ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

MAGNITUDE AND DETERMINANTS OF RISKY SEXUAL BEHAVIOURS AMONG REGULAR AND EVENING SECONDARY SCHOOL STUDENTS IN ADDIS ABABA, ETHIOPIA: A COMPARATIVE CROSS-SECTIONAL STUDY

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Addis Ababa, Ethiopia

Oct, 2019

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A COMPARATIVE CROSS-SECTIONAL STUDY

A research thesis to be submitted to the College of Health Sciences, School of Public Health

in partial fulfilment of the requirements for the Master of Public Health in Health Systems Management

Addis Ababa, Ethiopia

Oct, 2019

DECLARATION

This research thesis is entirely my own work. Others' ideas and words have been cited. This has not been submitted to another institution for the award of previous diplomas or degree.

ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES
APPROVAL SHEET

As thesis research advisor, I hereby certify that I have read and evaluate this thesis prepared under my guidance by Sisay Jemaneh, entitled: Magnitude and Determinants of Risky Sexual Behaviors Among Regular and Evening Secondary School Students in Addis Ababa, Ethiopia: A Comparative Cross-Sectional Study, in partial fulfillment of the requirements for the Degree of master of public health "specialty in health system management" is recommended to be submitted as fulfilling the thesis requirement and regulations of the University and meets the accepted standards with respect to originality and quality.

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ACKNOWLEDGEMENTS

I would like to express my appreciation to Professor Damen Haile Mariam and Ms. Adiam Nega for their invaluable and constructive suggestions, guidance and useful critiques of this work and for their willingness to give time so generously. My sincere appreciation also goes to Addis Ababa University School of Public Health, Addis Ababa Education Bureau, Sub City Education Bureaus (Nefas Silk Lafito, Arada, Akaki Kality and Kirkos), secondary schools (New kids Flower, Future Generation Hope, Fitawurary Lake Adigeh, Bethelhem, Miskaye Hizunan, Shimels Habte and Kality), school administrators, teachers and students who participated in the study for providing suitable environment and situation to conduct this research. My appreciation also goes to data collectors and supervisors for their commitment and work enabled this study to be successfully completed. I would like to thank all of those who advised, cooperated, and supported me from the beginning to the end.

LIST OF ABBREVIATION AND ACRONYMS

AAU…….Addis Ababa University

AIDS……Acquired Immunodeficiency Syndrome

CI……..Confidence Interval

EDHS……Ethiopian Demographic Health Survey

FDRE……Federal Democratic Republic of Ethiopia

FMOH……...Federal Ministry of Health

HIV……Human Immunodeficiency Virus

MOH…….Ministry Of Health

RH…….Reproductive Health

SBCC…….Social and Behavioural Change Communication

SRH……...Sexual Reproductive Health

STDS…….Sexual Transmitted Diseases

STIs……Sexually Transmitted Infections

WHO…….World Health Organization

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ABSTRACT

Background: Risky sexual behaviour is the activity that will increase the probability of being infected with sexually transmitted infections, or become pregnant or make a partner pregnant**.** Adolescents and youth constitute 33.8% of the total population of Ethiopia. These groups of population face varied vulnerabilities such as STI/HIV, unwanted pregnancy, fistula and etc.

Objective: To assess the magnitude and determinants of risky sexual behaviours among regular and evening secondary school students in Addis Ababa, Ethiopia, a comparative cross sectional study 2018/19.

Methods: A cross sectional study was conducted from February 1 to 30 2019. The calculated sample size was allocated to each grade by using a multistage sampling technique. A total of 604 students were enrolled in this study. Data were entered using Epi-info7 and exported to SPSS version 23 for analysis. Chi square was done to compare the risk between the two groups. Binary and multiple logistic regression analysis were used to see the association between the outcome and one and above one independent variable/s. Odds ratios at 95% CI were computed to measure the strength of the association between the outcome and the independent variables. P-value <0.05 was considered as a statistically significant.

Results: From the 604 students who participated in the study, 79 (19.3%) of the regular students and 145 (74.4%) of the evening participants had sexual experience. 66 (16.4%) of the regular and 123 (63.07%) of the evening students had practiced risky sexual behaviours. Peer pressure (AOR=3.233, 95% CI=1.13, 9.192), watching pornographic movies (AOR=5.384, 95% CI=1.693, 17.118) and discussion on sexual issues (AOR=3.286, 95% CI= 1.181, 9.145) were factors significantly associated with risky sexual behaviours.

Conclusions: Large proportions of students were engaged in to risky sexual behaviours specially the evening school students. Peer pressure, watching pornographic movies and discussions on sexual issues were significantly associated with risky sexual behaviours. Preventive measures like open discussion on sexual issues, prohibiting pornographic movie channels and monitoring students peer and activities are important.

1. INTRODUCTION

1.1. Background

Adolescents and youth constitute 33.8% of the total population of Ethiopia. These groups of population face varied vulnerabilities to reproductive health issues. More than half (51%) of adolescent and youth consume khat, 46% of them consume alcohol and 4.4% of adolescents smoke cigarette. Limited access and utilization of adolescent and youth friendly reproductive health services contribute to high rates of abortion, fistula, and human immunodeficiency virus (HIV) and other sexually transmitted infections (STIs) and pregnancy-related complications. In recognition of these, federal ministry of health of Ethiopia (FMOH) has developed a national strategy with minimum service package for scaling up of adolescent and youth reproductive health services. The package included social behaviour change communications (SBCC) and life skill on nutrition services, vaccination and immunization, sexual reproductive health (SRH), human immunodeficiency virus (HIV) /sexually transmitted infections (STIs), mental and substance use disorders, non-communicable disease and injuries, common childhood infection and infestations and school health preparedness, readiness, response and recovery in emergency during education (1, 2).

The 2016 Ethiopian demographic health survey (EDHS) shows that 24% of young women and 39% of young men 15-24 years have knowledge about HIV prevention. Among both sexes, urban youth are more likely to have knowledge about HIV prevention. The percentage of youth with knowledge about HIV prevention is lower among 15- 17 years than among older youth, especially for men. Urban youth, those living in Addis Ababa, youth with more than a secondary education and from the wealthiest households are more likely than other subgroups to have knowledge about HIV prevention (3).

A study done in Ghana shows 25% adolescents reported ever had sexual intercourse. 41.3% of sexually experienced adolescents had sexual intercourse before the age of 15. The mean age for first sexual intercourse was 14.8 years (14.4 years for boys and 15.1 years for girls) and Age at first sexual intercourse was positively associated with the number of sexual partners. 31% have multiple sexual partners (4).

There are many governmental and nongovernmental secondary schools in Addis Ababa. A risky sexual practice among secondary schools in Addis Ababa is high in which the

prevalence accounts 26.7% (5). Whereas a study done on risky sexual behaviours among daily labourers is Addis Ababa is very high (79.4 %) (6). There is no any evidence found on risky sexual behaviours among evening class students. In most cities, the poor population groups are systematically excluded from mainstream urban society. Poor, especially in informal settlements, are often invisible in population surveys and unrecognized by researchers, analysts, city planners and others (7).

1.2. Statement of the Problem

Risky sexual behaviour is the activity that will increase the probability that a person engaging in sexual activity will be infected with sexually transmitted infections, or become pregnant or make a partner pregnant. It can be committing unprotected sexual activity, inconsistent use of condoms, sex with multiple partners, sex for material gain and early sexual initiation (8).

Limited access and utilization of adolescent and youth friendly reproductive health services contribute to high rates of maternal mortality and morbidity due to abortion, fistula, HIV and other STI and pregnancy-related complications. 13 % of women age 15-19 in Ethiopia have begun child bearing, 22 % of currently married women have unmet need for family planning service (13% for spacing and 9 % for limiting), whereas, 26 % of sexually active unmarried women have an unmet need for family planning, 18.5 % of ever married women age 15-24 had ever experienced sexual violence, 45 % of men age 15-24 with two or more sexual partners used condom during the last sexual intercourse (1-3).

Ministry of health (MOH) targets to reduce morbidity and mortality of adolescent and youth by 50%, to reduce maternal mortality among adolescent and young women by 50%, to reduce the incidence of HIV among adolescent and youth from 0.2% to 0.001% and reduce unintended pregnancy from 12.5% to 3% and in collaboration with Ministry of Education has developed a school health program framework and school health service packages. The package includes SBCC and life skill, SRH, HIV/ STIs, mental and substance use disorders (2). There is no research done on risky sexual behaviours among night secondary school students and also there is no clear description how to address night students. Therefore this study tries to compare the magnitude and determinants of risky sexual behaviours among day and night secondary school students in Addis Ababa.

According to WHO Inter-agency Field Manual on Reproductive Health in Humanitarian Settings guideline, family and social structures, peer networks, schools and religious institutions can greatly affect the ability of adolescents to practise safe reproductive health (RH) behaviours. Young women who live under marginalized circumstances are highly vulnerable to sexual coercion, exploitation and violence, and may have no choice but to engage in high-risk or transactional sex for survival. Federal ministry of health of Ethiopia states that equal access of essential health services for equal need to the available services

for everyone and a fair distribution throughout the country and the removal of other barriers to access (1, 9).

Risky sexual behaviour puts the health of adolescents and youth in many reproductive health problems such as HIV, STI, unwanted pregnancy, induced abortion and other health and psychosocial problems. As far as my understanding these groups of population (evening class students) are hard to reach for providing the national minimum service package for adolescent and youth reproductive health services, because of the health extension workers and health professionals inconvenient time to provide the service, at school during evening time like that of day students. The intention of this study is to address the poor and previously not considered students who attend class in evening program by comparing with that of regular students. Adolescents and youth especially for those who are far to reach (evening students) to provide preventive reproductive health service, evidence about magnitude and determinants of risky sexual behaviour helps to give appropriate attention and solve their problem accordingly.

1.3. Significance of the Study

Different studies have been done on risky sexual behaviours in different parts of the world including Ethiopia, among university students, secondary school students, out school adolescents, private and government secondary school students and youth and daily labourers. But there is no research done on magnitude and determinants of risky sexual behaviours among evening secondary school students and not compared with regular secondary school students. Therefore, this particular study has tried to compare the magnitude and determinants of risky sexual behaviours among regular and evening secondary school students both in governmental and nongovernmental schools.

The finding of this study enables decision makers to have relevant knowledge and evidences, so that intervention strategies are expected.

2. LITERATURE REVIEW

Several studies on risky sexual behaviours and associated factors have been done around the world including Ethiopia among different population group such as in school youth and out school youth, daily labourer, street children, elementary school and preparatory school students and undergraduate students. The magnitude of risky sexual behaviour ranges from 13.7% high school adolescents in Humera to 79.4% in daily labourer in Addis Ababa. The different determinant factors considered to be associated with risky sexual practices are: lack of comprehensive knowledge on HIV/AIDS, Low level of formal education, peer pressure, substances abuse such as alcohol, khat, and other substances that may affect decision making capacity, multiple sexual partners, condom none use and viewing pornographies (6, 10).

2.1. Magnitude of High Risky Sexual Practices among Youth

Studies have been done in different parts of Ethiopia show that magnitude of risky sexual practice was 17.9% in Wolaita South Ethiopia (11), in Haramaya University 65.5% (12), 19% in Tana Haik School Bahrdar (13) and 19.8% in Benishangule (14), Mizan High School and Preparatory School students, South West, Ethiopia, 2016 51.5% (15), Jiga High School and Preparatory School students, Amhara Region 14.7% (16), High school adolescent in Addis Ababa, Ethiopia, 2014 was 26.7 (5), Haramaya Secondary and Preparatory school 25.3% (17), 79.4% Addis Ababa daily labourer (6) and it was relatively lower in study done in Humera Secondary School, Western Zone of Tigray, NW Ethiopia, 2014 which was 13.7% (10).

2.2. Determinants of Risky Sexual Behaviour

A study done in Ethiopia revealed that female students were found to be more likely at risk in the campus. Among those that ever had sex 69.4% were never used condoms in the last 12 months of campus stay. Those who view pornography, use substance, participating in night group dance were more likely to have multiple sexual partners than their counter parts while those who perceived the risk of HIV in the campus reduces the likelihood to have multiple sexual partners whereas a study done in Humera revealed that being male, living away from parents, viewing pornographic movies, peer pressure and those who were not participate in religious educations were more likely to risky sexual practice (10, 18).

A study done in Mizan-Tepi University, those who ever had sexual intercourse (29.9%) were diagnosed to have STI. Of the participants 59.8% and 96.4% knew about STI and HIV means of transmission respectively (19).

Another study done in Shashemene revealed 23% risky sexual behaviours prevalence. A study done in central Tanzania and south west Ethiopia shows that low comprehensive knowledge on HIV/AIDS increased significantly chances for engaging in high risk sexual behaviour but a study done in Amhara Regional State West Gojam shows that students' knowledge about sexual and reproductive health issues was not found to be associated with sexual activity. Risky sexual behaviour was 79% less likely among those whose age was 17 years compared to those whose age is 19 year. Participants who are male, who consume alcohol, chat and cigarette were more likely to risky sexual practice. Youth with close friends that are sexually active were almost two times more likely to engage in high risk sexual behaviour compared to their counterpart. 71 (19.1%) had sexual initiation due to peer pressure. A study done in northern Ethiopia revealed that the odds of viewing pornographic materials were 4.5 times higher among those who initiated early sexual intercourse than those who did not while a study done in Gamo Gofa viewing pornographic materials were not associated with early sexual initiation. Youth who ever received money or material gift in exchange for sex were more likely to report high risk sexual behaviours compared to their counterparts (20-25).

Another study has shown that youths who take alcohol were more likely to report high risk sexual behaviour compared to their counterparts. The likelihood of being at risk among female students who consumed alcohol was higher. Majority of the respondents used alcohol followed by cigarette, khat and shisha. Regarding the single major reason for the first sex act is peer pressure, alcohol/ substances influence, coercion by men and transaction. The leading reasons or recent sex were peer pressure, followed by transaction (money or material) and coercion (6, 22, 26-28).

Studies revealed that the main reasons given for not using condom includes, trust partner, partner refused, use of other contraceptive, decrease satisfaction and drunk. Another study done in Addis Ababa shows that 56.2% used condom for the last 12 months prior the survey and 55.6% didn't use condom consistently. A total of 168 (33.0%) participants reported having concurrent or mixed sexual partners. 54.6% had two or more partners. 316

(62.1%) had not used condoms. The main sources of information were health professionals, family and friends, Mass media, school and religious leaders (23, 28, 29).

A study done in Addis Ababa on Sexual initiation and factors shows lack of parental control, peer pressure, watching pornographies were found to be reasons to early sexual practice. Another study done in Western Ethiopia shows Females had more likely to start sexual activity earlier than males. Youths who drink alcohol were more likely to engage in sexual activity than those who didn't drink and those who have two or more sexual partners, use condom inconsistently. Youths who had high family connectedness were less likely to commence sexual activity and had multiple sexual partners than their counterparts. Parents' educational status particularly of mothers' is positively linked with discussion on different SRH issues (21, 23, 30).

According to a study done in Dire Dawa female participants replied that they were influenced by their personal desire to have sexual intercourse and 2 (7.1%) of female responded that they have been involved due to peer pressure. Female mean age at first sex was 15.6 ($\pm$0.9) years. 17 (60.7%) of female participants responded that they had 2 to 5 life time sexual partners (31).

According to studies done in Northern Ethiopia, Factors contributing to sexual debut were being female, having a paid job, viewing pornographic materials and having a boy or girl friend. Discussing reproductive health topics and higher maternal levels of education were related with lower odds ratio of sexual debut. Being urban on rural dweller, was not an independent predictor of early sexual debut among students; however studies conducted in Ghana found to be independent predictor of early sexual debut (4, 21).

Students who lived away from their parents were significantly more likely to report sexual activity than those who lived with biological parents. Students in the age group of 17 and older were more likely to have had sexual intercourse and to have had two or more sex partners during the past three months compared to those aged 16 or younger and in Ghana the mean age for first sexual intercourse was 14.8 years. Early initiation of sexual activity prolongs the period of exposure to risk of pregnancy, STDs and HIV infection during the reproductive span (4, 20, 32).

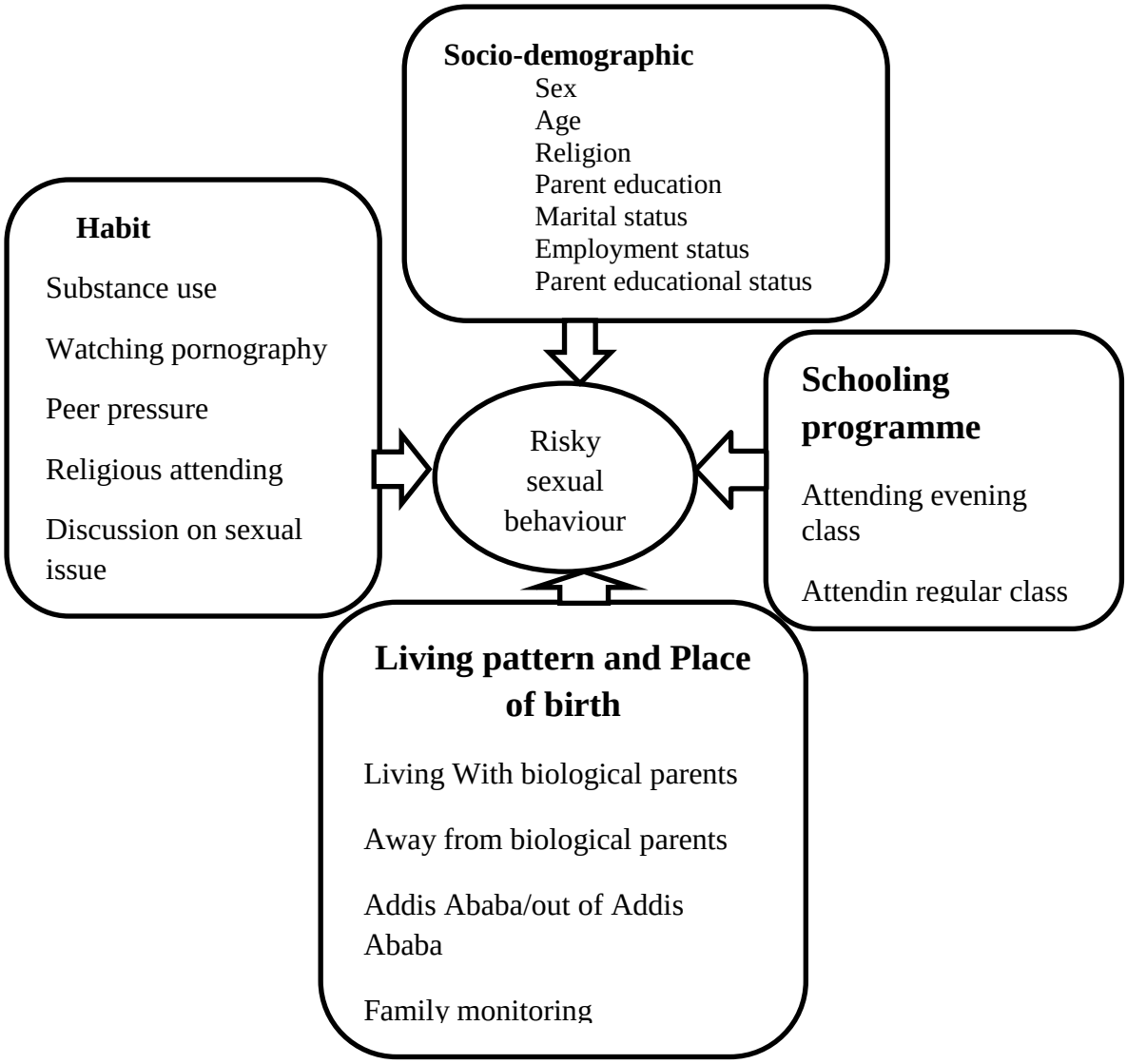
Studies show that students, daily labourers and merchants were found to initiate sexual intercourse at earlier stage than government employed. Compared to those with monthly

income increases and used alcohol they were found to initiate sexual intercourse at earlier stage. Unemployed youths were more at risk to practice early sexual initiation than those who are employed (25, 33).

Studies show that majority sexual debut was 20-24 in Jijiga while 14-20 in Debiremarkos. 13.7% respondents had sex with two partner and 4.1% with three and 2.1% with more than three partners. 4.17% of female sexually experienced respondents had paid for sex at some point in life. Study done in Debiremarkos shows that, 27.9% of students had an experience of watching pornographic movie. Study in Limmu Genet High School one-third of study participants were subjected to sexual abuse. Another study in Debremarkos indicate that students who have peer pressure were 3.23 times, those who drink alcohol were 2.67 times, chew chat were 3.14 times more likely to have risky sexual behaviours (34-37).

From the reviewed articles above, the prevalence of risky sexual behaviour ranges from 13.7% high school adolescents in Humera (10) to as high as 79.4% in daily labourer in Addis Ababa (6). The different determinant factors considered to be associated with risky sexual practices were: peer pressure, substances abuse, multiple sexual partners, condom none use, parental educational level, parental control, living arrangement, reproductive health issue discussions, Socio-demographic and viewing pornographies. Most studies considered risky sexual behaviours as one, two or three practice/s in different combination, even when it is combined. But risky sexual behaviours are more than these three combined practices/ experiences. The studies were limited to one governmental or private school or out school students in day program only and they have excluded night/evening class attendants. In the other way there is no research done on risky sexual behaviours among evening secondary school students. Therefore, this study is mainly focused on comparing the magnitude and determinants of risky sexual behaviours, considering five practices/ experiences among regular and evening secondary school students both in governmental and non-governmental secondary schools. Since there is no previously done study on risky sexual behaviours among evening students the study will give some evidence for planners, decision makers, researchers and schools and health institutions.

3. CONCEPTUAL FRAMEWORK



Source: Adapted from different reviewed literatures

Figure 1 conceptual framework

4. RESEARCH QUESTIONS

1. How much is the magnitude of risky sexual behaviours among regular and evening secondary school students in Addis Ababa?
2. What are the determinant factors of risky sexual behaviours among regular and evening secondary school students in Addis Ababa?

5. OBJECTIVES

5.1. General Objective

- To assess the magnitude and determinants of risky sexual behaviours among regular and evening secondary school students in Addis Ababa, Ethiopia, 2018/19.

5.2. Specific Objectives

- To assess the magnitude of risky sexual behaviours among regular and evening secondary school students in Addis Ababa, Ethiopia;
- To identify determinants of risky sexual behaviours among regular and evening secondary school students in Addis Ababa, Ethiopia;
- To compare the magnitude and the factors affecting risky sexual behaviours among regular and evening secondary school students in Addis Ababa, Ethiopia.

6. RESEARCH METHODS AND PROCEDURES

6.1. Study Design

- This is quantitative school based comparative cross-sectional study design to examine magnitude and determinants of risky sexual behaviours among regular and evening secondary school students in Addis Ababa.

6.2. Study Area and Period

Addis Ababa city administration is the capital city of Ethiopia. It consists of 10 sub-cities, 117 districts, with a total of 219 secondary schools and among these schools, 43 schools has both night and day programme for grade 9 and 10 and more than 100,000 enrolments of grade 9 and 10 students both in governmental and nongovernmental schools in regular and evening programme. Among these students more than 10,000 of them are enrolled in the evening program.

There is only in three sub cities (Addis Ketema, Arada and Yeka with a total of 413 students) that evening class schedule is arranged for grade 11-12th students. Regular grade 7th and 8th students are less likely to be in the age range of 15-24, that is why I preferred to select study participants from grade 9 and 10 (38). This is school based comparative cross sectional study, was conducted in Addis Ababa city regular and evening secondary school students (grade 9 to 10) from February 1 /2019 to February 30 / 2019.

6.2.1. Source Population

- All adolescents and youth students attending class in Addis Ababa whose age ranges from 15 years to 24 year

6.2.2. Study Population

- All grade 9 to 10 students with age 15-24 who are attaining class at data collection time in Addis Ababa.

6.2.3. Study Unit

- Individual students in the selected sections

6.2.4. Inclusion Criteria

- Individual students who are learning grade 9 and 10 during 2018/19 and ages 15-24 years were selected from both governmental and nongovernmental regular and evening secondary schools to participate in the study.

- Schools which has both regular and evening class programme for grade 9 and 10

6.2.5. Exclusion Criteria

- Students who are sick and those who were absent at the time of data collection have been excluded.

6.3. Sample Size Determination

- The sample size was determined using two population proportions with the following assumption:
- The proportion of regular students who were sexually at risk P_1 = (27%) from previous study (5).
- There was no previously done research on evening students about risky sexual behaviours. Therefore decision has been made to detect 15% difference between regular and evening secondary school students (P_2-p_1=15%), P_2=42%
- Confidence interval=95% and power = 80%.

$$n_1 = D \frac{[\, Z\alpha/_2 \sqrt{(1+1/r)P(1-P)} + Z\beta \sqrt{P_1 (1-P_1) + P_2(1-P_2)/r}\,]^2}{(P_1 - P_2)^2}$$

Where:

- r is the allocation ratio of night students to day students, i.e., 0.5 ($n_2 = rn_1$)
- D is design effect=1.5
- n_1 is the sample size for day students
- n_2 is the sample size for night/evening students
- P_1 = prevalence of risky sexual behaviour among regular students = (27%)
- P_2 = prevalence of risky sexual behaviour among evening students which is proposed from p_1 difference is= (42%)
- $Z\alpha/_2$ = 1.96 (standard score corresponding 95% CI)
- $Z\beta$ = 0.84 (standard score corresponding to 80% power)

The final sample size was 624, evening students (208) and regular students (416).

6.4. Sampling Procedure

A multistage sampling technique has been used. First, list of all secondary schools in Addis Ababa was obtained from the Education Bureau of Addis Ababa City Administration. Second, those secondary schools with both regular and evening class programme were identified. Then the schools with both day and night class programme

were stratified in to two strata, namely, governmental and nongovernmental secondary schools. Then, a total of six schools have been randomly selected from the two strata (Four secondary schools from governmental and two secondary schools from nongovernmental schools). Then, within the selected schools, students were stratified in to two strata, regular as one stratum and evening program as another stratum. Then each stratum again stratified in to two strata, namely, grade 9 and grade 10. Number of sections was identified from each grade level and from each programme. Then the sample size was divided between the two grades (strata) in each school and programme (regular and evening) proportional to the size of students in each grade level and sections level. Finally using class attendance as a frame by systematic sampling technique, students from each grade sections were participated in the study.

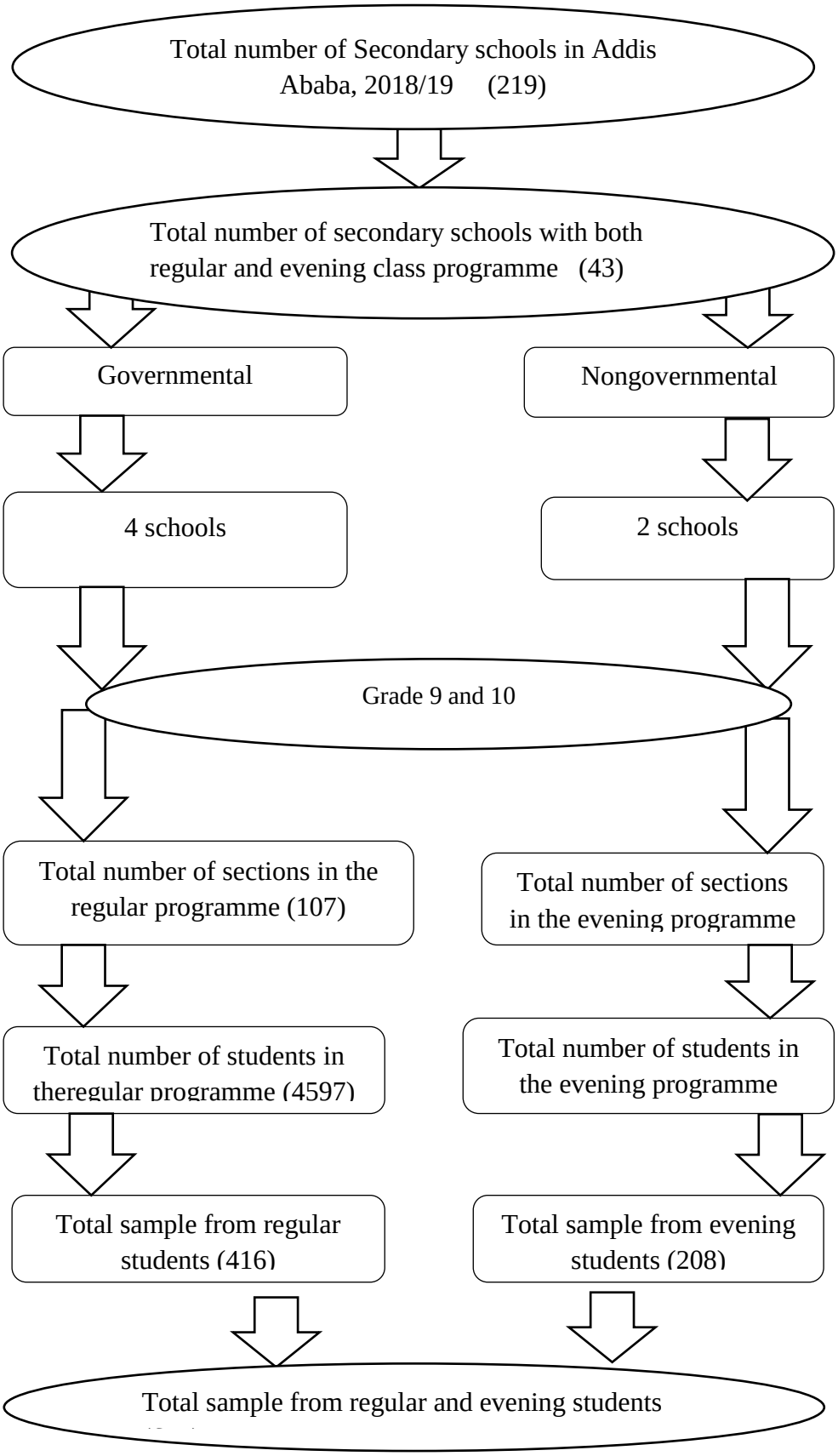


Figure 2: sampling procedure

6.5. Data Collection Procedure and Tools

A structured questionnaire was adapted and used from previously done similar studies on risky sexual behaviour (3, 13,14, 26-29).

Pre-test of the questionnaire has been conducted on one secondary school in which it was not included in the sample prior to the actual data collection time, for clarity and consistencies as well as to ensure the appropriateness of the time required to complete the questions, whether the question achieved the desired result, whether it is in best order, whether it is understood by respondents and data collectors and whether additional/specifying questions are needed and some correction has been done according to the feedback that was obtained from the pre-test. The questionnaire was prepared in English version then translated to Amharic version and back to English again. The Amharic version questionnaire was provided for those who are systematically selected students.

6.6. Study Variables

6.6.1. Dependent Variable

- Risky sexual behaviours

6.6.2. Independent Variable

- Socio-demographic characteristics
- Living condition/living arrangements
- Habit (Substances consumption, watching pornography, religious attending)
- Maternal educational status
- Father educational status
- Sexual issue discussions
- Being regular/evening student
- Peer pressure
- Place of origin
- Family monitoring/control

6.7. Operational Definition

- **Risk Sexual Behaviour-** Participants who started sex considered as risky if practiced at least one of the following:-
- Inconsistent condom use,
- Sex with more than one partner,
- Starting sex before age of 15 years
- Commit paid sex
- **Multiple Sexual Partner**- Having more than one sexual partner until the survey
- **Substance Use-** Use of at least any one of the following: alcohol, khat, drug that are assumed to increase risk of involving in risky sexual behaviour.
- **Inconsistent use of condom:** fail to use condom at least once during sexual intercourse until the survey.
- **Youth-**person between age 15-24 years
- **Adolescents-** any person between age 10-19 years
- **Sex with Commercial sex worker (paid sex) -** Ever making of intercourse in exchange for money or gift.
- **STI sign and symptoms-** Those who had committed sexual intercourse and had any of (vaginal/urethral discharge, genital ulcer)
- **Habit-** an action ever under taken

6.8. Data Cleaning, Entry and Analysis Procedure

Data was entered by EPI info 7 and analysis has been done by SPSS version 23. Descriptive statistics was computed to determine the frequencies, percentages and mean of the dependent and or independent variables. Chi square was done, bivariate analyses was carried out to examine the relationship between risky sexual behaviour and independent variables. Multivariate logistic regression was checked to control confounding variables and determine only the independent determinants of risky sexual behaviour among secondary school students.

6.9. Data Quality Management

During the development of the tool, a careful correction and revision are done and all important variables were included. Data collectors and supervisors were trained prior to data collection. There was a regular supervision of data collector. The data was checked

for completeness and missing value every day. During data entry there were assurance that all data entered correctly and there were data cleaning and editing to check for unexpected values, outliers and errors.

6.10. Ethical Consideration

Ethical Approval was obtained from the institutional review board (IRB) of the College of Health Sciences, Addis Ababa University and support letter was provided from College of Health Sciences, Addis Ababa University, Addis Ababa Regional Education Bureau and sub city education office. Permission was obtained from respective school administrations and teachers. Informed consent was obtained from study participants. The objectives and the potential harm and benefit of participating in the study were explained. Participants name was not explained instead Serial numbers was used to identify the questionnaire. Completed questionnaires were kept in the bag and locked to keep the confidentiality of the study participants. Confidentiality was maintained at all times. The rights of the participant to refuse, to stop at any time and to answer were explained and respected accordingly. The result of the study will be shared to Addis Ababa regional health bureau, education bureau, the selected school administrators, teachers, students and other relevant stakeholder.

6.11. Dissemination Plan

The findings of this study will be submitted to School of Public Health, Addis Ababa University, Addis Ababa Regional Health Bureau and Education Bureau. The result will be presented at different national conferences. Publication in scientific journal also will be considered.

7. RESULTS

7.1. Socio Demographic Characteristics of Participants

A total of 604 students, both from regular and evening class completed the questionnaire with a total response rate of 96.8%. Generally response rate is higher among regular students than evening students. Among the respondents, both in the regular and evening secondary schools, females are the majority proportion of 349 (57.8%).

Among all participants the large proportion of 494 (81.8%), 467 (77.3%) and 563 (93.2%) were orthodox Christianity followers by religion, in the age range of 15-19 years and single by marital status respectively.

Among the respondents, 397 (97.3%), 4 (1%), 4 (1%) of the regular and 78 (40%), 48 (24.6%), 69 (35.4%) of the evening students were living with their parents and relatives, alone and with Spouse, Friends, Boy/ girlfriends, Employer house respectively.

In the other way 312 (76.3%) of the regular and 48 (24.6%) of the evening students were from Addis Ababa and 97 (23.7%) of the regular and 147 (75.4%) of the evening students were out of Addis Ababa by place of origin respectively.

The mean age of study participants was 16.47 (SD±1.20) for regular students and 20.7 (SD±2.60) for evening students with the minimum age of 15 years and maximum of 24 years and the mean age of participants at first sexual intercourse was 15.85 (SD±1.50) for regular students and 18.63 (SD±2.40) for evening students.

Concerning employment status all 409 (100%) of the regular students didn't have self-generated income, whereas 105 (53.8%), 55 (28.2%), 35 (17.9%) of the evening students were self-employed and had paid stable work, housemaid and daily labourers and with no self-generated income respectively.

Concerning mother educational status, 152 (37.2%) of the regular students' mother educational status was secondary and above whereas, 150 (76.9%) of the evening students' mother educational status was not more than read and write (Table 1).

Table 1 Socio demographic characteristics of participants

Variables n=604	Regular (n1= 409) (n_1%)	Evening students (n=195 (n_2%)	Total n= (%) 604
Age			
15-19	404 (98.8)	63 (32.3)	467 (77.3)
20-24	5 (1.2)	132 (67.7)	137 (22.7)
Sex			
Male	171 (41.8)	84 (43.1)	255 (42.2)
Female	238 (58.2)	111 (56.9)	349 (57.8)
Religion			
Orthodox	330 (80.7)	164 (84.1)	494 (81.8)
Muslim	53 (13)	14 (7.2)	67 (11)
Protestant	24 (5.9)	14 (7.2)	38 (6)
others	2 (0.5)	3 (1.5)	5 (1.2)
Marital status			
Single	408 (99.8)	155 (79.5)	563 (93.2)
Married		38 (19.5)	38 (6.3)
Divorced, separated	1 (0.2)	2 (1.0)	3 (0.5)
Living arrangement			
With Parents and Relatives	398 (97.3)	78 (40)	476 (78.8)
Alone	4 (1)	48 (24.6)	52 (8.6)
Spouse, Friends, Boy/ girlfriends, Employer house	4 (1.0)	69 (35.4)	73 (12.6)
Place of origin			
Addis Ababa	312 (76.3)	48 (24.6)	360 (59.6)
Out of Addis Ababa	97 (23.7)	147 (75.4)	244 (40.4)
Grade			
9^{th}	186 (45.5)	135 (69.2)	321 (53.1)
10^{th}	223 (54.5)	60 (30.8)	283 (46.9)
Employment status			
Self-employed, Paid stable		105 (53.8)	105 (17.4)
Housemaid and daily labourer		55 (28.2)	55 (9.1)
Student with no self-income generation	409 (100)	35 (17.9)	444 (73.6)
Mother educational status			
Illiterate, read and write	137 (33.5)	150 (76.9)	287 (47.51)
Primary	117 (28.6)	17 (8.7)	114(18.87)
Secondary and above	152 (37.2)	25 (12.8)	157(25.99)

7.2. Socio Demographic Comparison of Risky Sexual Behaviours

Among all governmental school respondents, 303 (88.60%) of the regular and 39 (11.40%) of the evening and 4 (4.82%) of the regular and 79 (95.80%) of the evening students age ranges 15-19 and 20-24 respectively with significant difference across the groups (p=0.000). whereas, among nongovernmental school participants, 101 (80.80%) of the regular and 24 (19.20%) of the evening and 1 (1.85%) of the regular and 53 (98.15%) of the evening students age ranges 15-19 and 20-24 respectively with significant difference across the groups (p=0.000).

Among all governmental school participants, 124 (71.26%) of the regular and 50 (28.74%) of the evening students were male and 183 (72.91%) of the regular and 68 (27.09%) of the evening participants were female with no significant difference across the group (p=0.710) and among all nongovernmental school participants, 47 (58.02%) of the regular and 34 (41.98%) of the evening students were male and 55 (56.12%) of the regular and 43 (43.88%) of the evening participants were female with no significant difference across the group (p=0.798).

Concerning place of origin, among all governmental school participants, 228 (88.72%) of the regular and 29 (11.28%) of the evening students were from Addis Ababa and 79 (47.02%) of the regular and 89 (52.98%) of the evening participants were from outside Addis Ababa with significant difference across the group (p=0.000), whereas, among all nongovernmental school participants, 84 (81.55%) of the regular and 19 (18.45%) of the evening students were from Addis Ababa and 18 (23.68%) of the regular and 58 (76.32%) of the evening participants were from outside Addis Ababa with significant difference across the group (p=0.000).

Concerning religion, among all governmental school participants, 254 (72.57%) of the regular and 96 (27.43%) of the evening, 37 (80.43%) of the regular and 9 (19.57%) of the evening, 14 (56.00%) of the regular and 11 (44%) of the evening and 02 (50.00%) of the regular and 2 (50.00%) of the evening students were Orthodox, Muslim, Protestant and other followers respectively with no significant difference across the group (p=0.120), in the other way, among all nongovernmental school participants, 76 (52.78%) of the regular and 68 (47.22%) of the evening, 16 (76.19%) of the regular and 5 (23.81%) of the evening, 10 (76.92%) of the regular and 3 (23.08%) of the evening and 1 (100.00%) of the evening

students were Orthodox, Muslim, Protestant and other followers respectively with no significant difference across the group (p=0.054).

Concerning living arrangements, among all governmental school participants, 301 (85.51%) of the regular and 51 (14.49%) of the evening, 01 (3.03%) of the regular and 32 (96.97%) of the evening and 5 (12.50%) of the regular and 35 (87.50%) of the evening students were living with parents and relatives, alone and spouse, friends, boy/girlfriends and employer house respectively with significant difference across the group (p= 0.000). whereas, among all nongovernmental school participants, 97 (78.23%) of the regular and 27 (21.77%) of the evening, 3 (15.79%) of the regular and 16 (84.21%) of the evening and 2 (5.56%) of the regular and 34 (94.44%) of the evening students were living with parents and relatives, alone and spouse, friends, boy/girlfriends and employer house respectively with significant difference across the group (p= 0.000).

Concerning marital status, among all governmental school participants, 307 (75.43%) of the regular and 100 (24.57%) of the evening, 16 (100.00%) of the evening and 02 (100.00%) of the evening students were single, married and divorced and separated respectively with significant difference across the group (p=0.000) whereas, among all nongovernmental school participants, 101 (64.74%) of the regular and 55 (35.26%) of the evening, 22 (100%) of the evening and 1 (100.00%) of the regular students were single, married and divorced and separated respectively with significant difference across the group (p=0.000).

Concerning mother educational status, among all governmental school participants, 118 (56.46%) of the regular and 91 (43.54%) of the evening, 93 (91.18%) of the regular and 9 (8.82%) of the evening and 94 (85.45%) of the regular and 16 (14.55%) of the evening students' mother educational status was illiterate, read and write, primary and secondary and above education level respectively with significant difference across the group (p=0.000). whereas, among all nongovernmental school participants, 19 (24.36%) of the regular and 59 (75.64%) of the evening, 24 (75.00%) of the regular and 8 (25.00%) of the evening and 94 (85.45%) of the regular and 16 (14.55%) of the evening students' mother educational status was illiterate, read and write, primary and secondary and above education level respectively with significant difference across the group (p=0.000).

Concerning father educational status, among all governmental school participants, 76 (50.00%) of the regular and 76 (50.00%) of the evening, 80 (79.21%) of the regular and 21

(20.79%) of the evening and 143 (88.82%) of the regular and 18 (11.18%) of the evening students' father educational status was illiterate, read and write, primary and secondary and above education level respectively with significant difference across the group (p=0.000). whereas, among all nongovernmental school participants, 10 (16.67%) of the regular and 50 (83.33%) of the evening, 19 (65.52%) of the regular and 10 (34.48%) of the evening and 73 (86.90%) of the regular and 11 (13.10%) of the evening students' father educational status was illiterate, read and write, primary and secondary and above education level respectively with significant difference across the group (p=0.000).

Generally, there is significant difference between regular and evening students across the group with the variables (age, marital status, living arrangement, employment status, place of origin, mother educational status and father educational status) in both school types (Governmental and nongovernmental schools). whereas, there is no significant difference across the group with the variables sex and religion. See (Table 2).

Table 2.Socio demographic characteristics comparison among the students 2019

School Type	Variables		Regular N %	Evening N %	P-value
Governmental schools	**Age**	15-19	303 (88.60)	39 (11.40)	0.000
		20-24	4 (4.82)	79 (95.80)	
Nongovernmental schools		15-19	101 (80.80)	24 (19.20)	0.000
		20-24	1 (1.85)	53 (98.15)	
Governmental schools	**Sex**	Male	124 (71.26)	50 (28.74)	0.710
		Female	183 (72.91)	68 (27.09)	
Nongovernmental schools		Male	47 (58.02)	34 (41.98)	0.798
		Female	55 (56.12)	43 (43.88)	
Governmental schools	**Place of origin**	Addis Ababa	228 (88.72)	29 (11.28)	0.000
		Out of Addis Ababa	79 (47.02)	89 (52.98)	
Nongovernmental schools		Addis Ababa	84 (81.55)	19 (18.45)	0.000
		Out of Addis Ababa	18 (23.68)	58 (76.32)	
Governmental schools	**Religion**	Orthodox	254 (72.57)	96 (27.43)	0.120
		Muslim	37 (80.43)	9 (19.57)	
		Protestant	14 (56.00)	11 (44)	
		others	02 (50.00)	2 (50.00)	
Nongovernmental schools		Orthodox	76 (52.78)	68 (47.22)	0.054
		Muslim	16 (76.19)	5 (23.81)	
		Protestant	10 (76.92)	3 (23.08)	
		others	0 (0.00)	1 (100.00)	
Governmental schools	**Living Arrangement**	With Parents and Relatives	301 (85.51)	51 (14.49)	0.000
		Alone	01 (3.03)	32 (96.97)	
		Spouse, Friends, Boy/ girlfriends, Employer house	5 (12.50)	35 (87.50)	
Nongovernmental schools		With Parents and Relatives	97 (78.23)	27 (21.77)	0.000
		Alone	3 (15.79)	16 (84.21)	
		Spouse, Friends, Boy/ girlfriends, Employer house	2 (5.56)	34 (94.44)	
Governmental schools	**Marital status**	Single	307 (75.43)	100 (24.57)	0.000
		Married	0 (0.00)	16 (100.00)	
		Divorced, separated	0 (0.00)	02 (100.00)	
Nongovernmental schools		Single	101 (64.74)	55 (35.26)	0.000
		Married	0 (0.00)	22 (100)	
		Divorced, separated	1 (100.00)	0 (0.00)	
Governmental schools	**Employment status**	Self-employed, Paid stable	0 (0.00)	63 (100.00)	0.000
		Housemaid and daily labourer	0 (0.00)	38 (100.00)	
		Student with no self-income generation	307 (94.75)	17 (5.25)	
Nongovernmental schools		Self-employed, Paid stable	0 (0.00)	42 (100.00)	0.000
		Housemaid and daily labourer	0 (0.00)	17 (100.00)	
		Student with no self-income generation	102 (85.00)	18 (15.00)	
Governmental schools	**Mother educational status**	Illiterate, read and write	118 (56.46)	91 (43.54)	0.000
		Primary	93 (91.18)	9 (8.82)	
		Secondary and above	94 (85.45)	16 (14.55)	
Nongovernmental schools		Illiterate, read and write	19 (24.36)	59 (75.64)	0.000
		Primary	24 (75.00)	8 (25.00)	
		Secondary and above	58 (86.57)	9 (13.43)	
Governmental schools	**Father educational status**	Illiterate, read and write	76 (50.00)	76 (50.00)	0.000
		Primary	80 (79.21)	21 (20.79)	
		Secondary and above	143 (88.82)	18 (11.18)	
Nongovernmental schools		Illiterate, read and write	10 (16.67)	50 (83.33)	0.000
		Primary	19 (65.52)	10 (34.48)	
		Secondary and above	73 (86.90)	11 (13.10)	

7.3. Risky Behaviours Comparison among Regular and Evening Students

Individual participants were asked if they had had ever sexual intercourse and responded that 79 (19.3%) regular students and 145 (74.4%) evening students had practiced.

The magnitudes of risky sexual behaviours among regular and evening students were 66 (16.14%: 95% CI: 12.7%, 19.8%) and 123 (63.07%: 95% CI: 56.4%, 70.2%) respectively with significant difference across these groups (P =0.000).

Among sexually active students, 13 (16.5%) of the regular and 34 (24.1%) of the evening students had experience of committing paid sex, with significant difference across the groups (p=0.003).

Among sexually active students 33 (41.8%) of the regular and 34 (24.8%) of the evening secondary school students had multiple sexual partner 12 months prior to the data collection, with significant difference among these groups (p=0.008).

Regarding condom using habit 63 (79.7%) of the regular and 122 (87.1%) of the evening students were practicing inconsistent condom use, with significant difference among the groups (p=0.000).

Among students who commence sex, 10 (12.7%) of the regular and 2 (1.5%) of the evening students had started sex before the age of 15 years with no significant difference among these groups (p=0.290).

Regarding alcohol and khat, 10 (9.9%) of the regular and 14 (17.1%) of the evening students had history of sexual intercourse by the influence of alcohol with no significant difference across the group (p=0.758). 9 (81.8%) of the regular and 11 (78.6%) of the evening students had used condom and among those who had committed alcohol derived sex 2 (18.2%) of the regular and 3 (21.4%) of the evening students didn't use condom with no significant difference across the group (p=0.461). 28 (6.8%) of the regular and 17 (8.7%) of the evening students had habit of chewing khat with no significant difference across the group (p=0.125). Among those who had history of chewing khat, 7 (25.9%) of the regular and 5 (31.3%) of the evening students have been exposed to chat derived sex with no significant difference across the group (p=0.303). 104 (25.4%) of the regular and 91 (46.7%) of the evening students had history of substance abuse (alcohol and khat) with significant difference across the group (p=0.000).

Concerning unwanted pregnancy, 14 (29.2%) of the regular and 22 (23.9%) of the evening students had faced unwanted pregnancy with no significant difference among the groups (p=0.199).

Among all the respondents, 382 (93.4%) of the regular and 118 (60.5%) of the evening students have been monitored/ controlled by their family with no significant difference across the group (p=0.374). 307 (75.1%) of the regular and 178 (91.3) of the evening students had experience of discussion on sexual issues with no significant difference across the group (p=0.374).

Among those who begun sex, 10 (12.7%) of the regular, 2 (1.5%) of the evening, 68 (86.1) of the regular and 89 (65.4%) of the evening, and 1 (1.3%) of the regular and 45 (33.1%) of the evening students had started sexual intercourse at the age group of 10-14, 15-19 and 20-24 respectively with no significant difference across the group (p=0.290).

Among those who committed sex, 46 (58.2%) of the regular and 56 (39.4%) of the evening students had peer pressure with no significant difference across the group (p=0.313).

Among all respondents, 110 (26.9%) of the regular and 69 (35.4%) of the evening students had history of watching pornographic films with significant difference across the group (p=0.000).

There is significant difference in risky sexual behaviours between regular and evening secondary school students with the variables (watching pornographic films, practicing paid sex, discussion on sexual issues, using substance, numbers of sexual partners within 12 months), but insignificant when condom using frequency is added to the model (Table 3).

Table 3 Risky behaviours comparison among the students Addis Ababa, 2019

Variables	School programme		p-value
	Regular n/%	Evening n/%	
Family monitoring/control			
yes	382 (93.4)	118 (60.5)	0.374
No	27 (6.6)	77 (39.5)	
Discussion on sexual issue			
Yes	307 (75.1)	178 (91.3)	0.374
No	102 (24.9)	17 (8.7)	
Sex by influence of alcohol			
yes	10 (9.9)	14 (17.1)	0.758
No	91 (90.1))	68 (82.9)	
Condom use at the time of alcohol derived sex			
Yes	9 (81.8)	11 (78.6)	0.461
No	2 (18.2)	3 (21.4)	
Chat chewing			
Yes	28 (6.8)	17 (8.7)	0.125
No	381 (93.2)	178 (91.3)	
Ever chat derived sex			
Yes	7 (25.9)	5 (31.3)	0.303
No	20 (74.1)	11 (68.8)	
Ever had sex			
Yes	79 (19.3)	145 (74.4)	0.000
No	330 (80.7)	50 (25.6)	
Age at first sex			
10-14	10 (12.7)	2 (1.5)	0.290
15-19	68 (86.1)	89 (65.4)	
20-24	1 (1.3)	45 (33.1)	
Paid sex			
Yes	13 (16.5)	34 (24.1)	0.003
No	66 (83.5)	107 (54.9)	
Risky sexual behaviours			
Yes	66 (16.14)	123 (63.07)	0.000
No	343 (83.86)	72 (36.93)	
Substance abuse			
Yes	104 (25.4)	91 (46.7)	0.000
No	305 (74.6)	104 (53.3)	
Peer pressure during sexual intercourse			
yes	46 (58.2)	56 (39.4)	0.313
No	33 (41.8)	86 (60.6)	
Watching pornographic films			
Yes	110 (26.9)	69 (35.4)	.000
No	299 (73.1)	126 (64.6)	
Number of sexual partners in the past 12 months			
None	3 (3.8)	7 (5.1)	0.008
One	43 (54.4)	96 (70.1)	
Two	33 (41.8)	34 (24.8)	
Experience of sign and symptoms of STI			
Yes	3 (3.8)	24 (17.0)	0.344
No	76 (96.2)	117 (83.0)	
Frequency of condom use			
Never	41 (51.9)	77 (55.0)	0.000
Some times	16 (20.3)	38 (27.1)	
Most of the time	6 (7.6)	7 (5.0)	
Always	16 (20.3)	18 (12.9)	
Unwanted pregnancy	14 (29.2)	22 (23.9)	0.199
Yes	34 (70.8)	70 (76.1)	
No			

7.4. Determinants of Risky Sexual Behaviours

All the candidate variables were entered in to bivariate analysis to predict risky sexual behaviours and age, sex, substance abuse (alcohol and chat), peer pressure during sexual intercourse, history of watching pornographic films, experience of discussions on sexual issues, school programmes (day and night), living arrangement, place of origin, employment status, mother and father educational status and family monitoring or control were found to be significant ($p < 0.05$).

All these candidate variables were entered in to multivariate analysis showed that peer pressure during sexual intercourse, watching pornographies movies and discussion on sexual issues had statistical significant association with risky sexual behaviours.

Accordingly the odds of risky sexual behaviours among students who had peer pressure were 3.23 times higher than students who had not peer pressure (AOR=3.233, 95% CI=1.13-9.192).

The habit of watching pornographic movies was also found to has significant associations with risky sexual behaviours and the odds of risky sexual behaviours among students who watched pornographic movies were 5.38 times at higher risk compared from those who did not watch pornographic movies (AOR=5.384, 95% CI=1.693,17.118).

Moreover discussion on sexual issues with somebody else was also found significantly associated with risky sexual behaviours. The odds of risky sexual behaviours among students who did not discuss on sexual issues were 3.29 times at higher risk than those who discussed with somebody else (AOR=3.286, 95% CI= 1.181, 9.145) see (Table 4).

Table 4 Bi variable and multi variable analysis determinants factors of risky sexual behaviours of the students, 2019

Variables	Risky sexual behaviours		COR (95% CI)	AOR (95% CI)
	yes	No		
Age				
15-19	96	371	1	1
20-24	93	44	8.168 (5.351,12.470)*	1.245 (0.319,4.865)***
Sex				
Male	91	164	1	1
Female	98	251	0.704 (0.498,0.995)**	1.977 (0.638,6.123)***
Living condition				
Parents and relatives	99	337	1	1
alone	34	18	7.193 (3.898,13.274)*	0.655 (0.106,4.045)***
Spouse, friends, boy/girl friends	42	8	19.992 (9.093,43.955)*	0.898 (0.180,4.483)***
Employer house	14	12	4.443 (1.992,9.909)*	1.256 (0.077,20.463)***
Place of origin				
Addis Ababa	75	285	1	1
Out of Addis Ababa	114	130	3.332 (2.330,4.765)*	0.818 (0.251,2.664)***
Employment status				
Self-employed and paid stable	76	29	11.745 (7.188,19.189)*	0.723 (0.151,3.455)***
Housemaid and daily labourer	32	23	6.235 (3.465,11.219)*	0.282 (0.048,1.653)***
Students with no self-income generation	81	363	1	1
Substance abuse				
Yes	110	85	0.185 (0.127,0.269)**	1.489 (0.046,48.271)***
No	79	330	1	1
Peer pressure				
Yes	94	8	3.983 (1.653,9.596)**	5.285 (1.923,14.525)**
No	93	26	1	1
Watching pornographic movies				
Yes	113	66	0.143 (0.097,0.211)**	3.193 (1.069,9.533)**
No	76	349	1	1
Religious attainting				
always	73	163	1	1
sometimes	111	246	1.008 (0.706,1.438)***	
never	5	6	1.861 (0.550,6.293)***	
Discussion on sexual issues				
Yes	103	279	1	1
No	86	136	1.713 (1.205,2.436)**	3.286 (1.181,9.145)**
Mother education status				
Illiterate, read and write	121	166	2.492 (1.635,3.811)*	3.654 (0.829,16.102)***
primary	26	108	0.825 (0.474,1.435)***	1.927 (0.333,11.166)***
Secondary and above	40	137	1	1
Family monitoring				
Yes	127	373	1	1
No	62	42	4.336 (2.791,6.735)*	0.943 (0.225,3.945)***
Alcohol				
Not at all	89	330	1	1
occasionally	91	84	4.017 (2.753,5.861)*	0.891 (0.027,29.437)***
sometimes	6	1	22.247 (2.644,187.190)*	
usually	3	0		
Khat				
Yes	35	10	9.205 (4.450,19.040)*	3.554 (0.302,41.843)***
No	154	405	1	1

***p-value<=0.001, **p-value<=0.05, ***p-value>0.05**

8. DISCUSSION

Findings from this study revealed that the magnitudes of risky sexual behaviours among evening secondary school students is 123 (63.07%: 95% CI: 56.4%, 70.2%) and higher compared with the regular secondary school students which is 66 (16.14%: 95% CI: 12.7%, 19.8%).

Watching pornographic films, peer pressure and discussion on sexual issues were significantly associated with risky sexual behaviours.

According to this study the magnitude of risky sexual behaviour among regular secondary school students is lower compared to studies whereas the magnitude of risky sexual behaviours among evening school students is higher (5, 13, 15, 22, 24, 33). The regular prevalence is comparable with study in Boditi and higher than Humera and Bahir Dar (10, 39-41). The discrepancy may be due to data collection time, cultural difference and different approaches taken to quantify risky sexual behaviours.

In this particular study, Watching pornographic films, peer pressure, discussion on sexual issues were found to be significant predictors of risky sexual behaviour. All of these found to be significant predictor of risky sexual behaviour when controlled for school programme too. The significance of the predictors is in parallel with other studies.

The odd of risky sexual behaviour is more likely among those who view pornography films as compared with those who do not. This figure is consistent with studies done in Ethiopia and India (10, 42-44). These films might stimulate the motives of the students to practice what they have seen.

The odds of risky sexual behaviour are more likely among those who have peer pressure compared with those who do not have peer pressure. This is also consistent with other studies done in Ethiopia (10, 20, 41).

The odds of risky sexual behaviours among participants who did not discussed on sexual issue was more likely compared with those who discussed. This finding is in line with a study done in Northern Ethiopia (21). This is because discussions on sexual issues with somebody else may raise the awareness of students to reduce the odds of risky sexual practice.

In this study 13 (16.5%) of the regular and 34 (24.1%) the evening students had committed paid sex. Prevalence of paid sex among regular student is slightly consistent with studies done in Mizan high school and preparatory school students and Shashemene and Belchana preparatory schools and less than study done in Addis Ababa which accounts 18.87%, 17.1% and 20.6% respectively (15, 24, 41).

In this study, students whose parents monitor or control where they have been was 93.4% among the regular and 60.5% among the evening students. The regular finding is high and the evening one is comparable with finding in study done in Shashemene and Belchana preparatory school (24).

In this study all the participants who ever had sexual experiences 33 (41.8%) of the regular and 34 (24.8%) of the evening participants had multiple sexual partners 12 months prior of the survey. This is lower compared to studies done in New York, 65.6%, Ethiopia 50.94% and 55.9% in Shashemene and Belchana preparatory school and the regular participants had comparable multiple sexual partner with study done in Central Tanzania which is 40% (15, 22, 24). The discrepancy may be due to awareness raising, time difference, cultural difference.

In this study 63 (79.7%) of the regular and 122 (87.1%) of the evening students used condom inconsistently. This is higher than study done in Addis Ababa (41). The discrepancy may be due to time difference between the two studies, attention given to HIV prevention is decreased this time.

There is significant difference in risky sexual behaviour between regular and evening secondary school students with the variables (peer pressure, watching pornographic films, practicing paid sex, discussion on sexual issues, using substance, numbers of sexual partners within 12 months and religion), but insignificant when condom using frequency is added to the model.

9. STRENGTHS AND LIMITATIONS OF THE STUDY

9.1. Strengths of the Study

Selection of participants with probability method both from the regular and evening programme and since there is no previously done study on risky sexual behaviours among evening secondary school students; this will give some evidences.

9.2. Limitations of the Study

Risky sexual behaviours estimates are based on self-reported measures, which are subjected to social desirability and recall bias. This study is restricted to only in school youths.

10. CONCLUSION AND RECOMMENDATIONS

10.1. Conclusion

Large proportions of students were engaged in risky sexual behaviours specially the evening secondary school students. Peer pressure, watching pornographic films and discussions on sexual issues were significantly associated with risky sexual behaviours. Preventive measures like open discussion on sexual issues, prohibiting pornographic film channels and monitoring students peer and activities are important preventive measures.

10.2. Recommendations

To Families and parents

Facilitate free discussion with youths on sexual issues at home and monitoring of student's activities and their peers.

To schools

Better to establish reproductive health issues club both in the regular and evening programmes and facilitate and strengthening positive school peer education programmes and peer education on life skills

To Decisions makers and planners

Legal prohibitions of pornographic films websites

Better to standardise all secondary schools to have reproductive health club both in the regular and evening programmes

To Researchers

Better to study at community level

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ANNEX1: Informed Consent English Form

Hello, I am_____ I am working as data collector in this research (study). The purpose of the study is to examine determinants and magnitude of risky sexual behaviours among regular and evening secondary school students in Addis Ababa, a comparative cross sectional study which helps to generate useful information for planning appropriate reproductive health strategies and interventions for high school students. To achieve this purpose your genuine participation in filling the questionnaire with truth information is very important and you are highly encouraged to do so. I would like to assure you, your name will not be written on this form and all the information gathered will be kept strictly confidential. You have full right to refuse, to take part of, or to interrupt at any time. But the information that you will give us is quite useful to bring change in reproductive health services for high school student.

1. Are you willing to proceed to the questionnaire? Yes ____ No ____
2. If yes, proceed to the questionnaire
3. If no, thank the person for listening politely and go to the next participant

Name and signature of data collector

Name _____ signature _____date

Supervisor's Name and signature _____

Principal investigator's name and address

Name Sisay Jemaneh

Telephone 09-10-345855

E-mail sisayayelech@gmail.com

ANNEX2: English Version Questionnaire

Instruction: Circle the code number given parallel to the answer you choose and for questions that you give direct answer, write the answer in the space provided.

I. Socio-demographic characteristics

S.No	Characteristics/variables	responses	Skip to
101	Age	……	
102	Sex	1. Male 2. Female	
103	School programme	1. Regular 2. Evening	
104	School ownership	1. Governmental 2. Nongovernmental	
105	Grade	1. 9^{th} 2. 10^{th}	
106	Living Arrangements	1. With parents 2. With relatives 3. Alone 4. With spouse 5. With friend/s 6. With boy/girlfriend 7. Employer house	
107	Marital status	1. Single 2. Married 3. Divorced 4. Widowed 5. Separated	
108	Place of origin	1. Addis Ababa 2. Out of Addis Ababa	
109	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other	
110	Employment status	1. Self-employed 2. Paid stable employment 3. Housemaid 4. Daily labourer 5. Student	

II. Determinants of risky sexual behaviours

S.No	Characteristics/variables	responses	Skip to
201	Mother educational status	1. Illiterate 2. Read and write	

		3. Elementary 4. Secondary and above	
202	Father educational status	1. Illiterate 2. Read and write 3. Elementary 4. Secondary and above	
203	Family Monitoring	1. Yes 2. No	
204	Discussions about sexual issues with anyone else?	1. Yes 2. No	
205	With whom did you discussed about natural sex	1. Families 2. Friends 3. Boy/girl/ friend/s 4. Teachers 5. Others	
206	Religious attending	1. Always 2. Sometimes 3. Never	
207	Alcohol Consumption	1. Not at all 2. occasionally 3. sometimes 4. Usually	
208	Ever commit sex after alcohol consumption	1. Yes 2. No	
209	If yes did you use condom alltime	1. Yes 2. No	
210	Watch pornographic film	1. Yes 2. No	
211	Ever Chewing Khat	1. Yes 2. No	
212	How frequently you have chewing khat in the last 12 months	1. Not at all 2. occasionally 3. Once a week 4. Twice a week 5. Above twice a week	
213	Ever committed sexual intercourse after chewing khat	1. Yes 2. No	

Magnitude of risky sexual behaviour

S.No	Characteristics/variables	responses	Skip to
301	Ever practice sex	1. Yes 2. No	
302	If yes age at first sex	…….	
303	Reason for initiation of sexual intercourse	1. Personal pressure 2. Peer pressure 3. Influence of substance abuse 4. By force 5. Economic/material benefit	
304	Number of sexual partners in life time	1. None 2. One 3. Two and above	
305	Number of sexual partners in the past 12 months	1. None 2. One 3. Two and above	
306	Ever condom use	1. Yes 2. No	
307	Reasons to use condoms during sexual intercourse (mark all reasons)	1. To prevent pregnancy 2. To prevent HIV/STI 3. Don't know 4. Other specify……..	
308	Frequency of condom use during any sexual episode	1. Never used 2. Sometimes 3. Most of the time 4. Always	
309	Reason for not/Inconsistent Condom Use (mark all reasons)	1. Partner objection 2. Used other contraceptive 3. Don't like 4. Substance abuse 5. Trust partner 6. Don't think of it 7. Others……	
310	Perception of acquiring HIV/STI	1. No chance 2. Low chance 3. High chance 4. Don't know	
311	Ever experienced the sign and symptoms of STI (ulcer or/and discharge)	1. Yes 2. No	
312	Exposed for risky sexual behaviours	1. Yes 2. No	
313	Ever used any modern contraceptive	1. Yes 2. No	
314	Ever exposed for unwanted pregnancy? (for females only)	1. Yes 2. No	
315	Ever practiced induced abortion? (for females)	1. Yes 2. No	
316	Ever practiced commercial sex	1. Yes 2. No	

ANNEX 3: Informed Consent Amharic Form

ስሜ_____ይባላል፡፡ በዚህ ጥናት የምሰራው የመረጃ ሰብሳቢነት ነው፡፡ የዚህ ጥናት አላማ በአዲስ አበባ ከተማ የሁስተኛ ደረጃ ትምህርት ቤት ተማሪዎች ላይ ስለ ፕንቃቄ የጎደለው ወሲባዊ ባህሪያት ችግር ስፋት እና ምክንያቶች ለማወቅ እና ከጥናቱ የሚገኘው ሃሳብ ለሁስተኛ ደረጀ ተማሪዎች ጤናማ የስነ ተዋልዶ ጤና አገልግሎት ፍትሃዊ በሆነ መልኩ ለቀንና ለማታ ተማሪዎች ተደራሽ በማድረግ ለግብዓትነት ይጠቅማል፡፡

የዚህን ጥናት አላማ ለማሳካት የአንቺ/ተ ቀና እና ትክክለኛ መልስ በመስጠት እንድትተባበሪኝ/ረኝ በአክብሮት እየጠየቅሁ በዚህ ቅፅ ላይ ስምሽ/ህ እንደማይፃፍ እና ማንኛዉም የምትሰጭኝ/ጠኝ ሃሳብ ሚስጥራዊነቱ የተጠበቀ መሆኑን አረጋግጠልሻለሁ፡፡ በዚህ ጥናት የመሳተፍ፣ ያለመሳተፍ ወይም በፈለግሽው/ከው ጊዜ የማቋረጥ ሙሉ መብትሽ/ሕ የተጠበቀ ነው፡፡ የምትሰጭው/ጠው ሃሳብ እጅግ ጠቃሚ እና የማይተካ ሚና አለው፡፡

በጥናቱ ለመሳተፍ ፈቃደኛ ነሽ/ህ

1. አዎ
2. አይደለሁም

ANNEX 4: Amharic version questionnaire

ቀጥሎ ለቀረቡት ጥያቄዎች የእርሶን መልስ ይሙሉ፡፡

ክፍል አንድ

ተቁ	መጠይቅ/ ባህሪያት	አማራጭ መልሶች	ማስፍ
101	እድሜ	.....	
102	ፃታ	1. ወንድ 2. ሴት	
103	የትምህርት ፕሮግራም	1. የቀን 2. ማታ	
104	የሚማሩበት ትምህርት ቤት ባለቤትነት	1. የመንግስት 2. መንግስታዊ ያልሆነ	
105	የትምህረት ደረጃ	1. 9ኛ 2. 10ኛ	
106	የሚኖሩት ከማን ጋር ነው?	1. ከወላጆቼ ጋር 2. ከዘመድ ጋር 3. ብቻዬን 4. ከባል/ሚስትጋር 5. ከጓደኛዬ/ኞቼጋር 6. ከፍቅር ጓደኛዬ ጋር 7. ከአሰሪዬ ቤት	
107	የጋብቻ ሁኔታ	1. ያላገባ 2. ያገባ 3. የፈታ 4. ባል/ሚስት የሞተባት/በት 5. የተለያየ	
108	የትውልድ ቦታ?	1. አዲስ አበባ 2. ከአዲስ አበባ ውጭ	
109	ሀይማኖት?	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ	
110	ስራ/መተዳደሪያ	1. የግ ልስራ 2. ተቀጣሪ (የመንግስት/የግል) 3. የቤት ሰራተኛ 4. የቀን ሰራተኛ 5. ተማሪ	

ክፍል ሁለት

ተቁ	መጠይቅ/ባህሪያት	አማራጭ መልሶች	ማስፍ
201	የእናት የትምህርት ደረጃ	1. ያልተማረች 2. ማንበብ እና መፃፍ 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃና ከዚያ በላይ	
202	የአባት የትምህርት ደረጃ	1. ያልተማረ 2. ማንበብ እና መፃፍ 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ እና ከዚያ በላይ	
203	ቤተሰብ ይቆጣጠርሻል/ሃል ይከታተልሻል/ሃል?	1. አዎ	

		2. አይ	
204	በስነ-ተዋልዶ ጤና ዙሪያ ግልፅ ውይይት ታደርጊያለሽ/ጋለህ?	1. አዎ 2. አይ	
205	በስነ-ተዋልዶ ጤና ዙሪያ ከሚከተሉት ውስጥ ከየትኞች ጋር ግልፅ ውይይት አድርገሀል/ሻል?	1. ከቅርብ ጓደኛየ/ኞቼ 2. ከቤተሰቤ/ቦቼ 3. ከፍቅር ጓደኛየ/ኞቼ 4. ከአስተማሪየ/ዎቼ 5. ሌሎችሰዎች	
206	ቤተ እምነት የመሄድ ልምድሽ/ህ ምን ይመስላል?	1. ሁልጊዜ እሄዳለሁ 2. አልፎ አልፎ እሄዳለሁ 3. በፍፁም አልሄድም	
207	አልኮል የመጠጣት ልምድሽ/ህ ምን ይመስላል ?	1. በጭራሽ አልጠጣም 2. አልፎአልፎ 3. አንዳንድ ጊዜ እጠጣለሁ 4. ሁልጊዜ እጠጣለሁ	
208	በአልኮል ሀይል በመገፋፋት ወሲብ/ የግብረ-ስጋ ግንኙነት ፈፅመሽ/ህ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አይ	
209	መልስህ/ሽ አዎ ከሆነ ኮንዶም ተጠቅመህ/ሽ ነበር?	1. አዎ 2. አይ	
210	የወሲብ ስሜት ቀስቃሽ ፊልም ታያለሽ/ህ?	1. አዎ 2. አይ	
211	ጫት ትቅሚያለሽ/ህ?	1. አዎ 2. አይ	
212	ባለፈው አንድ ዓመት ውስጥ ስንት ጊዜ ጫት ትቅም ነበር?	1. ጫት ቅሜ አላውቅም 2. አልፎ አልፎ 3. በላምንት አንድ ጊዜ 4. በላምንት ሁለት ጊዜ 5. በላምንት ከሁለት ጊዜበላይ	
213	ጫት ከቃምክ/ሽ በኋላ የግብረ ስጋ ግንኙነት ፈፅመህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አይ 3. አላስታውስም	

ክፍል ሶስት

ተቁ	መጠይቅ/ባህሪያት	አማራጭ መልሶች	ማስፍ
301	ወሲባዊ ግንኙነት አድርገሽ/ህ ታውቂያለሽ/ቃለህ?	1. አዎ 2. አይ	
302	ወሲብ/ ግብረ-ስጋ ግንኙነት የጀመረሽው/ከው በስንት ዓመትሽ/ህነው?	……	
303	አዎ ከሆነ ምንድን ነበር ያነሳሳሽ/ህ?	1. በራሴ ፍላጎት 2. የአቻ/ የጓደኛግፊት 3. አልኮል (ሴላ አደንዛዥ እፅ ተጠቅሜ) 4. ተደፍሬ 5. ገንዘብ/ሴላ ጥቅም ለማግኘት	
304	በህይወት ዘመንሽ/ህ የነበረየፍቅር / የወሲብ ጓደኛ ብዛት?	1. ምንም የፍቅር ጓደኛ አልነበረኝም 2. አንድ 3. ሁለት እና ከዚያ በላይ	
305	ባለፉት 12 ወራት ውስጥ የነበረ/ረየፍቅር /የወሲብ ጓደኛ/ኞች ብዛት?	1. ምንም የፍቅር ጓደኛ አልነበረኝ 2. አንድ 3. ሁለት እና ከዚያ በላይ	
306	በወሲብ / ግብረ-ስጋ ግንኙነት ጊዜ ኮንዶም	1. አዎ	

	ተጠቅመሽ/ህ ታውቂያለሽ/ህ?	2. አይ	
307	ኮንዶምስመጠቀምምክንያቶችህ/ሽምንነበሩ?(ሁሉንምምክንያቶችአመልክት/ቺ)	1. እርግዝናን ለመከላከል 2. ኤች.አይ.ቪ እና ሌሎች አባላዘር በሽታዎችን ለመከላከል 3. ሌሎች ምክንያቶች----------	
308	በወሲብ / ግብረ-ስጋ ግንኙነት ጊዜ ኮንዶም የመጠቀም ልምድሽ/ህ ምን ይመስላል?	1. በፍፁም ተጠቅሜ አላውቅ 2. አንዳንድ ጊዜ 3. አብዛኛውን ጊዜ 4. ሁልጊዜ	
309	በወሲብ / ግብረ-ስጋ ግንኙነት ጊዜ ኮንዶም በሞራሽ ላለመጠቀም/አልፎአልፎ ላለመጠቀም ምክንያቱ ምንድነው?	1. ጓደኛዬ ስለማይፈልግ 2. ሌላ መከላከያ መንገድ ስለምጠቀም 3. ስለማልወድ 4. አልኮል ስጠጣ (ስሰክር) 5. ጓደኛዬን ስለማምነው 6. አስቢውአላዉቅም	
310	በኤችአይቪ /በሌላ አባላዘር ኢንፌክሽን የመያዝ ስጋት?	1. በሞራሽ አልሰጋም 2. የመያዝ እድሌ ትንሽ ነው 3. የመያዝ እድ ሌሰፊ ነው 4. አላውቅም/ መገመት አልችልም	
311	የአባላዘር በሽታ ምልክት ታይቶብህ/ሽ ያውቃል? (የብልት ቁስለት ወይም የብልት ፈሳሽ)	1. አዎ 2. አይ 3. አላስታውስም	
312	ወሲባዊ/ግብረ-ስጋ ግንኙነት አድርገው ጥንቃቄ የገደለው ወሲባዊ ባህሪ?	1. ተጋላጭ ነኝ 2. ተጋላጭ አይደለሁም	
313	ዘመናዊ የእርግዝና መቆጣጠሪያ ተጠቅመሽ/ህ ታዉቂያለሽ?	1. አዎ 2. አይ	
314	ሳልተፈለገ እርገዝና ተጋልጠሽ ታውቂያለሽ? (ለሴቶችብቻ)	1. አዎ 2. አይ	
315	አዎ ከሆነ ውርጃ አድርገሽ ታውቂያለሽ? (ለሴቶችብቻ)	1. አዎ 2. አይ	
316	ተከፍሎሽ/ህ (ከፍለሽ/ህ) ለሌላ ጥቅም ወሲባዊ ግንኙነት አድርገሽ/ህ ታውቂያለሽ/ቃለህ?	1. አዎ 2. አይ	

ANNEX 5: Curriculum Vitae

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PHONE No Mobile 0910345855
Email: sisayayelech@gmail.com

PERSONAL INFORMATION

- Name – Sisay Jemaneh
- Date Of Birth – Nov 12, 1978
- Place Of Birth - Hageremariam
- Sex - Male
- Marital Status - Single
- Nationality - Ethiopia

EDUCATION

PRIMARY AND SECONDARY SCHOOL

- Sholagebeya elementary school (North Shewa Zone Hageremariam Wereda)
- Hailemariam Mamo high school (Deberebirhan)

HIGHER EDUCATION

- Debire Berhan heath science college–Diploma in clinical Nurse
- Kea-med health science college - Bachelor of Science (BSC) in Public Health
- AAU attending MPH (specialty in health system management) 2nd year student

PROFESSIONAL EXPERIENCE, JOB TITLE, ORGANIZATION, ADDRESS

- North shoa zone kewet wereda tere **health center head** from June 12/2001E.C - Augest 30/2003 E.C
- Nefas silk lafito wereda 06 health center **emergency case team leader** from Nov 01/2004 E.C- Oct 30/2006 E.c , from Nov 01/2006 E.C to Sept 30/2010 E.C **health promotion disease prevention core process coordinator** and additionally I have been worked as **UHEW and VCT** focal at wereda 06 health center

LANGUAGE SKILL

LANGUAGE	Speaking	Writing	Listening	Reading
AMHARIC	Excellent	Excellent	Excellent	Excellent
ENGLISH	Excellent	Excellent	Excellent	Excellent

REFERENCES

Denek Tsega----Arada subcity semen Health center curative service core process coordinator

Phone No 0913317101,

Getaneh Teshome --- Nefas silk lafito werda 05 health center staff nurse

Phone No 0923651129,

Teshome Tamirat ---Nefas silk lafito subcity curative service core process coordinator BSC

Phone No 0911186043

INTERESTS

- Reading books, help others
- To apply my knowledge, to share & to improve my knowledge as well as to help all mankind.

TRAININGS /CERTIFICATION

- VCT
- TT lid surgery
- TB and HIV co infection
- IDSR Integrated disease Surveillance and response
- Logistic management for family planning
- Quality improvement
- Clinical Nutrition care for children and adults with HIV
- STI Syndromes management
- Monitoring and evaluation 3days training
- PITC

ASSURANCE OF PRINCIPAL INVESTGATOR

The undersigned MPH student declares that this thesis is my original work in partial fulfilment for the degree of masters of public health in speciality in health system management.

Name of the investigator: Sisay Jemaneh

Date._____Signature_____

APPROVAL OF THE PRIMARY ADVISOR AND EXAMINING BOARD

Name of the primary advisor: Professor Damen Haile Mariam

Date._____Signature_____

Name of external examiner_____

Date._____Signature_____

Name of internal examiner_____

Date._____Signature_____