



**RISKY SEXUAL BEHAVIOR AND ASSOCIATED FACTORS AMONG
ODA BULTUM UNIVERSITY STUDENTS, EASTERN ETHIOPIA**

BY

LATERA DANDENA

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MAJOR ADVISOR: LEMESSA OLJIRA (PhD. ASSOCIATE PROFESSOR)

CO-ADVISOR: MERGA DHERESA (PhD, ASSOCIATED PROFESSOR)

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HARAMAYA UNIVERSITY, HARAR

STATEMENT OF THE AUTHOR

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Name: Latera Dandena Signature: 

Date of submission: September 27, 2021

School: School of Graduate Studies

Department: Public Health

BIOGRAPHICAL SKETCH

The author was born in West Shoa Zone, Tokke Kuttahe district in 1991. He completed his primary education in Gorosole primary school and his high school education at Guder high School. He attended in Ambo preparatory from 2009-2010. Then he joined Jimma University in September 2010 and graduated with BSc degree in Public Health Officer in July 2014. After his graduation, he has worked in Oromia Regional Health Biro (ORHB), Zonal health of West Harerghe, Gemechis District, Kasehija and Qunni Health Center as Director, Provider, Maternal and Child Health coordinator, focal of Youth friendly service and supervisor of health extension workers beside he has joined Haramaya University for his postgraduate study in October 2018.

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ABBREVIATIONS and ACRONYMS

AOR	Adjusted Odd Ratio.
BCC	Behavioral Change Communications
CDC	Centers for Diseases Control and Prevention
COR	Crude Odd Ratio
CSA	Central statistical agency
CI	Confidence Interval
EBR	Ethiopian Birr
EDHS	Ethiopia Demographic and Health Survey
ESD	Early Sexual Debut
FDG	focus group discussion
FMOH	Federal minister of health
FMOE	Federal minister of education
MSP	multiple sexual partner
OR	Odd Ratio
OBU	Oda Bultum University
PYD	positive and youth development
RH	Reproductive Health
RSB	Risky Sexual Behavior
SRH	Sexual and Reproductive Health
SPSS	statistical package of social science
STI	Sexual Transmitted Infections
UNAIDS	United Nations Program on AIDS
YFS	youth friendly services

ABSTRACT

Background: *Early sexual debut, having multiple sex partners, alcohol abuse and non-use of condoms are the risky sexual behaviors among young people that make them vulnerable to many health problems. The numbers of higher learning institutions increase in number and size in Ethiopia. However, there is limited information on the sexual and reproductive health aspects of University students in Ethiopia. This study aimed to assess the magnitude of risky sexual behaviors and predictors of undergraduate students of Oda Bultum University, Chiro town, Eastern Ethiopia.*

Objectives: *The main objective of the study was to identify student's risky sexual behavior and predictors among Oda Bultum University, Eastern Ethiopia from January 3 to February 15, 2021.*

Methods: *the study was Institutional based quantitative cross sectional conducted by using a pre tested self-administer questionnaire among randomly selected 371 students to determine magnitude of risky sexual behavior of Oda Bultum University undergraduate regular students in Chiro, Eastern Ethiopia. The collected data were cleaned, coded and entered into Epi data version 3.02 and then exported to SPSS Ver.25 for analysis. Binary logistic regression was performed to assess the association between each independent variable and dependent variables. Odd Ratios along with 95% Confidence intervals was used to identify factors associated with the outcome variable using multivariable logistic regression and then the level of statistical significance was declared at p-value less than 0.05.*

Result: *Among 355(95.7%) respondents, 235(66.2%) ever engaged sexual and Over all finding showed 145(61.7%) 95%CI (55.5%-67.9%) students of ever practice risky sexual behaviors. Those students age 19-22 years old were 3.59 more likelihood of risky than 23-27 years old (AOR= 3.59; 95%CI: 1.61, 8.02). Senior students were more likely involved risky sexual behavior than junior (AOR 3rd =3.56; 95%CI: 1.05, 12.09). Respondents attend on video, pornography and entertainment was 4.6 more likelihood of risky sexual behaviors (AOR= 4.68; 95%CI: 2.02, 10.85). Participants had intercourse after drunken alcohol 7.8 more likely engaged to risky sexual behaviors (AOR=7.86; 95%CI: 3.46-17.86). Had information of Sexuality and Reproductive Health was (AOR =.05; CI: 0.02-.16) 95% less likely to practice risky sexual behavior compared to those didn't have information of sexuality*

Conclusion: *this study disclosed high risky sexual behavior among the study population. Risky sexual behaviors were statistical positive associated with group age, academic year; attend on video, pornography and entertainment, and drunken alcohol. However, Risky sexual behaviors were negatively associated with information of sexuality and reproductive health.*

1. INTRODUCTION:

1.1. Background

Risky sexual behaviors are becoming an important problem all over the world. The Centers for Disease Control and Prevention defines Risky Sexual Behaviors as Sexual behaviors leading to unintended pregnancies and sexually transmitted infections (STI) include Human Immunodeficiency Virus and acquired immune-deficiency syndrome (Brener et al., 2004). It includes having multiple sexual partners, having sex without using a condom or other contraceptive method. In addition to that, several authors have included the following factors in to their definition of RSB: initiation of first sex at early age before 18 years (Madise et al., 2007) sexual activity done under the influence of alcohol and anal intercourse, sexual violence and transactional sex (Abels and Blignaut, 2011) and paid sex (Silas et al., 2013)

More than half of the world population constitutes of young people's less than 25 years old, and majority of these populations live in developing country. Young peoples are at high risk of practicing high risk sexual behaviours, because of the risk taking behaviour during this age group (Kassa et al., 2016). Students of higher learning institutions are people with multiple socio-cultural grounds begin autonomous life at younger age for first time and they rush to a range of maladaptive high-risk extracurricular activities like alcohol use, substance and sexual abuse (Tura et al., 2012).

In sub-Saharan Africa, inconsistent condom use during sexual intercourse, especially among men, continues to pose a serious health challenge with a high likelihood of negatively affecting the region's socioeconomic development. This condition is exacerbated by cultural beliefs, customs, and practices and the lack of a coherent regional approach to comprehensively tackle such issues. Risky sexual behavior among youths and adults results in increased prevalence of HIV/AIDS infections, leading to high death rates among the economically active age group, 15-60 years (UNAIDS, 2018).

Globally, young people in sub-Saharan Africa continue to be the population at the greatest risk for sexually transmitted infections such as HIV and AIDS, Syphilis, and Gonorrhoea and

unwanted pregnancy. Research has shown significant relationship between young people's risky sexual behaviors and their vulnerability to these STIs (Darteh and Dickson, 2019).

Study in southern Ethiopia on risky sexual behaviors among under graduate Madda Walabu university students show that more than half 330 (54.6%); 95% of respondents had involved in sexual risk behaviors at a mean age of 19.5 years. 116 (35%); 95% of those that reported to have had sex had more than one sexual partner. Among 244 students who reported to a frequency of condom use, nearly three quarter (70.9%); 95% of the respondents were identified as using condom inconsistently (Wordofa and Shiferaw, 2015).

Study in Magnitude and risk factors of abortion among regular female students in Wolaita Sodo University, Ethiopia show only 35.9% of those who are sexually experienced have ever used condom and 47.9% the same group admitted that they had had at least one unprotected sex (sex without condom) over the last twelve months; percentage of pregnancy experienced in the last twelve months was 7.7% (34) and in 29 (85.3%) of the cases, pregnancy was unwanted (Amha et al., 2014).

Only about 24 percent of young women and 39 percent of young men 15-24 have knowledge about HIV prevention. Among both sexes, urban youth are more likely than rural youth to have knowledge about HIV prevention. Ever married young women are much less likely than other women (19 percent) to have this knowledge, a pattern not observed for men(CSA and ICF, 2016).

Sexual risk behaviors remain a significant problem predisposing university students for STIs and HIV infection. Studies show that the special vulnerability of the youth in universities result from unsatisfactory knowledge, low risk perception, cultural difference, females low negotiation skills in condom use, widespread substance use and peer pressure towards STIs and/HIV. Additional factors that might contribute to the increased risk include the fact that university students are too many in numbers, lack of adolescent friendly sexual and reproductive health services and do not benefit from close parental supervision (Wordofa and Shiferaw, 2015).

1.2. Statement of the problem

Risky sexual behaviors are becoming an important problem all over the world. Risky Sexual Behaviors are behaviors leading to sexually transmitted diseases and unintended pregnancies. Having sex at early age, having multiple sexual partners, having sex while under the influence of alcohol or drugs and unprotected sexual behaviors are the common characteristics of risky sexual behavior which increases risk of individuals to sexuality and reproductive health problems. Risky sexual behavior is the most common problem in adolescents and young adults which may expose individuals for permanent social, economic, psychological and physical problem.

Known socio-demographic and economic risk factors associated with risky sexual behaviors are male sex, smoking, night club attendance and alcohol use. In contrast, have a good relationship with friends, peers and parents, as well as religiosity have been found to be a protective measure against risky sexual behaviors (Perera and Abeysena, 2018).

The number of higher learning institutions increase in number and size in Ethiopia, the HIV risk perception and behaviors among undergraduate students have become an indispensable part of the national HIV prevention and control program. These undergraduate students are particularly vulnerable to HIV/AIDS due to their age group which constitutes the peak period for sexual activity, inclination towards sexual networking and consequent risk of HIV infection of African university students (Wordofa and Shiferaw, 2015).

In Ethiopia higher education is dramatically expanding, it is important to understand the force that influences youth education. However, little has been known about risk sexual behavior of students in university where more students are potentially enrolled currently. There was no study that documented factors associated with Risky sexual behaviors in Oda bultum university. Therefore, this study aimed to assess the magnitude of risky sexual behaviors and predictors among students of Public University of Oda Bultum at Ciro town. RSB among university students might be high risky due accumulation family strict ion in previous class and their ambition to risk taking. Ground in an assets framework, the research would be explored the protective role of personal, peer, school, university, media and community assets as well as cumulative assets for sexual behaviors including early sexual debut, number of sexual partners and unprotected sexual done under influence of alcohol.

1.3. Significance of the Study

Higher education students may understand some form of risk sexual behaviors including risk taking, having multiple sexual partners, inconsistent condom use and sexual activity under influence of alcohol. The study tried to identify important factors which success in alleviate risky sexual behaviors and encourage practicing risky sexual behaviors. Clear identification of influencing factors (determinants) of youth risky sexual behavior can help policy makers and planners as well as other stakeholders in designing effective interventions. This study will help to programs with comprehensive education on sexual and reproductive health (SRH) issues such as safer sex and behavioral change communications (BCC) on risk perception; life skill training, peer-education, availing services and working with stalk holders, NGOs, and the surrounding community provide information related to SRH for students and gender cubs. All health partners like providers, teachers, extension workers, students, NGOs and health agents involved in adolescent and youth health service must be aware and understand the prevalence and factors affecting the risky sexual behaviors.

1.4. Objectives

1.4.1 General Objective

To assess the risky sexual behavior and associated factors among under graduate Oda Bultum University students, Oromia, Eastern Ethiopia from January 3 to February 15, 2021

1.4.2 Specific objectives

- ✓ To determine prevalence of risky sexual behavior among under graduate students of Oda Bultum University Ethiopia.
- ✓ To identify factors associated with risky sexual behavior among under graduate Oda Bultum University students of Ethiopia.

2. LITERATURE REVIEW

2.1. Overview of Risky sexual behavior of youth

Today, there are 1.8 billion people between the ages of 10-24. They are the largest generation of youth in history. Close to 90 per cent of them live in developing countries, where they make up a large proportion of the population. Their numbers are expected to grow between 2015 and 2030 alone; about 1.9 billion young people are projected to turn 15 years old. Connected to each other like never before, young people want to and already contribute to the resilience of their communities, proposing innovative solutions, driving social progress and inspiring political change. They are agents of change, mobilizing to advance the Sustainable Development Goals to improve the lives of people and the health of the planet (Montrosse et al., 2019).

Risky sexual behavior is commonly defined as behavior that increases susceptibility of an individual to problems related to sexuality and reproductive health. They include having sex at an early age, having multiple sexual partners, having sex while under the influence of alcohol or drugs and unprotected sexual behaviors (Awoke et al., 2017). The CDC in the past has quantified multiple sexual partners for adolescents with the following descriptions: Having multiple sex partners, defined as having had four or more sex partners during one's lifetime. Sexual activity was defined as having had sexual intercourse during the past 3 months (CDC, Retrieved 2016). Individuals involved in such risky sexual behaviors would be vulnerable to STIs including HIV infection. Besides, they would be involved in unplanned pregnancy and abortion (Dingeta et al., 2012).

Sexually transmitted infections are infections caused by bacteria, viruses and parasites transmitted through sexual contact, including vaginal, anal and oral sex. Some STIs may also be spread by skin-to-skin sexual contact or through non-sexual means, such as from mother to child during pregnancy and childbirth. There are more than 30 known bacteria, viruses and parasites that cause STIs. Prevention and management services for STIs have been shown to be effective. Behavioral interventions on STI pre- and post-test counseling, safer sex and risk-reduction counseling, condom promotion) and barrier methods of contraception (male and female condoms) have been shown to offer prevention against STIs. Accurate diagnostic tests for STIs

exist, along with treatments that can cure chlamydia, gonorrhea, syphilis and trichomoniasis, and treatments that can treat herpes and hepatitis B effectively (WHO, 2019).

In 2018, there were 20.6 million people with HIV (57%) in eastern and southern Africa. Currently, over 30% of all new HIV infections globally are estimated to occur among youth ages 15 to 25 years. Also, increasingly, children infected at birth grow into adolescents who have to deal with their HIV positive status. Combining the two, there are 5 million youth living with HIV (UNAIDS, 2018). In Ethiopia in 2018: 690,000 people were living with HIV. HIV incidence per 1000 uninfected the number of new HIV infections among the uninfected population over one year among all people of all ages was 0.24. HIV prevalence the percentage of people living with HIV among adults (15–49 years) was 1%. About 23,000 people were newly infected with HIV and about 11,000 people died from an AIDS related illness (UNAIDS, 2018).

Young people's risk of becoming newly infected with HIV is closely correlated with age of sexual debut. Abstinence from sexual intercourse and delayed initiation of sexual behavior are among the central aims of HIV prevention efforts for young people. Decreasing the number of sexual partners and increasing access to and utilization of comprehensive prevention services, including prevention education and increasing access to condoms are essential for young people (WHO, 2019).

In developing countries where higher education is dramatically expanding, it is important to understand the force that influences youth education and how these forces interlink to the universities (Dennis et al., 2012). Debra Tabor University students are exposed to a variety of risky sexual behaviors such as early sexual initiation, experiencing, multiple sexual partners, unprotected sex, having sexual intercourse with the same sex, the use of substances like alcohol or drugs and involved in sex, having sex with older age partners and no regular partners such as commercial sex workers (Derbie et al., 2016).

Poverty and a lack of resources for key needs and expenses are linked to greater vulnerability to poor SRH outcomes of adolescents, especially girls, for a variety of reasons. For example, a large body of evidence from sub-Saharan Africa shows that young women (15–24 years) are at increased risk of STIs, HIV, and unwanted pregnancies, in part, because they exchange sex

(transactional sex) for money, basic necessities, school fees, and other items (e.g., mobile phones, Laptops) (Madise et al., 2007).

Prevalence of risky sexual behaviors in college and university students were 26% in Uganda (Musiime and J. F. Mugisha, 2015), 63% in Nigeria and 63.9% in Botswana (M. E. Hoque et al., 2012). In Ethiopia, the prevalence of risky sexual behavior among college and university students ranged from 23.3% to 60.9%. The one study in Zambia has revealed that having multiple sex partners increases with advancement in university years with more males likely to report having had more than one sexual partner. Consistent condom use is generally lower with students in the senior year reporting to have contracted an STI (Menon et al., 2016).

The study in Arsi University on risky sexual behaviors revealed about 261 (72.2%) students had sexual intercourse previously, and the mean age at first sexual intercourse was 18.6 ± 0.122 . Among the sexually active students, 175 (67%) used condom during sexual intercourse; Students who wore fashion clothes, chewing chat and prefer premarital sex were more likely to use condom inconsistently (Mesfin and Sime, 2020). Also, Bahidar University study in Ethiopia showed that 26.9% to 34.2% of students ever had sexual intercourse, 45.2% had more than one sexual partner and 59.4% had first sex at high school (Mulu et al., 2014).

The EDHS is a nationally representative sample survey that collected information among people of reproductive age on family planning, sexually transmitted infections, and HIV/AIDS. About 5 in 10 women (49 percent) and 7 in 10 men (69 percent) know that both using condoms and limiting sexual intercourse to one uninfected partner are means of preventing HIV. Knowledge of how HIV is transmitted is crucial to enabling people to avoid HIV infection, and this is especially true for young people, who are often at greater risk because they may have shorter relationships with more partners or engage in other risky behavior (CSA and ICF, 2016).

Unintended pregnancies are pregnancies that are unwanted which occurs with no desire to have a child, mistimed which occurs before the desired time or unplanned at a time of conception. Worldwide, an estimated 33 million unintended pregnancies are a result of contraceptive failure or incorrect use (WHO, 2011). In Ethiopia, 24.7 and 42% of unintended pregnancy caused by failure and not using contraceptive methods, respectively (Kidest et al., 2016).

2.2. Factors associated with risky sexual:

2.2.1. Individual level:

The individual level determinants include biological and personal factors that affect the sexual and reproductive health of individuals. These include age, sex, physical development, attitude, knowledge and skills that increase the likelihood of becoming a victim of risky sexual behavior (Svanemyr et al., 2015). In Ethiopia, the median age at first sexual intercourse among women age 25-49 is 16.6 years. One in four (24%) women has first sexual intercourse before age 15 and 62% before age 18. By age 20, 76% of women have had sexual intercourse. On average, men in Ethiopia initiate sexual intercourse at older ages than women. The median age at first intercourse among men age 25-49 is 21.2 years. Only 2% of men have first sex before age 15, while 17% have initiated sexual intercourse by age 18. By age 20, 36% of men have had sexual intercourse (CSA and ICF, 2016).

The findings on RSB among under graduate Madda Walabu university students showed that more than half 330 (54.6%); 95% CI (50.6 to 58.6) of respondents had involved in sexual risk behaviors at a mean age of 19.5 years. 116 (35%); 95% CI (28.8 to 41.8) of those that reported to have had sex had more than one sexual partner. Among 244 students who reported to a frequency of condom use, nearly three quarter (70.9%); 95% CI (64.1 to 77.6) of the respondents were identified as using condom inconsistently. Academic status of 4th year students and accepting to have premarital sex were significantly associated with inconsistent condom use ((AOR=9.5; 95% CI: 2.5-36.3) and (AOR=2.58; 95% CI: (1.26-5.27)), respectively (Wordofa and Shiferaw, 2015)

The study conducted in Moi University on risky Sexual Behavior and the associated factors among first year University students in the Coastal region of Pwani University and Technical University of Mombasa of Kenya show majority of the students were within the age of 17-20 years and more than half of the respondents (59.4%), had once had sex before. Majority of the students, 195(41.2%) had their first sexual intercourse within the age of 15-19 years; while a total of 67(14%) had their sexual debut at the age of 7-14years. Only 32.5% had used condoms consistently in the last twelve months. The male gender was associated with the history of having had sex, early sexual debut, multiple sexual partners, inconsistent use of condoms and having sex under the influence of alcohol (Mbuthia et al., 2019)

2.2.2. Relationship Level:

It examines an individual's proximal relationships that increase the risk of experiencing risky sexual behaviors. It includes family, intimate and other sexual partners, and peers, which can positively or negatively influence adolescent's sexual behaviors. To prevent the negative influence at relationship level, there is a need to build relationships that support and reinforce positive sexual behavior of adolescent (Svanemyr et al. 2015). Risky sexual behaviors for last 3 months was negatively associated with engaging more religious activities and considering religion as more important to their lives. Having to the opportunity to talk with parents and siblings regarding sexual problems showed negative association with risky sexual behaviors (Perera and Abeysena, 2018).

Study in western Ethiopia on risky sexual behaviors and risk perception among youths discuss as 41.4% out-of-school youths reported unprotected sex during the 12 months period prior to interview. More than one third of in-school youths (37.1%) reported to have two and more than two lifetime sexual partners compared to 32.6% of out-of-school youths. Out-of-school youths feel that they are at higher risk of getting HIV than in-school youths (AOR = 2.93; 95% CI: 1.45, 4.35). Youths who had high family connectedness were less likely to commence sexual activity and have multiple sexual partners than their counterparts (AOR = 1.98; 95% CI: 0.63, 0.94) and (AOR = 2.79; 95% CI: 1.24, 4.43) respectively. Having pressure from peer to have sex was significantly associated with having multiple sexual partners (Negeri EL, 2014)

2.2.3. Community Level & Societal Level:

This explores settings, such as places of origin (urban/rural), ethnic groups, religious institutions (church, mosque, other religious institutions), the school, neighborhoods and community networks in which social relations occur and seeks to identify the characteristics of these settings that are associated with becoming a victim of risky sexual behavior. Thus, there is a need to create community support networks for adolescents to practice safer sexual behaviors and provide access to SRH information and services. Looks at broader social factors, such as health systems, culture, politics, laws and policies, social norms and values, media and gender norms have a potential effect on young sexual behavior (Svanemyr et al., 2015).

Study among unmarried young female internal migrants working in Burayu Town, Ethiopia on risky sexual behavior and associated factors among sexually-active detected about 79.1% of magnitude of RSB among the study participants; 35% of the young female internal migrants had sexual debut before the age of 18 years; 64.4% had sex without condom; nearly one quarter of the participants had multiple sexual partners, and 29.6% had sex under the influence of substance uses (Ararso et al., 2020).

2.2.4. Substance use factors:

Nearly 50% of STI's occur in adolescents and young adults between the ages of 15 and 24. Behavioral factors especially in young women is having multiple sexual or new partners and not using condoms (Stamm, 2011). RSB were significantly associated with undergraduates who attended nightclubs more than once within last month, those who had used internet facilities >2 h per day, those who went to cinema ≥ 2 per months, who had taken alcohol within last 3 months, who had smoked within last 3 months, who had taken ganja (cannabis) within last 3 months and who had physical fight within last 1 year in university. Good knowledge on contraceptives, good knowledge on condoms, good knowledge on sexual and RH rights, good overall knowledge on RH, favorable attitudes on contraceptives, favorable attitudes on condoms and favorable overall attitudes on RH showed statistically significant associations in bivariate analysis with RSB (Perera and Abeysena, 2018).

Finding on Risky sexual behaviors among female youth in Tiss Abay, a semi-urban area of the Amhara Region, Ethiopia show 711 female youths participated in the study, with the mean age of initiation of sex of 78.6% being 16.73 ± 2.53 years. Only 52(9.3%) used condom during the first sex. One or more risky sexual practices were reported by 503(70.3%) participants, including: multiple sexual partnerships, inconsistently using or not using condoms, sex under the influence of alcohol. Age group, current marital status, drinking homemade alcohol, chewing 'khat', watching pornography and using any form of stimulant substances were the predictors of risky sexual behavior (Tadesse and Yakob, 2015).

Study in risky sexual behavior and practice among Aksum University students, Shire Campus 2017 show Out of the total respondents, 174 (60.6%) of students had sexual experience. From the total respondents who had practiced sexual intercourse 66 (37.9%) of them reported that their

first sexual intercourse was before age of 18 years while 89 (51.2%) of them had their first sex at above or equal to 18 years. All of the respondents with sexual experience 174 (100%) has practiced vaginal sex (Awoke et al., 2017).

Other study in the southern Ethiopia among under graduate Arbaminch University identified 127 (31.4%) reported having at least one risky sexual behavior in their lifetime. Risky sexual behavior was high among respondents who were engaged in non-health field of study (AOR [95%CI] = 2.87[1.86-4.3]), who were rural residents before joining the campus (AOR [95%CI] = 1.57[1.03-2.4]) and who didn't discuss sexual issues with their parents (AOR [95%CI] = 1.98[1.29-3.03]). In addition, risky sexual behavior was higher among respondents who use khat (OR [95%CI] =2.8[4.59 -17.63]), who drink alcohol (OR [95%CI] = 3.94[15.4-62.16]) and who smoke cigarette (OR [95%CI] =2.2[7.92-66.71]) (Soboka and Kejela, 2015).

The study in Haramaya university among under graduate students get mean (SD) age at the first sexual intercourse was 17.54 (2.8) years; 17.5 (2.7) years for males and 17.76 (3.5) for females. Most of the students (271, 77.2%) who reported to have commenced sexual intercourse had their first sex with a girl or boy friend. Twenty two (6.4%) of the sexually active students reported to have practiced sex with the same sex partner from which 17 (5.7%) were males and 5 (11.4%) females. Five female students (12.2%) reported that they had been raped (Dingeta et al., 2012).

Study in Jimma University showed Current sexual experience: Among those who ever had sexual intercourse, 131(51.0%) had sex in the last 12 months. Of these, 37(28.3%) had multiple sexual partners (2 or more) in the last 12 months. Twenty three (29.1%) of them had two or more non regular sexual partners. The qualitative findings also supported that there is high prevalence of sexual practice currently in the university. Most of the FGD discussants and key informants responded that there is high sexual practice among Jimma University students. "... There is what we call three to zero or three to three principle that students follow in the university life. This means changing sexual partners each year to end up with three partners before graduating." (Gurmesa et al., 2012).

Another qualitative study on Debre Berhan university showed Ethiopia explain Students talked with peers and sexual partners about sex more than sexual health issues. Common places of talk included dormitory, begtera (near dorm where students meet), and space (Gezahegn et al., 2016).

Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and adolescents with knowledge, skills, attitudes and values that will empower them to realize their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and understand and ensure the protection of their rights throughout their lives (WHO, 2017).

2.3. Conceptual frame work.

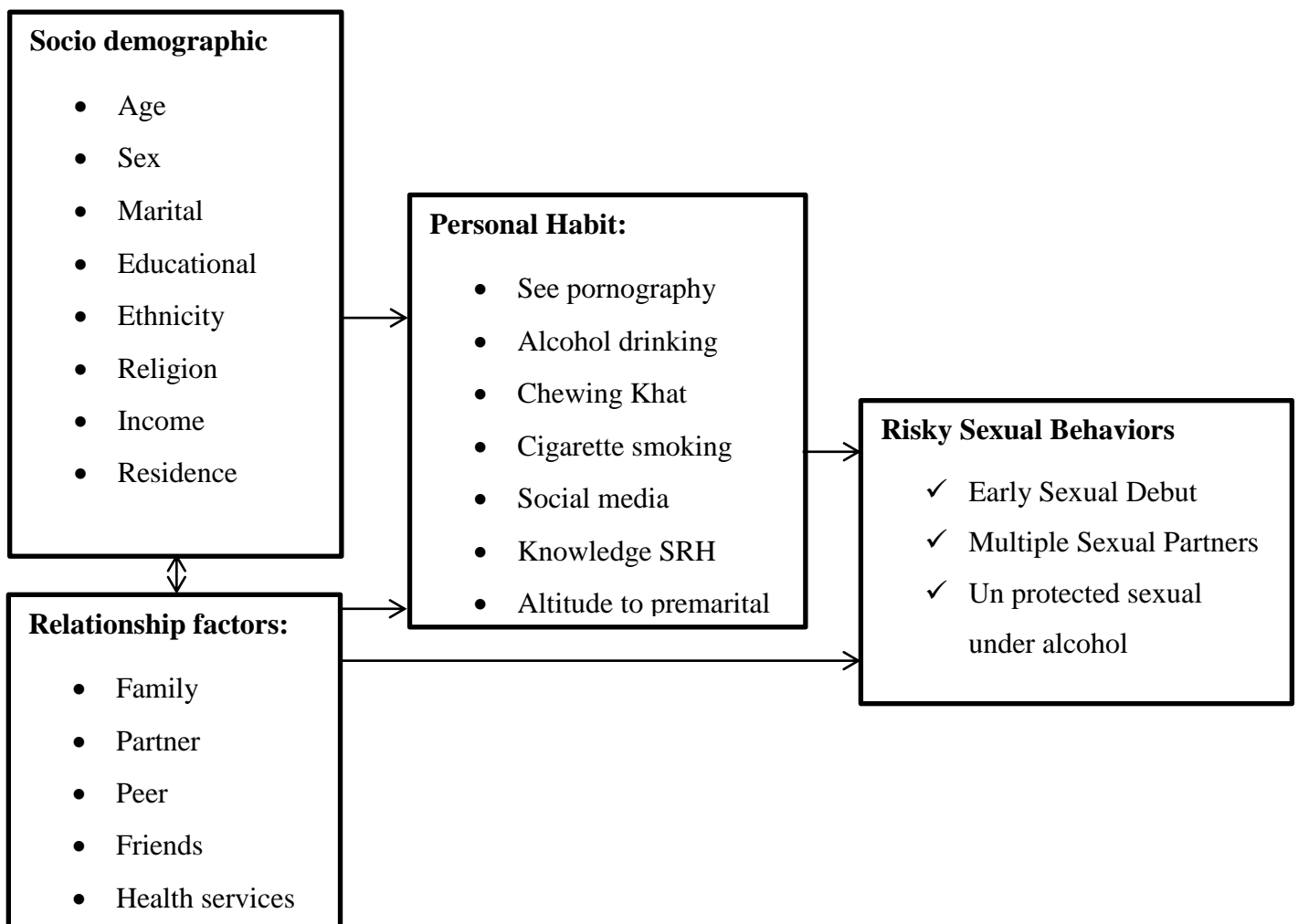


Figure 1 Conceptual framework of risky sexual behaviour adapted from literatures.

3. RESEARCH METHODOLOGY

3.1. Study setting

The study was conducted in Oda Bultum University, West Harerghe, Oromiya Regional state, which is one of the 46 governmental universities in Ethiopia. The University was established in 2014 located in Chiro town, 322 kilometers away eastern from Addis Ababa, and the capital city of Ethiopia. There is one student's clinic and in case of severe case, there is Chiro general hospital nearest university. The numbers of students enrolled in the Oda Bultum University during 2020/2021 academic year were 1691 male and 1185 female students; total 2876 students studying in 31 departments of 6 colleges.

3.2. Study period

The study was conducted from January 3 to February 15, 2021.

3.3. Study design

Institutional based quantitative cross sectional study design was used to determine prevalence and determinants sexual risk behavior of Oda Bultum University students.

3.4. Source population

All regular undergraduate students enrolled for 2020/2021 academic year of Oda Bultum University.

3.4.1. Study population

All undergraduate students enrolled for 2020/2021 academic year from the selected colleges/departments of Oda Bultum University.

3.4.2. Sampling population

All randomly selected regular undergraduate students attending 2020 /2021 academic year of Oda Bultum University was the sample population.

3.5. Eligibility criteria

3.5.1. Inclusion criteria

All regular undergraduate Oda Bultum University students were enrolled for 2020/2021.

3.5.2. Exclusion criteria

Students who were unhealthy and blind during data collection period which made them difficult to participate in the study.

3.6. Sample size determination:

3.6.1. Sample size determination for First objectives

The required sample size was determined using single population proportion formula by taking 54.6% proportion of risky sexual behaviors at a mean age of 19.5 years (p) from the previous study conducted on the related topic using similar population group of Madda Walabu University, Margin of error(d) 5%, using 95% level of significance ($Z_{\alpha/2}=1.96$)

$$n' = \frac{(Z_{\alpha/2})^2 p(1-p)}{(d)^2} = \frac{3.8416 * 0.546 * 0.454}{0.0025} = 381 \text{ students.}$$

Finite Population Correction for Proportions since 2876 academic years students less than 10000 population.

$$n = \frac{n'}{1 + \frac{(n'-1)}{N}} = \frac{381}{1 + \frac{(381-1)}{2876}} = \frac{381}{1.1} = 337 \text{ respondent of students}$$

Based on above 10% estimated non-response = $(0.1 * 337) = 34$

Total sample size of the study is $(337+34) = 371$ students.

3.6.2. Sample Size determination for the Second Objectives:

The sample size for the factors associated with sexual risk behavior of OBU students were determined by considering various factors that were significantly associated with outcome variables, CI 95%, margin of error of 5% and power of 80% using open Epi info version 7.

Table 1 Sample Size determination on risky sexual behaviours among Undergraduate Students of Oda Bultum University, Eastern Ethiopia 2021

Associated factors	AOR	Prevalence of RSB		Sample size	Reference
		Exposed	Non expose		
Accept premarital sex	1.30	57	42	368	Debebe et al., 2015
Being Male	2.66	35.5	21.7	200	Gurmesa et al., 2012

Discussion with family	0.33	15.6	45.3	115	Bikila and Gemechu, 2015
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3.7. Sampling procedure

Simple random sampling technique proportional to class year was employed to selected study participants. The list of all class year students of six colleges and 31 departments was obtained from the university registrar office. The respondent numbers of students were selected using simple random sampling technique among fourth, third, second and first year students. They were randomly selected in a proportional manner from all departments and both sexes.

3.7.1. Sampling technique:

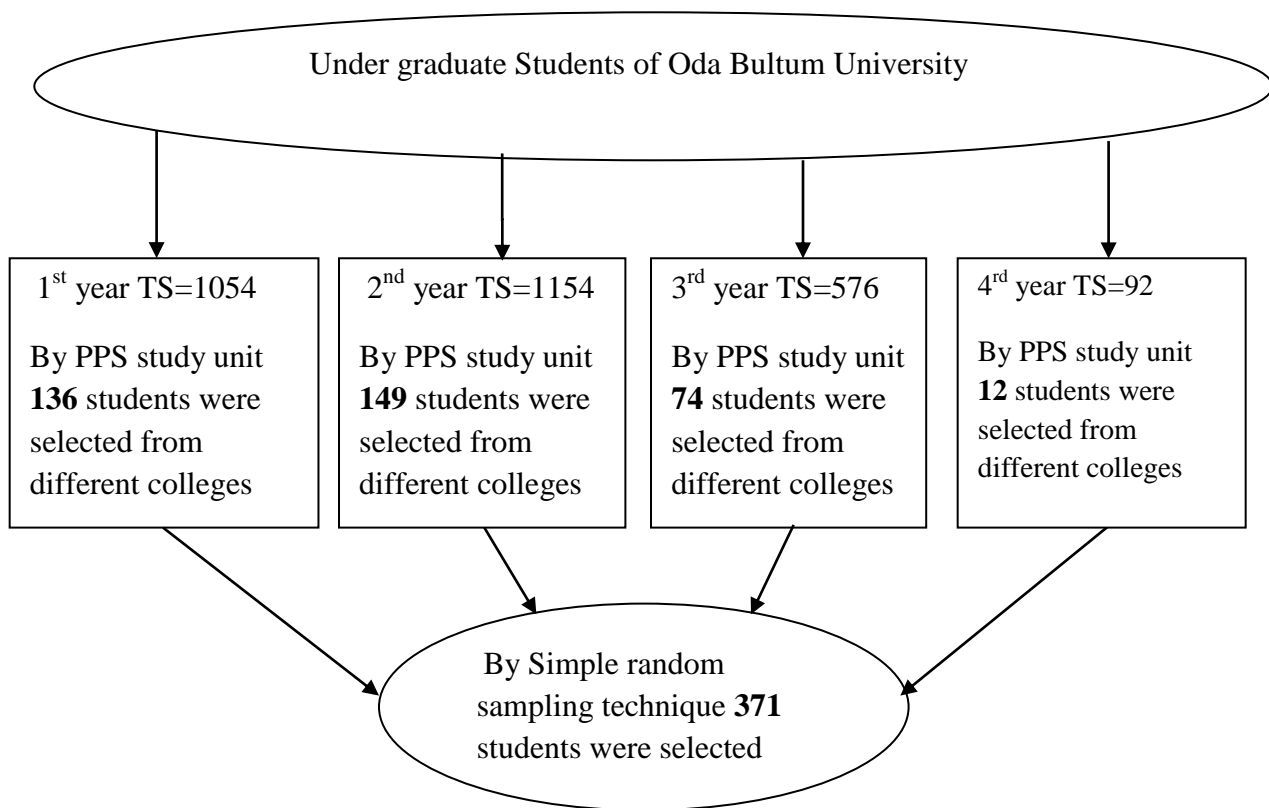


Figure 2 Schematic diagram of sampling procedure on RSB among Undergraduate Students of Oda Bultum University, Eastern Ethiopia 2020/21

3.8. Data collection methods

3.8.1. Data collection instruments

A structured and pretested questionnaire was used to collect socio-demographic information, risky sexual behavior and factors associated with sexual risk behavior of youth. The questionnaire was developed from EDHS and different literatures conducted previously and minor modification was made in accordance with the study area.

3.8.2. Data Collectors

About 4 Health workers were trained for one day on data collection methods. Also, Two Supervisors were provided training for one day and supervise the data collection process.

3.8.3. Data Collection Procedures

A semi-structured, pre-tested, and standardized questionnaire was used for data collection. The instrument prepared in English and asked by English. Four data collectors and two supervisors were assigned. One day intensive training was given to the data collectors and supervisors before pre-test undertaken in nearest similar university.

3.9. Study variables

3.9.1. Dependent Variables:

Risky sexual behavior (multiple sexual partners, early initiation of sex and unprotected sexual done under influence of alcohol)

3.9.2. Independent Variables:

The independent variables included in this study are: Socio-economic characteristics including: Age, sex, educational status (year of enrollment), marital status, religion, and ethnicity, residence of the parents of the study subjects, and families' status which are categorical variables. Personal Habit: Alcohol drinking, See pornography, Chewing Khat, using social media, types of sex practice, sexes with individual, have information of SRH and other included under questionnaires.

3.10. Operational definition(s)

Adolescent: Adolescence is one of the most rapid phases of human development and age between 10 to 19 years.

Commercial sex partner: A partner who involved in sexual intercourse to get money.

Risky sexual behavior: is defined as sexually active students who have at least one of the following: initiation of first sex at early age before 18 years, having multiple sexual partners last 12 months, unprotected sexual activity and sexual activity influence of alcohol. Definition modified from (Abels and Blignaut, 2011).

Earl sexual debut (ESD): sexual initiation before age of 18 years old.

Multiple sex partners (MSP): is the measure and incidence of engaging in sexual activities with two or more people within last 12 months (CDC, 2016).

Substance Use: when students use specified substance (for non-medical purposes)

Premarital sex: A penetrative vaginal sexual intercourse performed before formal marriage.

Youth: covers age between 15 to 24 while the **young** people covers 10 to 24 (Gupta et al.,2014;)

3.11. Data management and quality control

Before the actual data collection, 30 questionnaires were pretested in order to check whether it suited its objectives and it's coherence with the study participant's norm. To assure the data quality high emphasis was given in designing data collection Instrument. For its simplicity the questionnaire were pre-tested, followed by modification. As a self-administered questionnaire, it was designed to be answered easily. Proper instruction was given before the survey as to the importance of the study for the whole students as well as the supervisors. Data collectors were trained to be familiar with the objective and the methodology of the research and to standardize their interviewing technique and to answer question in consistent manner. The principal investigators were closely supervising the performance of the data collectors in the field on a daily basis and Completeness of the questions was checked at filed level.

3.12. Data Processing and Analysis

The collected data was entered, in to Epidata 3.02 and export to SPSS version 25 for data clearing and analysis. Frequencies, mean, standard deviation and range was estimated to describe variables. The study variable, odds ratio with its 95% confidence interval was used to determine the strength and statistically significant association between independents, categorical and the outcome variables. Outcome variables computed from three variables and recoded into dichotomous. Bivariate logistic regression was performed to assess the association between each independent and dependent variable. During the bivariate analysis, all explanatory variables were

checked for Multicollinearity by observing standard error and beta values as an indicator. Multivariate logistic regressions used to control all possible confounders by understand the multiple factors that can influence the outcome.

3.13. Ethical considerations

This study was carried out after the proposal got approval by the Institutional Health Research Ethics Review Committee (IHRERC) of College of Health and Medical Sciences at Haramaya University. An official letter was written from School of Public Health/ School of Graduate Studies to Oda Bultum University. I was communicated with Oda Bultum University administrative office by formal letters. An informed, voluntary, written and signed consent will be obtained from the head of the office and respondents before the interview. The respondents were explained about the target of the study and that the information obtained was kept confidential and was used for research purposes only. The respondents was explained that: the risk of participating in this study to be very minimal, but only taking 25-40 minutes from their time; there was no any direct payment for participating in this study; the findings obtained from the study was useful for planning intervention programs. Confidentiality of responses was ensured throughout the research process.

3.14. Information Dissemination

The finding of the research was submitted to the School of Public Health, Haramaya University and Oda Bultum University administer office. The results would be presented at organized seminars and appropriate conferences. Besides, the findings would be published and disseminated through different journals and scientific publications.

4. RESULTS

The total sample size was 371 Oda Bultum university students. From these, 355 study participants were provided their complete and relevant responses which making response rates 95.7%. The rest did not provide either complete data or refused to complete the questionnaire. About 235 of Oda bultum university students were sexual active.

4.1. Socio demographic characteristics based on sexual active

The mean age of the study participants were 22.42 years with standard deviation of 1.5 and 108(46.0%) are age 19-22, with age ranging from 19 to 27. 133 (56.6%) of subjects were male. Majority of students 53.2% were belonging to Oromo ethnicity; Based on academic year of study, majority of the participants were from 2nd year 88 (37.4%), 1st year 69(29.4%), 3rd year 66 (28.1%) and 4th year 12 (5.1%).

Frequency of attained religion institution services every day 85 (36.2%), once per week 107(45.5%), once per month 28 (11.9%) and once per year 15 (6.3). Majority of respondents were Single 198 (85%). Student's family's place of resident from Rural 122 (51.9%) and those have lived Urban 113 (48.1%). Those undergraduate students family's economic status compares to neighbor consider as Rich 68 (28.9%), Medium 121 (51.5%) and 20.4% was Poor (table 2).

Table 2: Socio demographic characteristic of sexual active regular students at Oda Bultum University, 2021

Characteristics	Frequency	Percent
Age (n=235)		
19-22	108	46.0
23-27	127	54.0
Gender (n=235)		
Male	133	56.6
Female	102	43.4
Year of study (n=235)		
1st year	69	29.4
2nd year	88	37.4

3rd year	66	28.1
4th year	12	5.1
<hr/>		
Faculty of study (n=235)		
COA	47	20.0
FOE	61	26.0
FBE	74	31.5
IOT	53	22.5
<hr/>		
Religion (n=235)		
Orthodox	69	29.4
Islam	67	28.5
Protestant	69	29.4
Others	20	8.5
<hr/>		
Frequency attained on religion (n=235)		
Every day	85	36.2
Once per week	107	45.5
Once per month	28	11.9
Once per year	15	6.3
<hr/>		
Ethnicity (n=235)		
Oromo	125	53.2
Amara	62	26.4
Tigre	3	1.3
Others (Sidama, Walaita,..)	45	19.1
<hr/>		
Marital status (n=235)		
Single	198	84.3
Married	37	15.7
<hr/>		
Family place of residence (n=235)		
Rural	122	51.9

Urban	113	48.1
<hr/>		
Family economic status related (n=235)		
Rich	68	28.9
Medium	121	51.5
Poor	48	20.4
<hr/>		

4.2. Sexual behaviors

4.2.1 Early sexual initiation and multiple sexual partners

More half 235 (66.2%) respondents had ever sexual activity. Mean age at first sexual intercourse was 19 (± 2.7) years. About 97(41.3%) students engaged early sexual initiation. About 49% were female respondents. Number of sexual partner so far contacted only 67(28.5%) respondents had one partner and other had two and more than two partners. 53(22.6%) students involved multiple sexual partners last 12 months (table 3)

Table 3: Sexual Behaviours among undergraduate students of Oda Bultum University, 2021

Characteristics	Frequency	Percent
<hr/>		
Sexual Orientation (n=235)		
Heterosexual	224	98.9
Homosexual	11	1.1
<hr/>		
Have girlfriend/Boy Friend (n=355)		
Yes	321	90.4
No	34	9.6
<hr/>		
Ever Sexual Intercourse (n=355)		
Yes	235	66.2
No	120	33.8
<hr/>		
Age of Sexual Initiation (n=235)		
≤ 18	97	41.3
> 18	138	58.7
<hr/>		
Number of sexual partner so far (n=235)		
One	67	28.5
Two	92	39.1
Three	57	24.3
<hr/>		

Four and above	19	8.1
Number of sexual partner last 12 month (n=235)		
One	181	77.0
More than one	53	22.6

4.2.2. How respondents decided to start their first sexual.

Majority of participant decided to their first sex due to their desire 148 (63%). Majority of male had initiated sex due to their desire. But, only nearly half female initiated by their desire.

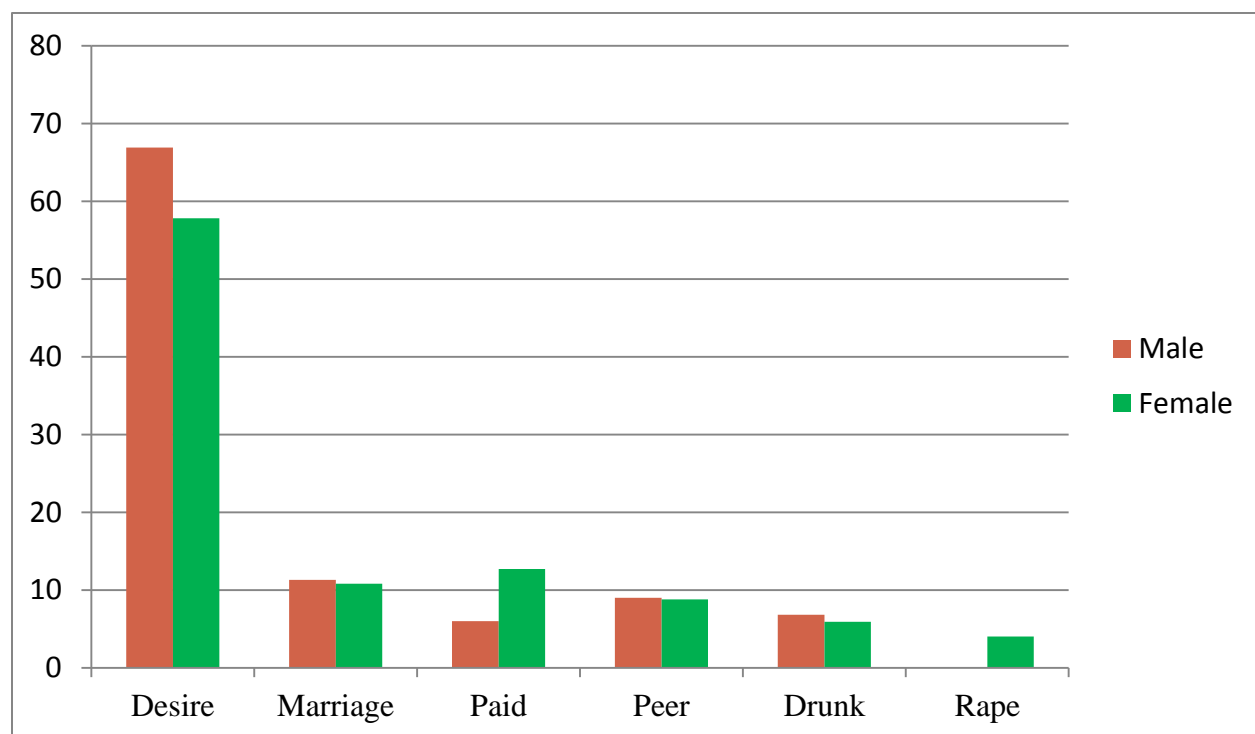


Figure 3 How to decided first sexual initiation in students of Oda Bultum University 2021.

4.2.3. Age of a person that respondents had initiated their first sexual

About 77 (32.8%) respondents had initiated 1st sex with elder than them by 5-10 years. Nearly to all of female had began sexual with older than them. But nearly to one third of male had started sex with older than them of female.

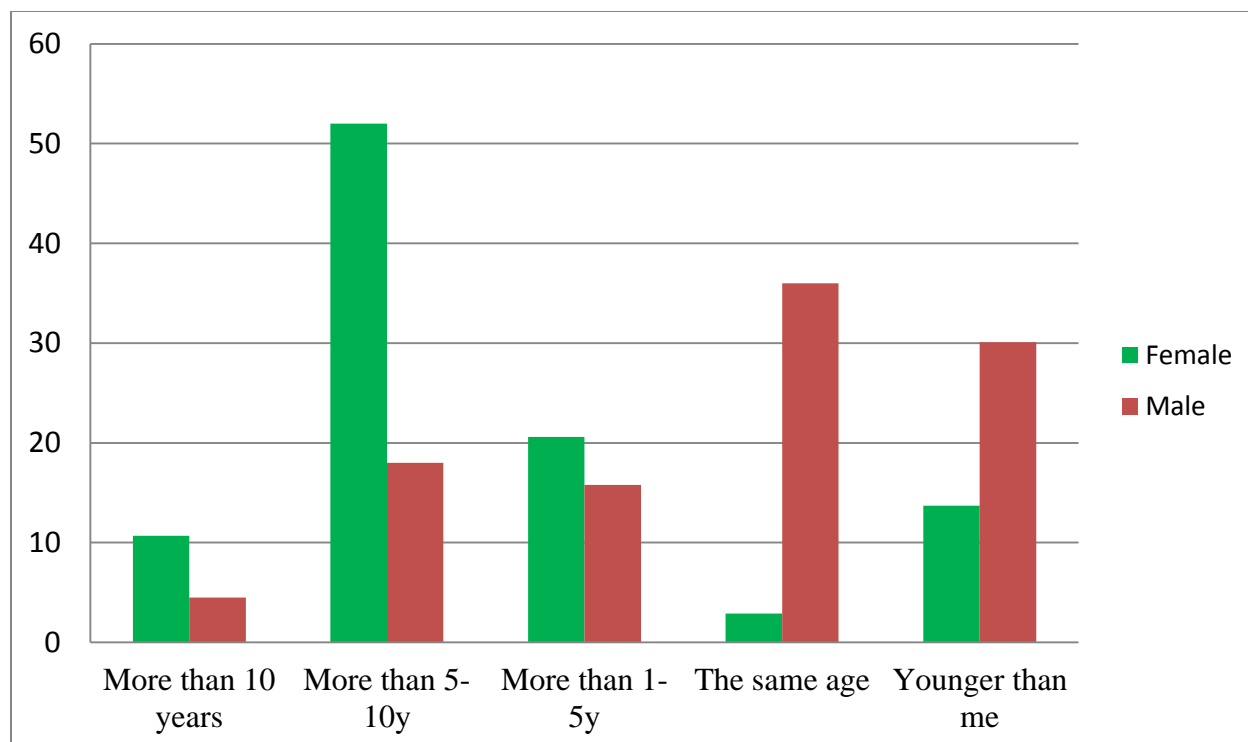


Figure 4 Age of a person first had sexual start with students in Oda Bultum University 2021.

4.2.4. Sexual behavior of Condom use.

Regarding sexual practice, those practice unprotected vaginal intercourse were 118(50%) respondents. These answers were similar with answered for didn't condom used at last intercourse about 50.6%. But, on their first intercourse only 24 (10.2%) used condom on their first intercourse. Among male students who practiced sex with CSW (only males) 36(18%); among had sexual intercourse with female commercial sex workers 19(52.8) use condom every time and 9(25%) used condom almost every time, others 8(22.2%) used sometimes due expensive and ashamed to ask (**table 4**).

Table 4: Condom used among undergraduate students at Oda Bultum University, 2021.

Characteristics	Frequency	Percent
Kind of sexed last occasion (n=235)		
Unprotected	118	50
Protected	100	42.6
Others	17	8.4
Condom used at 1 st intercourse (n=235)		

Yes	24	10.2
No	211	89.8
<hr/>		
Condom use at last sex intercourse (n=235)		
Yes	116	49.4
No	119	50.6
<hr/>		
Had Sex with CSW (males had sex) (n=133)		
Yes	36	27
No	97	73
<hr/>		
Frequency use condom (n=36)		
Yes, every time	19	52.8
Almost every time	9	25.0
Sometimes	8	22.2
<hr/>		
Contraceptive use (n=235)		
Condom	79	33.6
Pill	62	26.4
Calendar	80	34.0
Other	14	6.0
<hr/>		
Pregnant/impregnate (n=235)		
Yes	48	20.4
No	187	79.6
<hr/>		
Outcome pregnant (n=48)		
Current pregnant	5	10.4
Abortion	33	68.8
Live birth	10	20.8
<hr/>		
Had symptom of STI (n=355)		
Yes	82	23.1
No	273	76.9
<hr/>		

4.2.5. Sexual behaviors of substances abuse

The study revealed that 71.5% of the students attended on video, movies, pornography and entertainment; these actions were the reason for premarital intercourse of 64 students.

116(49.4%) students had sexual intercourse after drunken alcohol but 40(34.5%) protected by using condom and 76(65.5%) students of ever had sexual were unprotected sexual done under alcohol abuse. The response indicated that about 57(24.3%) sexual intercourse influenced chew khat; of them 25(42%) protected by condom. From sexual active students responded 168 (71.5%) students thought alcohol, khat and drug used reason for their acceptance of premarital sex and only 55(23.5%) of students sexual active have information of sexuality and reproductive health information (**Table 5**).

Table 5: Substance abuse among sexual active of undergraduate students at Oda Bultum University, 2021

Characteristics	Frequency	Percent
Attend on video, movies, pornography (n=235)		
Yes	168	71.5
No	67	28.5
Thinking of premarital sex (n=168)		
Yes	64	38.0
No	104	62.0
Had intercourse after drunk alcohol (n=235)		
Yes	116	49.4
No	119	51.6
Had used condom after drunk alcohol (n=116)		
Yes	40	34.5
No	76	65.5
Had sexual Intercourse after chewing khat (n=235)		
Yes	57	24.3
No	178	75.7
Premarital sex due alcohol, khat and drug (n=235)		
Yes	168	71.5
No	67	28.5
Thought of Social media initiate for sex (n=235)		
Yes	134	57.0
No	101	43.0
Had any information of SRH (n=235)		
Yes	55	23.4

No	180	72.6
Place of SRH (n=55)		
PHI	15	27.3
Media	21	38.2
youth centers	19	32.3
Person source of SRH (n=55)		
Parent	11	20.0
Peer	15	27.3
Friend & couple	14	25.5
Health worker	18	32.3
Individual with had sexual intercourse (n=235)		
Have another partner	72	30.6
person with STI	38	16.2
With CSW	30	12.8
Abstain and trust	95	40.4

4.3. Risky sexual behaviors

The finding of this study revealed of risky sexual behaviors among study population. Over all finding showed 145(61.7%) 95%CI (55.5%-67.9%) students of ever practice risky sexual behaviors. It was computed from: 97(41.3%) 95%CI (35.1%-47.5%) students engaged early sexual initiation; 53(22.6%) 95%CI (16.4%-28.8%) students had multiple sexual partners in last 12 month and about 76(32.3%) 95%CI (26.1%-38.5%) were unprotected sexual activity done under the influence of alcohol. About 117 respondent students had sexual intercourse after drunken alcohol but 41 of them protected by using condom. Others indicators of risky sexual behaviors was about 48(13.5%) students had history of pregnant/impregnate, 33(68.8%) of them had history of abort/making abort and Eighty two (23.1%) students have symptom of STI like discharge, itching and ulcer of genital. 17(7.2%) of students engaged in sex with older partners by 10 years and 21(8.9%) Students initiated sex to get money. Finally, risky sexual behaviors outcome was computed from (Question 204 = ESI) + (Question 206 = MSP) + (Question 304= unprotected sexual done under influence alcohol) of questionnaires.

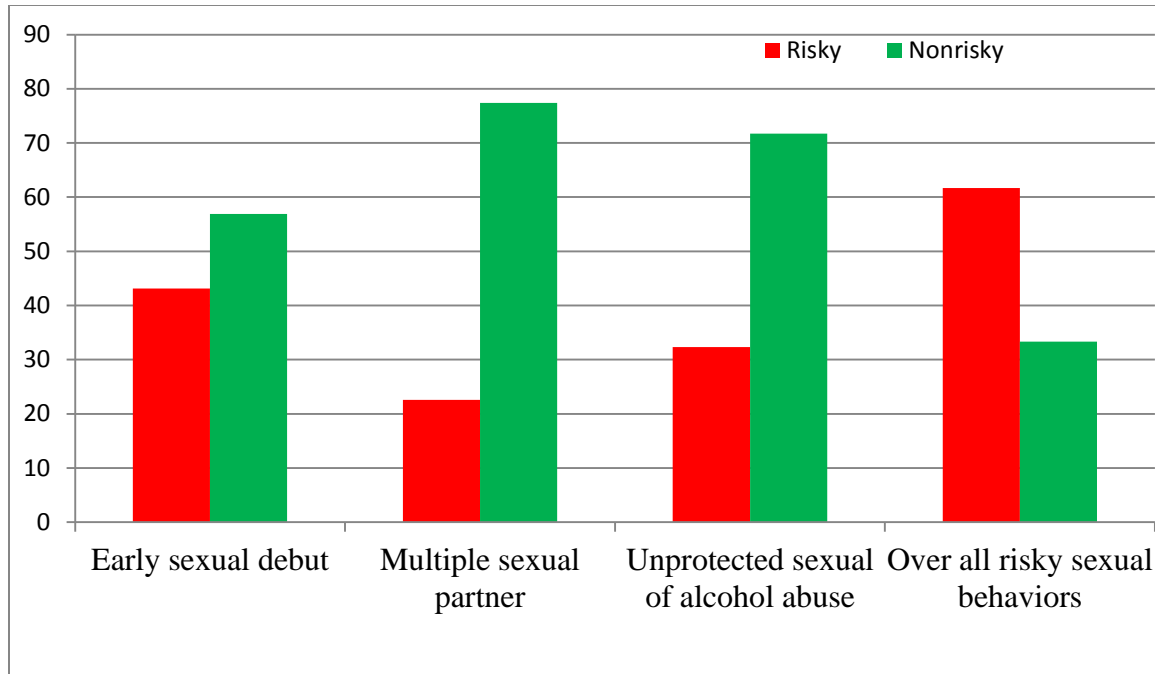


Figure 5 Magnitude of Risky Sexual behaviors of students in Oda Bultum University 2021.

4.3.1. Type of risky Sexual behaviors

About 12(5%) students had three risky sexual behaviors (engaged early sexual initiation; had multiple sexual partners in last 12 month and unprotected sexual activity done under the influence of alcohol (figure 6).

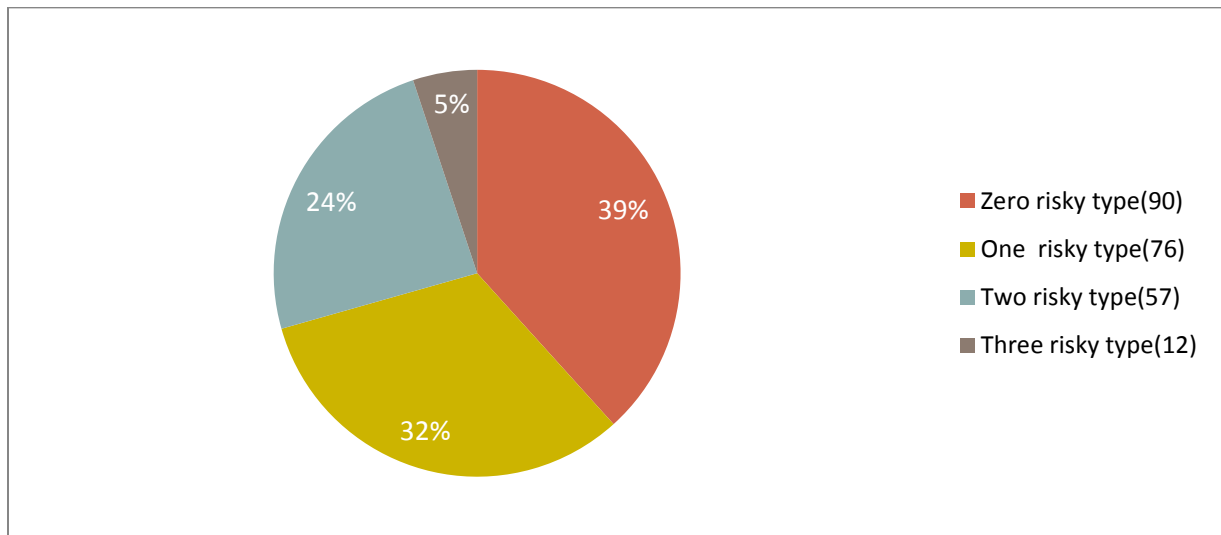


Figure 6 Type of risky Sexual behaviors among undergraduate Oda Bultum University 2021.

4.4. Factors associated with risky sexual behavior

4.4.1. Bi - variant analysis for Risky sexual behaviors

After Risky sexual behavior computed from three risky behaviors (early sexual debut, multi-partners and unprotected sexual of alcohol abuse.), bivariate analysis was conducted to identify factors associated with risky sexual behaviors. To control Confounder variables multivariable logistic regression analysis was done by taking the variables with $P < 0.20$ from bivariate. Ten variables (age, years of study, number of partner so far, decide sexual intercourse of first time, thinking of partner as has another partner, attend on video, movies, pornography and entertainment, had intercourse after drunk alcohol, had sexual intercourse after chewing khat, information of SRH, individual who had intercourse some have partner and who have STI) were associated with risky sexual behaviors in the bivariate analysis.

Table 6: Bi - variant analysis showing crude Odds Ration for Factors associated with risky sexual behaviours among undergraduate students at Oda Bultum University, 2021

Variables	Risky sexual behaviors (RSB)		Crude OR	p value
	Risky	No risk		
Age of students (n=235)				
19-22	74	34	1.72(1.01-2.9)	.04
23-27	71	56	1	
Years of study (n=223)				
1 st year	36	33	1	
2 nd year	54	34	1.46(.77-2.75)	.25
3 rd year	47	19	2.27(1.11-4.62)	.02
Number of partner so far (n=235)				
One	33	34	1	
Two	56	36	1.6(.84-3.02)	.15
Three	39	18	2.23(1.07-4.65)	.03
More than three	17	2	8.75(1.87-40.9)	.00
Decide sexual intercourse of first time (n=235)				

Fell in love	79	69	1	
Marriage	22	8	2.4(1.01-5.74)	.05
To get money	15	6	2.18(.80-5.93)	.13
Peer press & drunk	29	7	3.61(1.49-8.77)	.00
Thinking of partner has another partner (n=235)				
Yes	44	14	1.46(.64-3.36)	.34
No	63	58	.48(.25-.95)	.00
Don't know	38	18	1	
Attained Video, Pornography and Entertainment (n=235)				
Yes	115	53	2.67(1.49-4.78)	.00
No	30	37	1	
Had intercourse after drunk alcohol (n=235)				
Yes	95	21	6.24(3.43-11.33)	.00
No	50	69	1	
Had sexual after chewing (n=235)				
Yes	29	28	.55(.30-1.01)	.06
No	116	62	1	
Information of SRH (n=235)				
Yes	19	36	.23(.12-.43)	.00
No	126	54	1	
Had sexual intercourse of following (n=235)				
Those've partner	52	20	2.54(1.32-4.89)	.01
Someone STI	24	14	1.67(.77-3.63)	.18
Individual CSW	21	9	2.28(.94-5.49)	.06
Only with friend	48	47	1	

4.4.2. Multivariate analysis of risky sexual behaviors

During the multivariable logistic regression analysis by controlling confound only five factors (age, year of studies, attend on video, movies, pornography and entertainment, information of SRH, and had intercourse after drunk alcohol) predictors of risky sexual behaviors.

Based on academic year, senior students more likely risky sexual behavior than junior (AOR 3rd = 3.56; 95%CI: 1.05, 12.09). Those students are categorized 19-22- years old were (AOR= 3.59; 95%CI: 1.61, 8.02) statistical significance more likely to engage in risky sexual behavior than age 23-27 years. Respondents attend on video, pornography and entertainments were more likelihood of RSB (AOR= 4.68; 95%CI: 2.02, 10.85). Also, participants had intercourse after drunken alcohol more likely Risky sexual (AOR=7.86; 95%CI: 3.46, 17.86). But, students who had information of SRH were limited from risky sexual behaviors by 95% (86%-98%) (**Table 7**)

Table 7: Multiple logistic regressions showing adjusted Odds Ratio for Factors associated with risky sexual behaviours among undergraduate students at Oda Bultum University, 2021

Variables	Risky sexual behaviors (RSB)		Adjusted OR	P value
	Risky	Non risky		
Age of students (n=235)				
19-22	74	34	3.59(1.61-8.02)	.00
23-27	71	56	1	
Years of study (n=223)				
1 st year	36	33	1	
2 nd year	54	34	1.10(.43-2.82)	.84
3 rd year	47	19	3.56(1.05-12.09)	.04
Attained Video, Pornography and Entertainment (n=235)				
Yes	115	53	4.68(2.02-10.85)	0.00
No	30	37	1	
Had intercourse after drunk alcohol (n=235)				
Yes	95	21	7.86(3.46-17.86)	0.00
No	50	69	1	
Information of SRH (n=235)				
Yes	19	36	.05(.02-.16)	0.00
No	126	54	1	

Source: Estimation result MLR, 2021 and significant level less than 5 %, 1 denote Reference Tolerance Test is between 0.1 -1, Variance Inflection Factor between 1-10, Condition Index Test <30

5. DISCUSSION

This study attempted to provide overall prevalence of risky sexual behavior in study population is 61.7%; 95%CI (55.5%-67.9%). The study disclosed that a high proportion risky sexual behaviors of study participants. But from previous report, in Ethiopia, the prevalence of risky sexual behavior among college and university students ranged from 23.3% to 60.9%. Risky sexual behavior in this study population is similar to prevalence of risky sexual behaviors in university students, 63% in Nigeria and 63.9% in Botswana (M. E. Hoque et al., 2012). However, it is lower than the study conducted in Burayu town of Ethiopia on risky sexual behavior among unmarried young female internal migrant was 79.1% (Ararso et al., 2020) and female youth in Tiss Abay among one or more risky sexual practices 70.3% (Tadesse and Yakob, 2015). The difference might be due to methodological differences like; study population, sample size and sample method.

The study has assessed identified factors like age, years of study, number of partner so far, decide sexual intercourse at first time, thinking of partner as has another partner, attend on video, movies, pornography and entertainment, had intercourse after drunk alcohol, had sexual intercourse after chewing khat, information of SRH, individual who had sexual intercourse with some have partner and who have STI, which are related to risky sexual behaviors. Regarding the sexual experience of the study subjects 321 (90.3%) of the respondents had boy or girl friends and 235 (66.2%) had experienced sexual intercourse among randomly selected Oda Bultum University students.

This study is support the finding in University of Mombasa of Kenya 59.4% students had once had sex before (Mbuthia et al., 2019), Arsi University about 261 (72.2%) students had sexual intercourse previously (Mesfin and Sime, 2020); 174 (60.6%) of Aksum University students had sexual experience (Awoke et al., 2017) and three four of women and one third of men have had sexual intercourse by the age of 20 (CSA and ICF, 2016). Contrast to above, only 28.4% study participants in Derbe tabor university (Derbie et al., 2016) and 35.5% of students Bahidar University study in Ethiopia had sexual experience(Mulu et al., 2014). The difference may due to sample size.

The present study clarified about 97(41.3%) (95%CI: 35.1%-47.5%) students have early sexual initiation. Those age group 19-22 years and female students were statistical significant

participated of early sexual initiation than aged elders and male students respectively. The result of this study are higher than the Aksum University, 66 (37.9%) of students had first sexual intercourse before 18 years (Awoke et al., 2017) and 35% of the young female internal migrants Burayu had sexual debut before the age of 18 years (Ararso et al., 2020). The present finding related to national data, 62% females and 17% of males have initiated sexual intercourse before age 18 (CSA and ICF, 2016). The small number dissimilarity might be due to the study sampled population.

The finding indicated on number of sexual partner, 53(22.6%) (95%CI: 16.4%-28.4%) students had multiple sexual partners in last 12 months. Senior students have more likely multiple sexual partners than junior. Students whom attended on video, movies and pornography, drunken alcohol and acceptance premarital sex were significantly more likely involved in multiple sexual partner. This study show less involvement in multiple sexual partners in study area compare to finding in Jimma University 37(28.3%) (Gurmesa T. et al., 2012), 116 (35%) in Madda walabu University students in last 12 month (Wordofa and Shiferaw, 2015) and 45.2% in Bahir dar university (Mulu et al., 2014). Slightly discrepancy of study area may due to increased sample size and section of study population.

This study showed 116 students had sexual intercourse after drinking alcohol. About 77(32.8%) (95%CI: 26.6%, 39%) were unprotected sexual activity done under the influence of alcohol. This finding disclosed about 50.6% (95%CI: 45.4%-55.8%) of respondents do not used condom in their last sexual intercourse and only 24 (10.2%) used condom at 1st intercourse. Participants had intercourse after drunken alcohol 7.8 more likely engaged to risky sexual behaviors. This detection is similar with national data about 5 in 10 women (49 percent) and 7 in 10 men (69 percent) know that both using condoms and limiting sexual intercourse (CSA and ICF, 2016). But, this studies display more practice of safe sex compare to Bahidar University (62%) and in Jimma University (57.6%) of unprotected sex (Mulu et al., 2014).

Majority of participant decided to their first sex due to their desire 148 (63%); 4(3.9%) and 13 (12.7) female students had started their first sex due to rape and for paid sex, respectively. The result related Harama University, five female students (12.2%) reported that they had been raped (Dingeta T et al., 2012). About 17(7.2%) and 77 (32.8%) respondents had initiated 1st sex with elder than them by greater than 10 and 5-10 years, consequently. About three fourth of female

respondents were initiated their first sexual with older than them. While half of male respondents were started their first sexual activity with younger than and the same age to them. This presents what is known by Derbe Birhan University, having sex with older age partners and no regular partners practice of risky sexual behaviors (Derbie et al., 2016).

This finding showed that students age range 19 to 22 were statistical significance 3.59 more likely to exercise of risky sexual behavior than age range 23-27 may due to adolescents' risky taking behaviors. Finding is a little difference compared to northern Ethiopia, age group 15–19 years was less likely to engage in risky sexual behavior compared to the 20–24 age group and 25–29 year age group (Tadesse and Yakob, 2015). This detection cleared senior students of 3rd academic year were statistical significance more likely risky sexual behavior than junior due to they familiar with environments. This study assist what study in Madda walabu University, 4th and 3rd academic year students were higher risky sexual behaviors (Wordofa and Shiferaw, 2015) and against study in Kenya male gender more engaged to early sexual debut (Mbutia et al., 2019). Contrast in enrolled year and age of selected population may have contributed to the dissimilarity.

Accordingly these finding respondents whom attend on video, movies, pornography and entertainment were more likelihood of risky sexual behaviors (AOR= 4.68; 95%CI: 2.02-10.85) may they practice what saw on media. The result in the study agree to the finding in northern country female youth which show age group, chewing 'khat', watching pornography and using any form of stimulant substances were the predictors of RSB (Tadesse and Yakob, 2015). Furthermore, this result explained participants had intercourse after drunken alcohol more likely exposure to risky sexual (AOR=7.86; 95%CI: 3.46-17.86). This finding maintain the previous study on Arbaminch university who drink alcohol (OR 95%CI= 3.94: 15.4-62.16) (Soboka and Kejela, 2015) risky sexual behaviors. The little disagreement may be due to the definitions of risky sexual behaviors in studies.

Moreover, students who have information sexuality and reproductive health were 95% (95%CI 86%, 98%) limited from risky sexual behavior. However, only 138(38.9%) of students have information of sexuality and reproductive health from all participants, but only 23.4 % of sexual active have information sexual and reproductive health . The finding is related to national data; only about 31.5% young age 15-24 have knowledge about HIV prevention (CSA and ICF, 2016).

This study verifies what reproductive health revealed SRH rights and good knowledge on RH, statistically significant associations with prevention of risky sexual behaviors (Perera and Abeysena, 2018).

The finding show students those good relations with Public Health Institution, youth centers and media of inform on sexual and reproductive less likely to risky sexual behaviors. Addition participants those informed about sexuality and reproductive health from health worker, Parent, Peer and Friend were protected from risky sexual behaviors. There is a need to create community support networks for adolescents to practice safer sexual behaviors and provide access to SRH information and services. Looks at broader social factors, such as health systems, culture, politics, laws and policies, social norms and values, media and gender norms have a potential effect on young sexual behavior (Svanemyr et al., 2015).

The findings hold 76(32.3%) and 5% students had one and three type of risky sexual practice orderly of (early sexual debut, multiple sexual partners and unprotected sexual alcohol abuse). This finding is nearly to the same of under graduate Arbaminch University identified 127 (31.4%) reported having at least one risky sexual behavior in their lifetime (Soboka and Kejela, 2015) and Debra Tabor University students are exposed to a variety of risky sexual behaviors such as early sexual initiation, experiencing, multiple sexual partners, unprotected sex and the use of substances like alcohol (Derbie et al., 2016).

These study presented 48 (13.5%) students had history of pregnant/impregnate. Five (10.4%) students were current pregnant/impregnate, others were abort and have live birth 33(68.8%) and 10(20.8%), respectively. Similar finding in wolaita soddo university students showed percentage of pregnancy experienced in the last twelve months was 7.7% (34) and in 29 (85.3%) of the cases, pregnancy was unwanted (Amha et al., 2014)

Eighty two (23.1%) students have symptom of STI like discharge, itching and ulcer of genital. This hold up as risky sexual behavior is high, its consequences also high in study participants. This finding approved what other research showed significant relationship between young people's risky sexual behaviors and their vulnerability to these STIs (Darteh and Dickson, 2019). Study of national data showed knowledge of how STI including HIV transmitted is crucial to enabling people to avoid infection, and this is especially true for young people, who are often at

greater risk because they may have shorter relationships with more partners or engage in other risky behavior (CSA and ICF, 2016).

5.1. Limitation and strength of study

5.1.1. Limitation of the study

1. Data collections rely on students' self-report about sexual practices by use questionnaires. Data collected about sexual matters through questionnaires suffer from response bias. Instead of reporting on their actual sexual practice, students may responses “morally acceptable.”
2. This research has focus on quantitative research which has information bias better to focus on qualitative research to more understand and identify risky sexual behaviors youth in the higher institution of future.
3. This is a cross-sectional study; it cannot be used to analyze behavior over a longer period time. Furthermore, this study lacks of detail data of sexual experiences before joined University.

5.1.2. Strength

1. This study identified sample size procedure and analysis of risky sexual behavior relate to early sexual initiation, multiple sexual partners and unprotected sexual of alcohol abuse.
2. Major reproductive health's issues relate to young, affect their sexual behavior which is probably exploring in university.

6. CONCLUSION AND RECOMMENDATION

6.1. Conclusions

The respondents exhibited a Risky Sexual Behavior as many had their first sexual intercourse before 18 years. A many numbers of students had sex without any form of protection despite the fact that they had multiple sexual partners and alcohol abuse. Study revealed risky sexual behavior such as having early sexual initiation, multiple sexual partners and unprotected sexual activity done under influenced by alcohol of University students were statistical positive associated with age group, academic years, attend on video, movies, pornography and entertainment and had intercourse after drunken alcohol and negatively associated with information of sexuality and reproductive health.

Study illustrated female students engaged early sexual debut and male students' involved unprotected sexual activity done under the influence of alcohol than opposite sex. Ages of sexual debut for youth are generally decreasing and multiple sexual partners increasing with youth age.

This hold up as risky sexual behavior is high, its consequences also perilous. So, it's suggests an urgent need for intervention to promote safe sex among Oda bultum university. Special attention and early interventions are needed to avoid early sexual initiation and unprotected to sex. Strategies toward sexuality and reproductive health should be emphasized on reduce rape, paid sex, sex with commercial sex worker and sex with generational gab.

Some student's behaviors can make them at greater risk of STI involving HIV infection and psychological problem. Abstinence from sexual intercourse and delayed initiation of sexual behavior are among the central aims of prevention risky sexual behaviors efforts for young people. Decreasing number of sexual partners and increasing utilization prevention services.

Risky sexual behaviors problem might affect the victim's psychological, social and health being in the present and in the future. Comprehensive sexuality education need for all undergraduate students to develop knowledge, skills, attitudes and values that will empower them to realize their health. Minimize risky behaviors and practices behavioral change to safe sex.

6.2. Recommendation

- ✓ Based on the findings; the investigator would like to recommend everybody and every organization take own responsibility to protect from risky sexual behaviors. There are role of ministers, role of institutions, role of social and students to promote reproductive and sexual health of youth.
- ✓ Ministry of Health in collaboration with Ministry of Education should encourage reproductive health education which plays a vital role in youth healthy sexual behavior.
- ✓ Zonal health department, Campus itself and other partners should establish positive youth development and youth friendly services in institution which promote positive outcomes for all young people and sexual counseling for the students.
- ✓ Training university lectures in order to build their capacity in providing sexual and reproductive health information in campus for their students with the right tools with regards to their sexual practices.
- ✓ The university should provide comprehensive sexual and reproductive health education services for student's health services.
- ✓ Increasing access to condoms is essential for young students. Students may have good relations with Public Health Institution, youth centers and media to get information of sexual and reproductive.
- ✓ Encourage HIV and gender clubs through campus to encourage health education and availing services.
- ✓ Academic and Gender based age appropriate reproductive health education.
- ✓ Public Awareness Programmer and targeted behavioral change interventions are recommended for those students in Higher Learning Institutions.
- ✓ Students should have good relation with public health facilities, youth friend and health workers.
- ✓ Students should be avoiding negative use and focus on positive effect of social media.

6. REFERENCES

- Abels, Melissa D and Blignaut Renette J (2011). "Sexual-risk behaviour among sexually active first- year students at the University of the Western Cape, South Africa." *African Journal of AIDS Research* 10(3): 255-261.
- Amha Admasie Gelaye, Kalemekot Nigussie Taye and Tesfa Mekonen (2014). "*Women's Health.*" *BMC* 14(50).
- Ararso BaruID, Ikeola A. Adeoye and Adeyemi O. Adekunle(2020), "*Risky sexual behavior and Associated factors among young female internal migrants in Burayu Town, Ethiopia.*"
- Awoke Kebede, Bogale Molla and Hadgu Gerensea (2017). "Assessment of risky sexual behavior and practice among Aksum University students, Shire Campus." 1.
- Brener, N. D., D. K. Eaton, K. H. Flint, J. Hawkins, L. Kann, S. Kinchen and S. L. Shanklin (2004). "*Methodology of the Youth Risk Behavior Surveillance System-2013.*" CDC (Retrieved 2016). "Trends in sexual risk behaviors among high school students." 01-11: p.856.
- CSA and ICF (2016). EDHS "*HIV Report.*"
- Darteh EKM, Dickson KS and Amu (2019) Aug 23 "*risky sexual behaviors and their vulnerability to these STIs.*" *Community Health.*
- Dennis M, Peter W, Marion M, and Peter N. (2012). "*Sexual Risky Behaviors among the Youth in Kenya.*" *Medicine Science* 1(3): 177-178.
- Derbie Awoke, Assefa Mekonnen, Mekonnen Daniel and Biadlegne Fantahun (2016). "*Risky sexual behaviour and associated factors among students of Debre Tabor University, Northwest Ethiopia: a cross-sectional study.*" *Ethiopian Journal of Health Development* 30(1): 11-18.
- Dingeta Tariku, Lemessa Oljira and Nega Assefa (2012). "*Patterns of sexual risk behavior among undergraduate university students in Ethiopia: a cross-sectional study.*" *Pan African Medical Journal* 12(1).
- Gezahegn T, Birhanu Z, Aman M, Dessalegn M, Abera A and Nyagero J. "*Peer communication on sex and sexual health among youths: a case of Debre Berhan university, Ethiopia.*" 25(Suppl 22):28.

Gurmesa Tura, Fessahaye Alemseged and Sisay Dejene (2012). "risky sexual behavior and predisposing factors among students of jimma university."

Kassa, G. M., G. Degu, M. Yitayew, W. Misganaw, M. Muche, T. Demelash, M. Mesele and M. Ayehu (2016). "Risky sexual behaviors and associated factors among Jiga high school and preparatory school students, Amhara Region, Ethiopia." *International scholarly research notices* 2016.

Kidest Getu M., G. MH, B. B. M and F. M. W. . (2016). " Unintended pregnancy in Ethiopia: community based cross-sectional study." *Obst Gynecol Int*.

Madise, N., E. Zulu and J. Ciera (2007). "Is poverty a driver for risky sexual behaviour? Evidence from national surveys of adolescents in four African countries." *African journal of reproductive health* 11(3): 83-98.

M. E. Hoque, T. Ntsipe and M. Mokgatle-Nthabu (2012). " "Sexual practices among University students in Botswana," *Gender & Behaviour.*" vol. 10: pp. 4645–4656.

Mesfin Tafa Segni and Sime Degafa, (2020) "assessment of risky sexual behaviors and associated factors among students of Arsi University,Ethiopia."

Mbuthia G, Wanzala P, Ngugi C and Nyamogoba (2019), "Patterns Of Risky Sexual Behavior and Associated Factors Among Undergraduates In The Coastal Region of Kenya" *African Journal of Health Sciences Volume 32, Number 3*.

Menon, J. A., S. O. Mwaba, K. Thankian and C. Lwatula (2016). "Risky sexual behaviour among university students." *International STD Research & Reviews*: 1-7.

Montrosse-Moorhead, B., Bitar, K., Arévalo, J. and Rishko-Porcescu, A., (2019). "Sustainable development strategies on youth." *international Journal*

Mulu W, Yimer M and Abera. B. (2014). "Sexual behaviours and associated factors among students at Bahir Dar University." 1: 84.

Musiime, K. E. and J. F. Mugisha (2015). "Factors associated with sexual behaviour among students of Uganda Martyrs University." *International Journal of Public Health Research* vol. 3: pp. 1–9.

Negeri EL (2014). " Assessment of risky sexual behaviors and risk perception among youths in western Ethiopia: the influences of family and peers: a comparative cross-sectional study ".

Perera and Abeysena (2018). "Reproductive Health " 15: 105.

- R. Chapman, R. G., White, L. A. Shafer, A. Pettifor, O. Mugurungi,...and R. J. Hayes (2010). "Behaviour and HIV in adolescents in Africa." 5: 5pp 554–566.
- Silas , J., R. Jacobstein, C. Curtis, J. Spieler and S. Radloff (2013). *"Poverty and risky sexual behaviours: Evidence from Tanzania."* *International Journal of Gynecology and Obstetrics* 121(1): S9-S15.
- Soboka, Bikila and Kejela, Gemechu (2015). *"Assessment of risky sexual behaviors among ArbaMinch University Students, Arba Minch Town, Snnpr, Ethiopia."* *Journal of Child and Adolescent Behavior* 3(2): 2-7.
- Stamm, C., Miranda, R.H., McGregor, J.A. and Idsog, C.M. (2011). *"An Evidence-Based Approach to Managing Common STI's in Adolescents."* *Contemporary OB-GYN*: 43-51.
- Svanemyr, J., A. Amin, O. J. Robles and M. E. Greene (2015). *"Creating an enabling environment for adolescent sexual and reproductive health: a framework and promising approaches."* *Journal of adolescent health* 56(1): S7-S14.
- Tadesse, Gojjam and Yakob, Bereket(2015).*"Risky sexual behaviors among female youth in Tiss Abay, a semi-urban area of the Amhara Region, Ethiopia."* PLoS One 10(3).
- Unaid.org (2018). *"HIV/AIDS treatment failure and associated factors in Ethiopia."* *BMC*.
- WHO (2011). *"Unsafe abortion global and regional estimates of the incidence of unsafe abortion and associated mortality."* 546.
- WHO (2017). *"Sexual health and its linkages to reproductive health."*
- WHO (2019). *"maternal child adolescent and adolescence on HIV/AIDS."*
- Wordofa, D. and S. Shiferaw (2015). *"Sexual Risk Behaviors and its Associated Factors among Undergraduate Students in Madda Walabu University, Southeast Ethiopia."* 5:4.

7. ANNEXES

Appendix A: Participant Information Sheet and Voluntary Consent Form

My name is _____. I am working as data collector for the study being conducted in this university by **Latera Dandena** who is studying his Master's degree at Haramaya University, College of Health, and medical Sciences. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The study title: RSB among Undergraduate Students of Oda Bultum University, West Hararghe zone, Oromia Regional State, Eastern Ethiopia 2020/21

Purpose of the study: The research will be helpful to identify factors that increase risk sexual practices and other problems related to sexual reproductive health and also will help us to develop adolescent and youth sexual health services and educational programs. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's program in Reproductive Health for the principal investigator.

Procedure and duration: There are 45 self-administer questionnaires be answer by encircle of choose. The self-administer questionnaires will take about 25-40 minutes, so I kindly request you to spare me this time to participate.

Risks and benefits: The risk of being participated in this study is minimal, but only taking few minutes from your time. Your ideas are essential for me to better understand problems in relation to risky sexual behavior. Alternatively, the findings from this research may reveal important information for O.B.U, Zonal Health Office and non-government planners.

Confidentiality: The data you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study population and will not reflect anything particular of individual person. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Rights: Participation in this study is voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any

time and this will not label you for any loss of benefit, which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

Contact address: If there are any questions about the study please contact me:

Latera Dandena: Mobile number **0910632227**

Email Address: lateradandi@gmail.com

Institutional Health Research Ethics Review Committee: Phone Number (+251)-025-466-2011

Declaration of informed voluntary consent: I have read/was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues to confidentiality, the rights of participating and contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to stop the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to allow this study to be conducted with my initials (signature) as indicated below.

Name and signature of the participant: _____

Signature of data collector: _____ Date: _____

Appendix B. Questionnaire to assess risky sexual behaviors 2021

Questionnaires ID NO _____ **Name of interviewer** _____ **Date of** _____

Read the questioners aloud and circle the appropriate answers describe you.

Part I: - Information socio demographic and socio economic characteristics			
No.	Questionnaires	Circle one Answer	Skip (jump to)
101	What is your sex	1. Male 2. Female 3. Other(specify _____)	
102	How old are you?	_____ years old	
103	What is your year of study?	1. 1 st year	

		<ol style="list-style-type: none"> 2. 2nd year 3. 3rd year 4. 4th and above 	
104	Your faculty of study	<ol style="list-style-type: none"> 1. College of Agriculture (COA) 2. Faculty of Education 3. Faculty of Business and Economics 4. Technology 	
105	What is your religion?	<ol style="list-style-type: none"> 1. Orthodox 2. Islam 3. Protestant 4. Others (specify_____) 	
106	How often do you attend religious service?	<ol style="list-style-type: none"> 1. Everyday 2. At least once in a week 3. At least once in a month 4. At least once in a year 5. Never 	
107	Which ethnic category describes you?	<ol style="list-style-type: none"> 1. Oromo 2. Amhara 3. Tigre 4. Somale 5. Others(specify_____) 	
108	What is your marital Status?	<ol style="list-style-type: none"> 1. Single 2. Married and living together 3. Married but not living together 4. Divorced 5. Others (specify_____) 	
109	Where is your family place of Residence?	<ol style="list-style-type: none"> 1. Rural 2. Urban 	
110	How do you thinking your family status (comparing to your neighbors)?	<ol style="list-style-type: none"> 1 Very rich 2 Rich 3 Medium 	

		4 Poor 5 Very poor 6 I don't know	
Party II Sexual Behavior related information			
201	Which sexual orientation category best describes you?	1. Heterosexual 2. Homosexual 3. Bisexual 4. Other(specify _____)	
202	Do you have boy \ girlfriend(s)?	1. Yes 2. No	
203	Have you ever had sexual intercourse?	1. Yes 2. No	If say No Skip to Q29
204	At what age did you first have sexual intercourse?	Specify that age _____	
205	How many sexual partners do you have so far?	1. One 2. Two 3. Three 4. Four 5. Five and More	
206	With how many people have you had sexual intercourse during the last 12 months?	1. One 2. Two 3. Three 4. Four 5. 5. Five and More	
207	Why did you decide to have sexual intercourse the first time? (Multiple answers)	1. Fell in love 2. Marriage 3. Raped 4. To get money 5. Peer pressure	

		6. Was drunk 7. Others(Specify_____)	
208	How much older or younger was the person with whom you had first sexual intercourse?	1. More than 10years older 2. 5-10 years older 3. Less than 5 years older 4. Younger than me 5. He was an age like me 6. Do not know	
209	Do you know / think that your sexual partner has another sexual partner?	1. Yes 2. No 3. I do not know	
210	On the last occasion what kinds of sex did you have? (answer all that do)	1. Unprotected vaginal sex 2. Vaginal sex with a condom 3. Unprotected anal sex 4. Anal sex with a condom 5. Oral sex	
211	Have you ever been pregnant/ impregnated?	1. Yes 2. No	If say No Skip to q23
212	What was the outcome of the pregnancy?	1. Currently pregnant 2. Abortion 3. Live birth 4. Others specify_____	
213	What type of contraception you use with friend(s)?	1. The condom 2. The pill 3. calendar 4. Other _____	
214	Have you used condom the first time you had sexual intercourse?	1. Yes 2. No	
215	Have you used condom the	1. Yes 2. No	

	last time you had sexual intercourse?		
216	Did you have sexual intercourse with commercial sex worker? (For Males	1. Yes 2. No	If say no Skip to 29
217	Have you used a condom when making sexual intercourse with commercial sex worker? (For males)	1. 1.Yes, every time 2. Almost every time 3. Some times 4. Never	
218	If you haven't used condom what was the reason(s)?(Multiple answers are possible	1. Not Available 2. Too expensive 3. Ashamed to ask 4. Wanted to be pregnant 5. I trust my partner 6. Other (specify_____	
219	Have you had symptom of STIs such as genital ulcer, abnormal genital discharge, & pain during urination?	1. Yes 2.No	If say no skip to 33
220	If yes, whom did you first discuss the issue with?	1. My parents 2. My friends/peer 3. My partner (couple) 4. Health workers 5. Other (_____	
221	If yes, where did you go for the treatment?	1. Traditional healer 2. Public health institution 3. pharmacy 4. Private clinics 5. Others(_____	
222	Why prefer to seek health care?	1. For effectiveness 2. Free service	

		3. Confidentiality 4. Others_____	
Party III. Information related to habitual			
301	Did you attend Video, movies, Pornography and entertainment of sex?	1. Yes 2. No	If say no, jump 35.
302	If yes, did you think they are reasons for your premarital intercourse?	1. Yes 2. No	
303	Have you had sexual intercourse after drinking Alcohol?	1. Yes 2. No	If say no, jump 37
304	If yes, did you or your partner use condom?	1. Yes 2.No	
305	Have you had sexual intercourse after chewing chat?	1. Yes 2.No	If say no, jump 39
306	If yes, did you use condom?	1. Yes 2.No	
307	Did you think Alcohol/ khat/ drug use reasons for your per- marital sex?	1. Yes 2.No	
308	Do you think chat on Facebook/internet initiate for sex?	1. Yes 2. No	
309	Did you have any information about sexuality and reproductive health?	1. Yes 2.No	
310	If yes, From where have gotten?	1. Health institution 2. Media 3. Youth centers	

		4. Other(_____	
311	From whom do you learn about sexuality and reproductive health?	<ol style="list-style-type: none"> 1. My parent 2. Peer 3. My partner (couple) 4. My friend 5. Other (_____ 	
312	Of following individuals with whom have you had sexual inter course?	<ol style="list-style-type: none"> 1. Person who have sexual partners. 2. Persons with STIs 3. With commercial Sex workers 4. Others(Specify_____ 	