

Utilization of Reproductive Health Services and associated factors among secondary school students in Woldia Town, Northeast Ethiopia, 2020

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Research

Keywords: Reproductive health issues, Utilization, Woldia Town

Posted Date: April 21st, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-21716/v1>

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Abstract

Background: Despite policy actions and strategic efforts made reproductive health service uptake of youths in Ethiopia, its utilization remains low. Local evidence about the utilization of reproductive health service among adolescents and associated factors are relevant to design age-appropriate intervention strategies.

Objective: The main aim of this study was to assess the utilization of reproductive health service and associated factors among adolescents in Woldia town secondary schools, Amhara, Ethiopia, 2019.

Methods: Institutional based descriptive cross-sectional study was conducted on 420 secondary school students in Woldia Town from January - June 2019. A self-administered, structured questionnaire was used to collect the data. The samples were distributed proportionally and participants in each school were selected by systematic sampling technique. Bivariate and multivariable logistic regression was carried out to assess' association between dependent and independent variables.

Result: Two hundred seventy (64.3%) respondents utilize reproductive health service. Residence, educational status of the partner, presence of RHS facility in school, good knowledge level on RHS were significantly associated with the reproductive health services utilization.

Conclusion and Recommendations: Knowledge of respondents on reproductive health issues in the study area was found to be low. This low service utilization might make students disposed to different reproductive health risks; STI, HIV, and unwanted pregnancy; which in turn can increase the school dropout rate, and have an impact on an individual's future life.

Plain English Summary

In the past few years, the issues of RH have been increasingly perceived as a social problem; they have been emerging as a topic of increasing concern in both developed and developing countries. Adolescents in high schools are highly vulnerable and at-risk to HIV infection due to various reasons such as; unprotected casual sex relationships and multiple sexual partners, lack of comprehensive knowledge about HIV/AIDS, sexual and reproductive health, lack of access to HIV services, sexual experimentation, early sexual debut and peer pressure, and other related factors. Despite policy actions and strategic efforts made reproductive health service uptake of youths in Ethiopia, its utilization remains low. Therefore, local evidence about the utilization of reproductive health service among adolescents and associated factors are relevant to design age-appropriate intervention strategies. The study was conducted on 420 secondary school students in Woldia Town from January - June 2019. Knowledge of respondents on reproductive health issues in the study area was found to be low. This low service utilization might make students disposed to different reproductive health risks; Sexually Transmitted Infections, HIV, and unwanted pregnancy; which in turn can increase the school dropout rate, and have an impact on an individual's future life. Which shows, a great effort and attention of all the concerned bodies

including parents, school staffs, and health care professionals to improve service utilization in schools is highly required.

Introduction

According to World Health Organization (WHO), Reproductive Health (RH) is defined as a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity, in all matters related to the reproductive system and its functions and process (1).

Reproductive health is a universal concern but is a special importance for women particularly during the reproductive year (2). It addresses the human sexuality and reproductive processes at all stages of life and implies that people can have “a responsible, satisfying and safe sex life and that they can reproduce and the freedom to decide if, when and how often to do so. Youth and adolescents are characterized by unique physical, psychological, social, and emotional changes that put their life at high risk (3).

The term Youth Friendly Reproductive Health Service (YFRHS), refers to those services that are accessible, acceptable and appropriate for youths such as counseling, family planning, Voluntary Counseling and Testing (VCT) and treatment of Sexually Transmitted Infections (4). The services are provided in line with the minimum health package and aim to increase the acceptability and use of health services by young people (5). Currently, there is a low level of access to high-quality RH information and services, especially for adolescents (6). In the past few years, the issues of RH have been increasingly perceived as a social problem; they have been emerging as a topic of increasing concern in both developed and developing countries(7).

Adolescence is not quite capable of understanding complex concepts. This makes them vulnerable to sexual exploitation and high-risk sexual behaviors and reproductive health problems (8). Globally, 45 percent of all new HIV infections worldwide are occurring among young people aged 15 to 24 years, 500,000 young people are infected with STI per day, approximately 80 million women have unwanted pregnancies every year (9, 10). HIV/AIDS prevalence data shows that 15–24 year-olds have the highest rates of new HIV infection ,with adolescent girls considerably more likely to be infected than adolescent boys (11). This is because many adolescents are less informed, less experienced, and less comfortable accessing health services for RH than do adults(12). Moreover, the magnitude of unsafe abortions in young women aged 15–24, reached 45 percent and the level of comprehensive knowledge of AIDS is being 48% for young women 15–24 aged, and 43% for young men aged 15–24 years(13).

Young people in high schools are highly vulnerable and at-risk to HIV infection due to various reasons such as; unprotected casual sex relationships and multiple sexual partners, lack of comprehensive knowledge about HIV/AIDS, sexual and reproductive health, lack of access to HIV services, sexual experimentation, early sexual debut and peer pressure, and other related factors(14).

In Africa, 430,000 young people are infected with HIV per year; 2.6 million young people are living with HIV; teenage pregnancy rates remain high and maternal mortality is among the leading causes of death

for adolescent girls in this region(15). There are also problems related to SRH services which include accessibility, availability, and quality. Moreover, secondary school students indicated that health providers in most of the HEIs are not trained to respond to the needs of young persons(16). The shortage of youth-friendly health services and counseling poses significant challenges to address SRH issues, including HIV prevention.

In Ethiopia, educational institution-based RH services are often limited by restrictive policies, personnel shortages, lack of private areas for counseling and poor links to resources outside the institutions. Since adolescents have a unique reproductive health risks of unplanned pregnancies, childbearing; sexually transmitted infections (STIs) including HIV and unsafe abortion (17, 18) access and utilization of Reproductive Health Services (RHS) is a primary concern for them surrounding the promotion of reproductive health rights (19, 20).

In addition to these, the response to deliver RHS for students has been fragmented and Ethiopian schools have limited capacity in delivering health-related services for their students; As a result a significant proportion of students are developing RH related problems (20); and the available literatures in Ethiopia were limited in addressing factors that influence utilization of RHS among secondary school students. Hence, the main aim of the study was to assess utilization and factors affecting RHS among secondary School Students in Woldia Town, Northeast Ethiopia.

Methods

Study Setting and period

This study was conducted in Woldia town from January - June 2019 G.C. The town is located in the North-East Ethiopia Amhara regional state under the administration of North Wollo Zone, located at about 521 km from Addis Ababa in the east direction. The town has nine kebeles and four secondary schools. The study was conducted in all secondary schools namely Woldia secondary school, Millennium secondary school, Selam secondary school, and Gubo secondary school.

Study Design

Institutional-based descriptive cross-sectional study was employed

Source Of Population

All secondary school students in Woldia town

Study Population

Selected students of Woldia town secondary schools

Sample Size Determination

The sample size of the study was calculated using single proportion population formula as $n = \frac{Z^2 \alpha / 2 * P (1-P)}{d^2}$; while n = sample size, p = proportion Sexual practice < 18 years (taken as 53.3% according to the study on Reproductive health service utilization in Mizan Tepi university students, Ethiopia 2017 (21), d = maximum allowable error (margin of error) = 0.05, Z = value of standard normal distribution at 95% confidence level ($Z = 1.96$).

By adding 10% non-response rate the total sample size will be $382 * 10\% = 38$. Thus the final sample size was $n = 420$.

Sampling Techniques And Procedure

In the study area, from each school, sections were selected by using simple random sampling method. The samples were distributed proportionally based on probability proportional to size (PPS). Participants from the selected section were selected by using a systematic sampling technique after calculating sampling interval (K) for each section according to students roll number in the class and the first student was selected by a simple random method.

Eligibility Criteria

Inclusion criteria

Woldia town secondary school students who were present during the data collection period

Exclusion Criteria

Students who weren't available during the data collection period

Students who were physically and mentally not capable to be interviewed

Operational Definitions

Good utilization: Those students who answer mean and above the mean score of practice questions were categorized had Good practice while those students answer below the mean score was categorized had poor practice.

Good knowledge: Those students who answer mean and above the mean score of knowledge questions were categorized as knowledgeable while those students answer below the mean score was categorized under poor knowledge.

Good attitude: Those students who answer mean and above the mean score of attitude questions were categorized as had a good attitude while, those students answer below the mean score was categorized as had a poor attitude.

Data Collection Tool And Procedure

Data was collected by using structured interviewer-administered questionnaire and pretest was conducted before starting the actual data collection. The questionnaire was containing written consents, socio demographic data, and reproductive health related questions which were developed by adapting from different peer reviewed literatures. The questionnaire was first developed in English and translated to Amharic language by an expert. It was translated back to English by an independent translator to check for consistency. The interview was conducted in Amharic language by four diploma clinical nurses and supervised by two master's public health students.

Data Quality Control

For Ensuring data quality training was given for data collectors and supervisor. After this Pretest of the questionnaire was conducted on 5% of Dessie town secondary school students a week prior to the actual survey; and necessary modification was done according to the gap identified. Data collectors and the supervisors were trained on the data collection techniques. Besides, the completeness, accuracy, and consistency of the collected data were checked daily during the data collection time. Supervisors & principal investigators closely follow the data collection process. The data were entered daily and missing data were identified.

Data Analysis And Presentation

Data were entered by using EPI-data Version 4.2.0 and was exported to SPSS Version 24 for analysis. Frequencies were calculated to describe the study population in relation to relevant variables. Binary logistic regression analysis was conducted to assess the crude association between dependent and independent variables. Finally Variables which shows association in Binary logistic regression analysis and have P-value less than or equal to 0.25 entered in to Multivariate logistic regression model, to adjust the effects of possible confounders. Finally significant factors were identified based on AOR with 95% Confidence level and P-value less than 0.05.

Ethical Consideration

Ethical clearance was obtained from Woldia university research and Technology transfer office. Permission letter was obtained from Woldia University College of health science research and community service coordinating office and each high school directors. Then, written informed consent was taken from each participant after clearly explaining the purpose of the study. Finally participants were informed to withdraw from the study at any time and/or to refrain from responding to questions if they were not interested to participate by any reason.

Results

All 420 respondents complete the questioner with the response rate of 100%. Among these most of the respondents, 304(72.4) were from urban area. About 204 (48.6%) were females. The majority of the respondents 238 (56.7%) were within the age group of 15–19 years. Most of the respondents were single 384 (91.4%) followed by have boy/girlfriend 231 (18.1%) (Table 1).

Table 1
Socio-demographic characteristics of secondary school students in Woldia town Woldia, Amhara, Ethiopia, 2019 (Table 1)

Characteristics	Category	Frequency	Percent
Age	10–15	50	11.9
	15–19	238	56.7
	20–24	132	31.4
Residence	Urban	304	72.4
	Rural	116	27.6
Sex	Male	216	51.4
	Female	204	48.6
Marital status	Single	384	91.4
	Married	21	5.0
	Divorced	13	3.1
	Widowed	2	.5
Residence	Urban	304	72.4
	Rural	116	27.6
Wealth index	High	108	25.7
	Medium	245	58.3
	Low	67	16.0
Educational level	Grade 9	237	56.4
	Grade 10	183	43.6
Presence of RHS in school	Yes	286	68.1
	No	134	31.9
Handling of RHS providers	Good	192	45.7
	Moderate	176	41.9
	Bad	51	12.1
Missed RHS required	Yes	262	62.4
	No	158	37.6
Reason for not getting RH	Lack of money	156	37.1

Characteristics	Category	Frequency	Percent
	Neighbors felt ashamed	147	35.0
	Service providers refused	77	18.3
	Clinic was closed	40	9.5
Ever heard of YFRHS	Yes	261	62.1
	No	159	37.9
Parents influence not to use RHS	Yes	270	64.3
	No	150	35.7
The stigma attached to utilize RHS	Yes	268	63.8
	No	152	36.2
Cultural and religious influence	Yes	248	59.0
	No	172	41.0
Have a girl/boyfriend	Yes	231	55.0
	No	189	45.0
Had sexual intercourse	Yes	150	35.7
	No	270	64.3
	No	248	59.0
Chew chat	Yes	103	24.5
	No	317	75.5
Drink alcohol	Yes	122	29.0
	No	298	71.0

Utilization Of Reproductive Health Services

Out of 420 study participants 270(64.3%), utilized reproductive health services. About 266(63.3) respondents utilized VCT while 190 (65%) respondents utilized family planning service. Nearly half of 225(53.55%) the respondents obtain the RHS from the hospital. Greater than half (56.7%) of the respondents have communication with their parents related to RH issues. In this study, most of the respondents 249(59.3%) prefer their friends to discuss with RH issue (Table 2).

Table 2

Utilization of RHS among secondary school students in Woldia Town, Amhara, Ethiopia .2019

Variables	Category	Frequency	Percent
Have you ever used any of the different RHS	Yes	335	79.8
	No	85	20.2
Counseling service generally	Yes	217	51.70
	No	203	48.3
VCT	Yes	266	63.3
	No	154	36.7
Management of STI/HIV	Yes	171	40.7
	No	249	59.3
Family planning	Yes	190	65
	No	147	35.0
Place where the RHS obtained	Hospital	225	53.55
	Clinic	79	18.8
	Dispensary	28	6.7
	Pharmacy	83	19.75
	Others	5	1.2
Condom use	Yes	219	52.1
	No	201	47.9
Currently using contraceptive	Yes	173	41.2
	No	247	58.8
History of STI	Yes	181	43.1
	No	239	56.9
Ever been pregnant	Yes	51	12.1
	No	369	87.9
Ever had abortion	Yes	51	12.4
	No	368	87.6
Parent-teen communication	Yes	238	56.7
	No	182	43.3

Variables	Category	Frequency	Percent
Where abortion was conducted	Public health institution	194	57
	Private clinic	24	5.7
	Abortion house	6	1.4
	Ingesting different drug	2	0.5
With whom you prefer to discuss RH issues	Friends	249	59.3
	Partners	106	25.2
	Siblings	25	6
	Partners	20	4.8
	Professionals	14	3.3
	Others	6	1.4

Bivariate and Multivariate analysis of reproductive health services utilization and associated factors

In bivariable logistic regression analysis, age of the respondent, residence, sex of the respondent, educational level of the respondent, educational status of the partner, presence of RHS facility in school, reason for not getting RHS, encouragement by friends to use RHS, chat chewing, drinking alcohol and good knowledge level on RHS are associated with the reproductive health services utilization. Those variables that have a p-value less than or equal to 0.25 were entered in to a multivariable logistic regression model to adjust for possible confounders. In multivariate logistic regression analysis, residence, educational level of the respondent, educational status of the partner, presence of RHS facility in school, the reason for not getting RHS, encouragement by friends you to use RHS, good knowledge level on RHS have been found to be significantly associated with the reproductive health services utilization. Accordingly, the odds of utilization of reproductive health service among respondents from urban residence (AOR = 4.40, 95%CI (1.23, 2.36)) was higher compared to those respondents from rural residences. The odds of the utilization of reproductive health service among those who have RHS facility in school [AOR = 2.53, 95% CI (1.57, 4.06)] was higher compared to those respondents who haven't RHS facility in their school. Students who are grade 10 were 1.15 times more likely to utilize RHS compared to grade 9 students. The odds of RHS utilization among respondents whose partners educational status falls under secondary and above (AOR = 2.66, 95%CI (2.35, 5.24)) was higher compared to those partner's educational status is unable to read and write. Respondents whose neighbors feel ashamed were 76% less likely to utilize RHS compared to those who have no money to get the service. The odds of RHS utilization among participants whose friends encouraged to use RHS (AOR = 1.46, 95%CI (1.87, 6.44)) was

higher compared to those whose friends didn't encourage to use RHS. Respondents who have good knowledge of RHS were approximately 4 times more likely to utilize reproductive health service (Table 3).

Table 3

Factors associated with the utilization of reproductive health services among secondary school students
Woldia North Wollo Zone, Ethiopia, 2019

Variables	Level of practice(N = 420)		Odd Ratios		
	Good	Poor	COR(95% CI)	AOR(95% CI)	P value
	270(64.3)	150(35.7)			
Age					
10–15	12(2.9)	38(9.0%)	.43(.21,.90)	.47(.21,1.03)	.058
15–19	82(19.5)	156(37.1%)	.71(.46,1.104)	.69(.43,1.11)	.127
20–24	56(13.3)	76(18.1%)	1		
Residence					
Urban	137(32.6)	167(39.8)	4.67(1.08,2.57)	4.40(1.23,2.362)*	0.024
Rural	67(16.0)	49(11.7)	1	1	
Sex					
Male	70(16.7)	146(34.8)	1	1	
Female	80(19.0)	124(29.5)	1.35(.90,2.01)	1.14(.74,1.77)	.555
Educational level					
Grade 9	77(18.3)	160(38.1)	1		
Grade 10	73(17.4)	110(26.2)	1.38(.92,2.06)	1.15(1.73,4.80)*	.045
Educational status of the partner					
Unable to read and write	27(6.4)	69(16.4)	1	1	
Able to read and write	27(6.4)	55(13.1)	1.26(.66,2.38)	.64(.35,1.17)	.147
Primary school	26(6.2)	51(12.1)	1.30(.68,2.49)	.69(.38,1.25)	.221
Secondary and above	70(16.7)	95(22.6)	3.88(1.10,3.24)	2.66(2.35,5.24)*	.012
Youth friendly RHS facility in school					
Yes	81(9.3)	205(48.8)	1		
No	69(16.4)	65(15.5)	2.69(1.76,4.11)	2.53(1.57,4.06)*	<.001

Note:*p-vale < 0.05, CI = Confidence Interval, COR = Crude Odds Ratio, AOR = Adjusted Odds Ratio

Variables	Level of practice(N = 420)		Odd Ratios		
	Good	Poor	COR(95% CI)	AOR(95% CI)	P value
	270(64.3)	150(35.7)			
Reason for not getting RHS					
Had no money	52(12.4)	104(24.8)	1	1	
Neighbors feel ashamed	23(5.5)	17(4.0)	.34(.33,.50)	.24(.23,.17)*	.032
Service providers refused to side the service	26(6.2)	51(12.1)	1.02(.57,1.82)	.84(.44,1.60)	.598
The clinic was closed	49(11.7)	98(23.3)	1.00(.62,1.61)	.95(.56,1.62)	.857
Did your friends encourage you to use RHS					
Yes	48(11.4)	124(29.5)	1.81(1.19,2.74)	1.46(1.87,6.44)*	.005
No	102(24.3)	146(34.8)	1	1	
Chat chewing					
Yes	74(17.6)	29(6.9)	1	1	
No	196(46.7)	121(28.8)	1.58(.97,2.56)	1.08(.56,2.06)	.820
Drink alcohol					
Yes	36(8.6)	86(20.5)	1	1	
No	114(27.1)	184(43.8)	1.48(.94,2.33)	1.17(.63,2.17)	.621
Knowledge level					
Good knowledge on RHS	86(20.5)	118(28.1)	4.73(1.16,2.59)	3.77(1.14,2.75)*	.011
Poor knowledge on RHS	64(15.2)	152(36.2)	1	1	
Attitude level					
Good attitude	63(15.0)	119(28.3)	1.29(1.727,3.63)	1.14(2.73,5.80)*	.05
Poor attitude	87(20.7)	151(36.0)			
Note:*p-vale < 0.05, CI = Confidence Interval, COR = Crude Odds Ratio, AOR = Adjusted Odds Ratio					

Discussion

The overall utilization of RHS among secondary school youths in Woldia Town was found to be 64.3%; which is in line with a study done in Bahir Dar which showed that (63.8%) (22). However, this finding higher than a study conducted in Nekemet (23), Madawalabu university (24), Mekele (25) and Mechakel, East Gojjam (8); in which (21.2%, 27.7%, 23%, and 21.5%) of participants utilized RHS respectively. The possible reason for this difference might be due to the participants' socio-demographic characteristics, time reference used in the definition of RHS utilization and socio-economic variation. Furthermore, this discrepancy might be also due to differences in the availability and accessibility of reproductive health facilities and youth centers within the school. The odds of utilization of reproductive health service among respondents from urban residence were higher compared to those respondents from rural residences. This finding was supported by other studies in Ethiopia (20, 26). This might be because of the accessibility of RHS in the urban area and the availability of media in urban areas will ease the information transmission regarding the benefit of utilizing RHS. The odds of the utilization of reproductive health service among those who have RHS facility in school was higher compared to those respondents who haven't RHS facility in the school. This finding was supported by other studies in Ethiopia (20, 22, 26). This might be due to the fact that those school-based RHS facilities will deliver services like counseling and easily accessing the facility students need timely. Respondents who are grade 10 were 1.15 times more likely to utilize RHS compared to grade 9 respondents.

In this study, the odds of RHS utilization among respondents whose partner's educational status falls under secondary and above was higher compared to those partners educational status is unable to read and write. This finding was supported by other studies (22, 27, 28). Those families with higher educational status are more likely to expose to RHS related issues. Respondents whose neighbors feel ashamed were 76% less likely to utilize RHS compared to those who those who have no money to get the service. This finding was supported by other studies (28, 29). This might be because of the stigma due to the utilization of RHS, will result in isolation from their peers and society as a whole. To prevent this discrimination they prefer not to use RHS. The odds of RHS utilization among respondents whose friends encourage using RHS was higher compared to those whose friends didn't encourage to use RHS. Other studies also support this finding (28, 30). This shows the influence of peer pressure whether it is positive or negative on utilization of RHS. Respondents who have good knowledge of RHS were approximately 4 times more likely to utilize reproductive health service. A similar finding has been reported in other studies (8, 31–33). The possible justification for this might be, those respondents with a good level of knowledge regarding RHS will understand the benefit of using RHS and the consequence of not using RHS.

Conclusions

Knowledge of respondents on reproductive health issues in the study area was found to be low. This low service utilization might make students disposed to different reproductive health risks; STI, HIV, and unwanted pregnancy; which in turn can increase the school dropout rate, and have an impact on an individual's future life. Therefore, it needs a great effort and attention of all the concerned bodies including parents, school staffs, and health care professionals to improve service utilization in schools.

Abbreviations

RH-Reproductive Health

RHS-Reproductive Health Services

STI-Sexually Transmitted Infections

VCT-Voluntary Counseling and Testing

YFRHS-Youth Friendly Reproductive Health Services

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the research ethics review board of the Woldia University College of health science. An official letter of permission was obtained from Woldia University College of health science and was submitted to the respective administrative bodies of the Woldia Town secondary school directors; permission from these administrative bodies was also obtained. Confidentiality was ensured throughout the research process. The purpose of the study was explained to the participants and data was collected after full informed written consent obtained and confidentiality of the information was also maintained by omitting their names and personal identification. Written informed consent for participation in the study was obtained from their parent or guardian where participants are children (under 16 years old).

Consent for publication

Note applicable.

Availability of data and materials

Data is available and it can be accessed from the corresponding author when asked with the reasonable inquiry.

Competing interests

The author declares that they have no competing interests.

Funding

None

Authors' contributions

Teshome Gebremeskel and Biruk Beletew were designed the study, involved in the write up of methodology of proposal, research work, statistical analysis and write up of the manuscript. Both authors read and approved the final paper. Then, authors had reviewed and approved the submission of the paper.

Acknowledgments

We thank data collectors and supervisors who heart fully participated during data collection and we are also grateful to the students for their voluntary participation in our study. Lastly, we would like to thank all high schools for their cooperation from the beginning till the end of this study.

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References

1. McPherson KE, Kerr S, McGee E, Morgan A, Cheater FM, McLean J, et al. The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. *BMC psychology*. 2014;2(1):7.
2. Assessment of Knowledge, Attitude and Practice Towards Reproductive Health Service among Mizan Tepi Universtiy Tepi Campus Students, Sheka Zone, South Nations Nationalities and Peoples Regional State, South West Ethiopia, . 2017.
3. Aboma Motuma TS, Gudina Egata and Abera Kenay. Motuma et al. Utilization of youth friendly services and associated factors among youth in Harar town, east Ethiopia: a mixed method study *BMC Health Services Research* 16:272 DOI 10.1186/s12913-016-1513-4. 2016
4. M. A. adolescents' awareness of youth friendly reproductive health services in public health facilities: the case of ilala municipality lutende dissertation submitted in partial fulfillment of the requirements for the degree of master of social work of the open university of tanzania 2016.
5. McGorry P, Bates T, Birchwood M. Designing youth mental health services for the 21st century: examples from Australia, Ireland and the UK. *The British Journal of Psychiatry*. 2013;202(s54):s30-s5.
6. Ojong I, Akpan M, Alasia MO, Nlumanze F. A comparative study on reproductive health awareness among urban and rural secondary school students in cross river state, nigeria. *Journal of Research in Nursing and Midwifery*. 2014;3(1):21-5.
7. Akhter S. Knowledge, attitudes and practices on reproductive health and rights of urban and rural women in Bangladesh. 2007.

8. Abajobir AA, Seme A. Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community-based cross-sectional study. *BMC health services research*. 2014;14(1):138.
9. Alliance AY, Finder P. Youth Friendly Sexual and Reproductive Health Services: An assessment of facilities. Dar es Salaam: African Youth Alliance/Pathfinder International. 2003.
10. Coley RL, Medeiros BL, Schindler HS. Using sibling differences to estimate effects of parenting on adolescent sexual risk behaviors. *Journal of Adolescent Health*. 2008;43(2):133-40.
11. HIV/AIDS. JUNPo. Ethical considerations in HIV preventive vaccine research: UNAIDS guidance document: UNAIDS; 2000.
12. Tegegn A, Yazachew M, Gelaw Y. Reproductive health knowledge and attitude among adolescents: a community based study in Jimma Town, Southwest Ethiopia. *Ethiopian Journal of Health Development*. 2008;22(3).
13. Evens E, Otieno-Masaba R, Eichleay M, McCARRAHER D, Hainsworth G, Lane C, et al. Post-abortion care services for youth and adult clients in Kenya: a comparison of services, client satisfaction and provider attitudes. *Journal of biosocial science*. 2014;46(1):1-15.
14. Barnabas G, Pegurri E, Selassie HH, Naamara W, Zemariam S. The HIV epidemic and prevention response in Tigray, Ethiopia: a synthesis at sub-national level. *BMC public health*. 2014;14(1):628.
15. Group WB. World development indicators 2014: World Bank Publications; 2014.
16. Liu X, Liang LL, Liu E. Science education research in China: Challenges and promises. *International Journal of Science Education*. 2012;34(13):1961-70.
17. Ingwersen R. Youth reproductive and sexual health in the developing world. Canberra: Development Studies Network. 2001.
18. Adefuye AS, Abiona TC, Balogun JA, Lukobo-Durrell M. HIV sexual risk behaviors and perception of risk among college students: implications for planning interventions. *BMC public health*. 2009;9(1):281.
19. Braeken D, Rondinelli I. Sexual and reproductive health needs of young people: matching needs with systems. *International Journal of Gynecology & Obstetrics*. 2012;119:S60-S3.
20. Nafukho FM. The place of E-learning in Africa's institutions of higher learning. *Higher education policy*. 2007;20(1):19-43.
21. Assessment of Knowledge, Attitude and Practice Towards Reproductive Health Service among Mizan Tepi Universtiy Tepi Campus Students, Sheka Zone, South Nations Nationalities and Peoples Regional State, South West Ethiopia, . 2017.
22. Abebe M, Awoke W. Utilization of youth reproductive health services and associated factors among high school students in Bahir Dar, Amhara regional state, Ethiopia. *Open Journal of Epidemiology*. 2014;2014.
23. Binu W, Marama T, Gerbaba M, Sinaga M. Sexual and reproductive health services utilization and associated factors among secondary school students in Nekemte town, Ethiopia. *Reproductive*

- health. 2018;15(1):64.
24. Dida N, Darega B, Takele A. Reproductive health services utilization and its associated factors among Madawalabu University students, Southeast Ethiopia: cross-sectional study. *BMC research notes*. 2015;8(1):8.
 25. Kahsay K, Berhe S, Alemayehu M. Utilization of youth friendly services and associated factors in Mekelle Town, Tigray, Northern Ethiopia. 2016.
 26. Bolognesi N, Swartz L, editors. *The Media Management of HIV/AIDS in Sub-Saharan Africa with Particular Reference to South Africa: A Window to Developing Communication Strategies*. on the occasion of the International Association of Media and Communication Research (IAMCR) 50th Anniversary Conference 2007; 2008.
 27. Fikre AA, Demissie M. Prevalence of institutional delivery and associated factors in Dodota Woreda (district), Oromia regional state, Ethiopia. *Reproductive health*. 2012;9(1):33.
 28. Shiferaw K, Getahun F, Asres G. Assessment of adolescents' communication on sexual and reproductive health matters with parents and associated factors among secondary and preparatory schools' students in Debremarkos town, North West Ethiopia. *Reproductive health*. 2014;11(1):2.
 29. Kassa M, Abajobir AA, Gedefaw M. Level of male involvement and associated factors in family planning services utilization among married men in Debremarkos town, Northwest Ethiopia. *BMC international health and human rights*. 2014;14(1):33.
 30. Feleke SA, Koye DN, Demssie AF, Mengesha ZB. Reproductive health service utilization and associated factors among adolescents (15–19 years old) in Gondar town, Northwest Ethiopia. *BMC health services research*. 2013;13(1):294.
 31. Fawole A, Hunyinbo K, Adekanle D. Knowledge and Utilization of the Partograph among obstetric care givers in South West Nigeria. *African journal of reproductive health*. 2008;12(1):22-9.
 32. Ajike SO, Mbegbu VC. Adolescent/Youth Utilization of Reproductive Health Services: Knowledge Still a Barrier. *Journal of Family Medicine and Health Care*. 2016;2(3):17-22.
 33. Tegegn A, Yazachew M, Gelaw Y. Reproductive health knowledge and attitude among adolescents: a community based study in Jimma Town, Southwest Ethiopia. *The Ethiopian Journal of Health Development (EJHD)*. 2008;22(3).