within 40 min on average until data

saturation was reached. The interview guides were built based on the quantitative results. During discussions, each participant was identified by giving a code as follows: group 1 participant 1 = (G1/P1), group 2 participant 1 = (G2/P1), group 3 participant 3 = (G3/P3) and so forth, used on the analysis to represent each verbatim.

Data collection tools

For the quantitative phase, the data collection instrument included two parts; the first part was demographic information and the second part was SRH service access and utilisation. After referring to previously implemented assessment tools on the subject matter, the researchers adopted structured questionnaire for quantitative survey from previous standardised studies.⁶¹³ For the qualitative phase, the interview guides were developed by researchers after the analysis of the quantitative results to enrich the quantitative findings. The interview guides included the barriers of access and utilisation of SRH rights and services among adolescents. The face validity was used to determine the difficulty in understanding the phrases and words of dimensions, ambiguities and misunderstanding in the questionnaire. To determine qualitative content validity, the interview guides were validated by the experts in the subject matter. They further investigated the questionnaire for grammar criteria, proper use of words and content suitability.

Dependent variable

This was measured through the dichotomous response (yes or no) by asking whether a participant had used at least one of SRH service components either family planning, STIs screening and treatment or HIV counselling and testing services in the past 12 months. The positive response was further validated with questions on the type of SRH services used.

Independent variable

Regarding the independent variables, sociodemographic variables (age, religion, ethnicity, gender, grade, marital status, family education, family occupation, family income and adolescents' pocket money) and knowledge are considered as independent variables of the study. To assess the economic status of the family, we asked, 'How much income do you think your family earns per month? Specify Ethiopian Birr (ETB) and then we categorised according to the World Bank's definition as a poor family who earns less than 2, 250 ETB per month, medium earns ETB2250-ETB8900 per month and high-income earns between ETB8900 and ETB39700 per month. Knowledge about SRH services was measured by using questions and each question contains '0=no' and '1=yes' alternatives. As a result, the total score which scored above the mean score was considered as knowledgeable. Also, to measure perceived susceptibility, adolescents were asked whether they are at risk of unwanted pregnancy or STIs/HIV/ AIDS and any SRH complications. The question contains '0=no' and '1=yes' alternatives.

Data analysis

In the quantitative phase, the collected data were checked for completeness and entered into Epi info V.7.2.4 and exported to Statistical Package for Social Sciences (SPSS) V.25 software for analysis. Logistic regression was used to assess factors associated with SRH services use. A 95% CI and level of significance less than 0.05 were used during the analysis. For the qualitative phase, data were collected using interview guides. Data were collected until saturation of information was achieved. Data were initially transcribed and coded, followed by checking and validating the audio tapes to ensure accuracy. A thematic approach was adopted for analysis. The process combined an inductive and deductive approach. The verbatim transcription and the careful translation were used to guarantee the accuracy of the original messages of the interview. In this case the recordings were listened to several times in order to form a general structure. After this, each audio taped interview was exactly transcribed by the corresponding author of this manuscript and read again and again in order to receive its appearance.

Regarding the ethical issues, prior informed consent was obtained from each school adolescent. Permission was obtained from school administration and for children less than 18 years assent was obtained from parents or guardians. Informed consent was obtained from individual participants after they were fully informed about the study objectives and procedures. The anonymity of the participants was assured; each participant was assigned a unique code.

Patients and the public involvement

In this study, no patients were involved; neither patients nor the public were directly involved in the design, conduct, reporting or dissemination plans of this research.

RESULTS

Socio-demographic characteristics

Table 1 hshows the distribution of the study participants by sociodemographic characteristics. In the quantitative phase, out of the proposed 827 adolescents, 800 adolescents with 96.7% response rate responded. The mean age was 17 years (±1.3 SD years). Their sociodemographic characteristics were similar to the qualitative study participants. The majority of adolescents 598 (74.8%) were found in the age group of 17-19 years. The distributions of the learners by grades were almost equally divided between grades 9 and 10 (50.3%) and grades 11 and 12 (49.8%). Among adolescents, 457 (57.1%) were males while 343 (42.9%) of them were females. Regarding parental educational status, 112 (14%) fathers had diplomas and above while only 74 (9.3%) mothers had diplomas and above. Most of the fathers, 456 (57%) were farmers while 389 (48.6%) of mothers were housewives. In the qualitative phase, data saturation was reached after four FGDs with 12 males and 12 females adolescents aged 15-19 years old. Most of the adolescents, 22 of them were

Table 1 Respondents' sociodemographic characteristics				
Variables	No	%		
Age group of adolescents				
15–16	202	25.3		
17–19	598	74.8		
Gender of adolescents				
Male	457	57.1		
Female	343	42.9		
Adolescents' education level				
Grades 9–10	402	50.3		
Grades 11–12	398	49.8		
Paternal education level				
No formal education	238	29.8		
Primary school (1–8)	353	44.1		
Secondary school (9–12)	97	12.1		
Diploma and above	112	14.0		
Maternal education level				
No formal education	408	51.0		
Grades (1–8)	299	37.4		
Grades (9–12)	19	2.4		
Diploma and above	74	9.3		
Religion of adolescents				
Muslim	359	44.9		
Orthodox	270	33.8		
Protestant	143	17.9		
Wakeffata	28	3.5		
Ethnic group				
Oromo	629	78.6		
Amhara	140	17.5		
Gurage	25	3.1		
Others*	6	0.8		
Marital status				
Single	787	98.4		
Married	11	1.4		
Divorced	2	0.3		
Widowed	0	0.0%		
Family economic status				
Poor	136	17.0		
Medium	437	54.6		
Rich	227	28.4		
Do you get pocket many?				
Yes	231	28.9		
No	569	71.1		
Whom you live with				
Both parents	554	69.3		
Father only	52	6.5		
Mother only	87	10.9		
Guardian/relatives	76	9.5		
		Continue		

Table 1 Continued		
Variables	No	%
Live independently in rental house	31	3.9
	(0	

*Others=any ethnic group out of major groups (Oromo, Amhara and Gurage) in the area.

single while only 2 were married. Based on Religious affiliation 14 were Muslims, 7 were Orthodox and 3 were Protestant.

Magnitude of SRH service utilisation and sexual practices

In this study, only a small proportion 208 (26.1%) of adolescents had ever used SRH services at least in one of any reproductive health services in the last 12 months. Among those the most used service was the voluntary counselling and testing (VCT) service 329 (41.1%), family planning 150 (18.8%) and 30 (3.8%) used STI screening and treatment. More adolescents 423 (52.9%) preferred to use the services at private health facilities whereas; governmental health facilities were 377 (47.1%). Regarding sexual experiences a total of 240 (30%) of respondents had ever experienced sexual intercourse. The mean age at first sexual contact was 15.14 (SD = ± 2.98) vears with the range of 15-19 years. Also, 271 (33.9%) of the respondents had ever discussed about sexual issue in the last 12 months with anyone else. Out of these, 167 (62.1%) were discussed with their friends followed by 70 (26%) with parents and 32 (11.9%) with school teachers. In addition to that the qualitative findings show that most of the participants spoke about the limited SRH services utilisation in their life. None of the unmarried participants had utilised SRH service except HIV counselling and tests. This was caused by adolescents' misperceptions about the rights of contraceptive service utilisation. Each quotation is named with the participant's code number as follows: G1=group 1, P1=participant 1, then G1/ P1=group 1 participant 1, G3/P3=group 3 participant 3, etc. All these were used for the analysis part to represent each verbatim.

As quoted below:

I believe that adolescents do not have the right to use contraception. Because I think it was designed for adults or couples.' (G2P6, 17 years old, female).

I do not believe that adolescents have the right to use a condom or any other form of contraception. I believe it is advisable not to exercise prior to getting married (G4P3, 19 years, male).

The married female adolescent said that:

I have been using contraceptives. I feel safe using contraceptive methods because I don't want to drop school because of pregnancy. (G2P4, 19 years old, female).

Knowledge and health seeking behaviour

Adolescents' knowledge of SRH services was measured by asking whether they know the components of SRH services. Accordingly, family planning services 592 (74.6%) followed by prenatal and postnatal services 348 (43.8%), information and education 39 (4.9%), followed by STIs diagnosis and treatment services 177 (22%). In the quantitative phase, the majority 517 (64.6%) of adolescents had a positive attitude to access and use the SRH rights and services. Adolescents were asked if they believed the right to use reproductive health services was kept secret. Then, 439 (54.9%) agree with this view. About 518 (64.8%) have found that they have the right to be free from sexual harassment or violence. More than half, 225 (59.1%) of respondents disagreed that a man should have sex whenever he wants without regarding his wife's wishes. About two-thirds of 517 (64.6%) of teens disagreed with the statement that unmarried couples do not have the right to use contraceptives without condoms. However, the qualitative findings from the FGDs revealed that the limited autonomy to SRH rights and services access and use among adolescents. Their statements said as follow:

I do not believe that adolescents have the right to use a condom or any other form of contraception. I believe it is advisable not to exercise prior to getting married (G4P3, 15years, male).

Him... It is impossible to exercise these rights [SRH rights] for us. We have no full rights to practice SRH rights as we are dependent on our family. (G2P4, 15years female).

'...All that I know about SRH services are either from the course book at school or sometimes from friends. Moreover, I don't know the SRH rights and services in health facilities that are available for young people like us' (G3P1, 17years, male).

The findings showed that most adolescents had limited autonomy to freely exercise their SRH rights. It was recommended that empowering adolescents to practice their rights of education, access and utilisation of SRH services, consent marriage and life, security and equality.

Barriers hindering access and utilisation of SRH service

In the quantitative phase, it revealed the underlying constraints faced by adolescents in accessing and using their SRH services. About 309 (38.6%) of adolescents identified lack of information, 192 (24%) of adolescents reported fear of parents, while 144 (18%) of adolescents identified lack of money, 127 (15.95) religious/cultural norms constraints and 28 (3.5%) of adolescents identified distance of health facility.

Factors associated with SRH service utilisation

Table 2 shows the factors which are statistically associated with SRH services utilisation. Accordingly, adolescents who were aged 17–19 years have used SRH services three times more than 15–16 years (adjusted OR (AOR) 3.44,

95% CI 2.15 to 5.51). Respondents from grades 11 and 12 were 2.7 times more likely to use SRH services compared with their peers from grades 9 and 10 (AOR 2.70, 95% CI 1.22 to 2.32). The probability of using SRH services was three times higher among married couples than single (AOR=2.89, 95% CI: 1.23 to 6.83). Participants who have no income were 57% less likely utilise SRH services as compared the others (AOR 0.0.43, 95% CI 0.31 to 0.61). Adolescents who had knowledge of SRH services were 1.4 times more likely to use the SRH services than those had no knowledge (AOR 1.47, 95% CI 1.05 to 2.05). Those participants who perceived being susceptible to SRH risks were more likely to use the SRH services (AOR 1.86, 95% CI 1.34 to 2.59). Respondents who had ever sexual contact were three times more likely used SRH services as compared with non-sexually active respondents (AOR 3.042 CI 95% CI 2.154 to 4.296).

In qualitative: The study explored the various barriers hindering adolescents from accessing and utilising SRH service. The barriers were mainly categorised into four main themes which were found at the facility level, care provider level, community level and personal level. Each factor was quoted as below:

Lack of information/knowledge about SRH service

A lot of knowledge related issues were raised by the participants in all the four FGDs. Majority of adolescents indicated that barriers hinder them to access and utilise SRH service was lack of real information. They said the following:

I have lived in this region for a long time, yet I have never heard of a clinic that provides our needs. I believe there are more teenagers like myself who are unaware of the clinic that serves us. (G4P3, 18years, male).

As for myself, I'm not sure where I'd go if I were to be raped. I also have little knowledge of emergency contraception or SRH services. We were completely unaware of it because no one told us. (G3P1, 15years, male).

Fear of parents and community

Adolescents were asked about their experienced perceptions about their parents and community members on their influence toward using or not using the SRH services for adolescents. Accordingly, the findings demonstrate that the parents and community members identified to limit access to SRH services for adolescents. This might affect the accessibility to SRH service because adolescents were afraid, had self and social stigma from community in looking for the SRH services:

As stated below:

I'm hesitant to speak up and seek help for the SRH services. Our community members limit ours' access to SRH services because they may gossip about us, we also fear them, and be ashamed if they saw us accessing those services, and therefore, I do not want them Table 2

	Itivariate analy	·			
	Ever utilised SRH services		,		
Variables	No	Yes	COR (95% CI)	AOR (95% CI)	P value
Age category					
15–16	177	25	1.00	1.00	
17–19	414	184	3.14 (2.01 to 4.95)	3.44 (2.15 to 5.51)	0.001
Gender					
Male	325	132	1.00	1.00	
Female	266	77	0.71 (0.51 to 0.98)	0.73 (0.51 to 0.97)	0.042
Education level					
Graded 9–10	317	85	1.00	1.00	
Graded 11-12	274	124	1.68(1.22 to 2.32)	2.70 (1. 22 to 2.32)	0.001
Marital status					
Single	571	190	1.00	1.00	
Married	11	12	1.42 (3.27 to 7.55)	2.90 (1.23 to 6.83)	0.010
Divorce/widowed	9	7	5.08 (0.91 to 28.30)	5.08 (0.91 to 28.30)	0.061
Have own income					
Yes	144	87	1.00	1.00	
No	447	122	0.45 (0.32 to 0.63)	0.43 (0.31 to 0.61)	0.001
Knowledge					0.024
No knowledge	213	100	1.00	1.00	
Knowledgeable	378	109	1.62 (1.18 to 2.24)	1.47 (1.05 to 2.05)	
Perceived susceptible					0.001
Yes	231	113	1.83 (1.33 to 2.52)	1.86 (1.34 to 2.59)	
No	360	96	1.00	1.00	
Had ever sexual contact					0.001
Yes	133	107	3.61 (2.58 to 5.03)	3.042 (2.15 to 4.29)	
No	458	102		1.00	

AOR, adjusted OR; COR, crude OR; SRH, sexual and reproductive health.

to know that I utilize SRH services.(G2P6, 18years, female).

Our parents often limit us to access SRH services because this is linked to being a bad child or to having bad manners if it is known that you want or access SRH services. (G2P2, 17years, female).

Religious and cultural norm

Under this subcategory, the findings showed that sociocultural norms constitute the important barrier to access SRH services where the religious leaders limit the adolescents for using SRH services. The findings confirmed that the religious beliefs were an important contributing factor to the low access to SRH service [contraceptive services, abortions services....].

These views are asserted below:

In our culture taking or accessing SRH services at our age is taboo. For example: if you do that, the society speaks ill of you when they see you accessing or using SRH services. They call you all kinds of names that are rude. (G2P5, 19years, male).

In my understanding, my religion does not permit to use abortion service. It is believed as sin even in rape case. (G4P5, 16years, female).

Inaccessibility of health facilities

Most of the discussants stated that long distances and transportation expenses made it difficult to visit health services, particularly in rural areas. Adolescents reported as indicated below:

'It is clear that we (Adolescents) have no health facilities that support SRH services in rural communities. Even in an emergency case, we must travel long distances to access the services.' (G4P6, 19 years old, male).

Healthcare providers 'judgemental attitude

Adolescents find it difficult to request any SRH service and education in public facilities, because such demand is associated with the care provider's judgemental attitude. The findings revealed that the negative attitudes of the healthcare providers challenged them to access the SRH service. For instance, confidentiality and privacy related to the services provided.

They stated as following:

When you go to a public health institution, health care providers act as if we are rude. They treat us with disrespect. As a result, getting SRH service there is difficult. (G3P4, 18years, female).

Every time you go to the providers for any illness, the first thing they ask you is if you've ever had unprotected sex, and then they ask you more personal and in-depth questions (G4P6, 19years, female).

Financial challenge

In this study, most of the adolescents expressed financial challenge as one of the factors that hinders them from using the SRH service. This reported mainly, in terms of transport costs and pay for the services.

The participants stated as following:

I am not working [employed] and therefore, I cannot afford to pay for SRH services and for transportation. (G3P6, 17years, male).

'I only get money from my parents when I need to buy clothes or school materials. Nevertheless [fear] I cannot ask them for anything else. I'm cash-strapped and I'm unable to take advantage of the SRH services. (G2P1, 16years, female).

DISCUSSION

In this study, the overall utilisation of SRH services among school adolescents was only a small proportion (ie, 26.1%) which is low compared with some earlier studies conducted in high school learners in Bahir Dar, Amhara Regional State and in Southwest Oromia, Ethiopia.^{14 15} However, this finding was similar to finding from Nekemt town, Oromia regional state, Ethiopia.¹⁶ The possible reason for the discrepancy might be due to respondent characteristics, sociodemographic backgrounds and time reference used in the definition of SRH service utilisation. The finding shows that the commonly used SRH service component was VCT which is (41.1%), family planning (18.8%) and (3.8%) of STI screening and treatment. This is lower as compared with the finding of a study done in Gondar Town, Ethiopia; in which family planning was 79% and 72.2% VCT services.¹⁷ The possible reason for the difference could be that the Gonder town study strictly focused on sexually experienced ones, whereas this study consisted of both sexually experienced and inexperienced adolescents. The study revealed that around (30%) of respondents had ever experienced sexual contact. The mean age at first sexual contact was 15.14 (SD= ± 2.98) years with the range of 15–19 years. This is an indicating early initiation of sexual intercourse. Although it seems low percentage of respondents, sexual behaviour may have been masked because of the sociocultural context, where sexual intercourse out of marriage is

taboo. This result was consistent with another study from Hadiya, Ethiopia.¹⁸ Moreover, adolescents who had good knowledge about SRH issues were 1.4 times more likely to use the SRH services. This finding was in agreement with studies conducted in Mekelle, Ethiopia.^{19 20} The possible reason might be due to the fact that learners who had good knowledge might analyse and understand the risks/ benefits and they might have good initiation to exercise their theoretical knowledge into practice. In this study, besides the quantitative results, the qualitative findings revealed that most of the adolescents were unable to access and use SRH services due to various barriers. The FGDs, also established that access to SRH services among adolescents in secondary schools, are poor due to diverse structural, sociocultural and financial barriers. Among these barriers lack of knowledge, fear of parents/community and negative attitude of health workers, cultural and religious influence were explored as the main barriers to access SRH services utilisation. These findings are supported by studies done in Botswana that found out that most health providers have a negative attitude towards adolescents when seeking SRH services.²¹ Another study suggested that staff needs to be trained on principles such as confidentiality and privacy, this helps improve utilisation of health services among adolescents.²¹ In addition, a study in South Africa revealed the barriers of access to SRH services such as lack of confidentiality and privacy, waiting time duration, unpleasant work hours, distance from clinics and parents' fear when they came to the clinic.²² Likewise, a study conducted at secondary schools in four frontier counties of North Dakota reported that social stigma, fear of non-confidentiality of services, and the prohibition of their parents and tutors, teenagers as the main barriers of adolescents' access to barriers.²³ This study showed the most prominent barrier at the individual level emanating from limited access to and utilisation of adolescents SRH services was limited knowledge among adolescents about the services which is a key hindrance. Finally, this study result shows there was low utilisation of SRH services in the last twelve months among school going adolescents compared with other studies. This was aggravated by perceived barriers like a long distance from a health facility, due to cultural factors, lack of information and money. This implies that a lot has to be done on awareness creation about the nature of SRH service and for supporting the adolescents so that they could pay due attention to improve SRH services.

Strength and limitations of the study

The study employed a mixed-method study design and has explored access and utilisation of SRH rights and services among adolescents. However, being the nature of crosssectional study, which may not show the temporal association between the dependent and independent variables it could be considered as a limitation of this study. Even though the proportions of adolescents' sexual activity were identified, the study did not consider the variable about having a sentimental relationship (boyfriend or girlfriend) in the survey.

CONCLUSION

The research found a low level of SRH services utilisation among adolescents due to several factors. The study explored the four main barriers that restrict adolescents from access to and use of SRH rights and services. The barriers were found at the facility level, provider level, community level and personal level. Therefore, an urgent response is needed from governmental and nongovernmental organisations to improve adolescents' access to and utilisation of SRH services. These included carrying out awareness creating activities about adolescents SRH service in the community and addressing health system related barriers by provision of adolescentfriendly services that are private, confidential, and affordable and gender sensitive.

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Contributors BWD developed study objective, data management and analysis; wrote the first draft of manuscript. Also, contributed to study design, interpreted results, drafted and revised the manuscript. DH reviewed the manuscript for critical input and supervised all data analysis, manuscript writing and provided critical input to the manuscript. All authors read and approved the final manuscript.

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