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Original Research

Risky sexual behaviours and associated factors among adult clients on ART in Western Oromia, Ethiopia

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Abstract

A study conducted in the East Wollega Zone aimed to identify risky sexual behaviors among HIV-positive individuals undergoing antiretroviral treatment. The study involved 538 clinic-based respondents, with interviews conducted in person. The research used descriptive statistics, bivariate analysis, and multivariate analysis to analyze the data. The results showed that 46.4% of the participants had engaged in risky sexual conduct in the six months leading up to the study. Factors significantly associated with risky sexual behavior included being between the ages of 18 and 29, having more than one sexual partner, drinking alcohol, using substances, and using condoms in a pattern. The study highlights the importance of addressing unsafe sexual behaviors among HIV-positive individuals, such as not using condoms regularly, receiving thorough counseling and health education during antiretroviral therapy appointments and follow-up care, and increasing awareness about preventing HIV spread and safer sexual practices. It is crucial to focus on unsafe sexual behaviors, such as not using condoms regularly, receiving thorough counseling and health education during antiretroviral therapy appointments and follow-up care, and increasing awareness about preventing the spread of HIV and safer sexual practices.

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INTRODUCTION

Sexually risky behaviors include a wide range of actions that can put one in danger of getting HIV or another STI from a sexual partner, as well as of contracting a new strain of HIV oneself (Gebremariam, 2017). All demographics are at risk, but those who engage in sexual activity with several partners without protection are more likely to contract the disease (Reepalu, 2017). Serious repercussions may ensue for the individual and their partner or partners (UNAID, 2019). The risk of acquiring new strains of HIV and spreading HIV and other STIs is increased when people living with HIV engage in risky sexual behaviors (Geofrey et al., 2014). But until they get tested, people who are HIV positive have no idea of their status. A person infected with HIV can still infect others even if they show no symptoms of illness, according to the Federal Democratic Republic of Ethiopia Ministry of Health (EFMoH, 2018).

More than 39 million people have died as a result of HIV/AIDS, and over 78 million have been infected with the virus since the beginning of the epidemic (EFMoH, 2014). Roughly 1.7 million people contract HIV each year in 2019, and 37.9 million are living with the virus (USAID, 2015). Of this number, 36.2 million are adults (15+ years old), and approximately 24.5 million are receiving antiretroviral therapy (ART), a 62% increase but still more than three times the number in 2010. Despite this, there has been a consistent rise in the number of persons living with HIV; yet, only 50% of this population has access to antiretroviral therapy (ART) (Girum et al., 2018, Wang, 2007).

About 4,400 adults (15 and above) were newly infected with HIV per day in Sub-Saharan African nations, which accounted for around 80% of all new HIV infections. The percentage of new HIV infections among those between the ages of 15 and 24 dropped to 32% from 61% overall (Afolaranmi, 2019). Half of all new HIV infections happen in people between the ages of 15 and 24. This implies that five young people get infected with HIV/AIDS every minute. As a result, more than 7,000 young people contract HIV every day (Demissie et al., 2015).

Over the past two decades, almost 1.93 million individuals in Ethiopia have tested positive for HIV, with around 1.3 million (or 67.4% of the infected population) succumbing to AIDS-related complications (Demissie et al., 2019). Still, among people in this country between the ages of 15 and 49, 1.2% of women and 0.6% of men are HIV positive (EFMoH, 2016). The 2016 EDHS study indicated that the HIV/AIDS prevalence in the Oromia region of Ethiopia was 0.89% (EFMoH, 2016). In addition, there were 722,248 new HIV infections in 2017, up 3,748 from 2016, and over 724,400 people in the country are living with HIV/AIDS and receiving antiretroviral therapy (ART) (Getiye Dejenu et al., 2019).

As a result of the availability of effective antiretroviral drugs, the progression to AIDS and early death among HIV-positive individuals have been significantly reduced (Belay & Addis., 2015). This has turned HIV infection into a chronic manageable disease (Hailu et al., 2018), which could lead to the perception that HIV is no longer a fatal and serious illness (Hambisa et al., 2013). In addition, antiretroviral therapy (ART) is great at stopping the spread of HIV because it lowers viral loads in patients to levels that are difficult, if not impossible, to detect or transmit (Setegn et al., 2015).

Several studies have demonstrated that PLHIV have a dramatic rise in sexually hazardous behaviors after starting antiretroviral therapy (ART), and that this is due to both an improvement in their physical health and an overall improvement in their clinical state. Antiretroviral medication makes them feel better, so they start to reintegrate into society and, in most cases, engage in riskier sexual conduct (Molla & Gelagay., 2017). Accordingly, it raises the stakes for both the individual and their sexual partners in terms of contracting and transmitting new strains of HIV (EFMoH, 2016). A lack of education on the importance of protecting oneself from strain, having multiple sexual partners, being with a partner who has a positive sero-status, not disclosing one's sero-

status, wanting more children, having sex while under the influence of alcohol or other substances, and engaging in unprotected sexual behaviors were all factors that contributed to these problems (Mosisa et al., 2018). People living with HIV who engage in risky sexual behaviours are often overlooked and underrecognized, as most discussions around this topic center on those who are not HIV positive (Agu & Igbe., 2014). It is crucial to address these risk factors among PLHIV in order to stop the spread of HIV and make life better for those who are HIV positive and taking antiretroviral therapy (ART) (Yaya et al., 2014).

Consequently, the purpose of this research was to determine how common hazardous sexual behavior is among PLHIV in the East Wollega Zone of Oromia, Ethiopia, and what variables are linked with it.

MATERIALS AND METHODS

Study area, and period.

The research was place in Ethiopia's East Wollega Zone, which is part of the Oromia regional state. The capital city of Ethiopia, Addis Ababa, is 328 kilometers away from East Wollega Zone. The East Wollega Zone is bordered by Illubabor on the southwest, the Didessa River on the west, the Benishangul-Gumuz Region on the northwest and north, Horo Guduru Wollega Zone on the northeast, West Shewa on the east, and the Gibe River on the southeast, which separates it from Jimma. To the northeast, there is Horo Guduru Wollega Zone. There are 298 administrative kebeles (rural and urban) and 17 administrative districts in the zone. The 2007 EFY census predicted a total population of 1,593,926 for the zone, with 797,575 females and 796,351 males (49.9% and 50.1% of the total, respectively) (EFMoH, 2016). In all, 2,098 persons in the study's participating health facilities were receiving antiretroviral therapy (ART) at the time. Twenty district primary health care units (ART clinics), three main hospitals, fifty-eight government health centers, and two hundred ninety-four health posts make up the zone.

Study Design

The quantitative approach of data collecting was utilized in an institution-based cross-sectional study design in East Wollega Zone.

Source Population

All adults in the East Wollega Zone who were receiving antiretroviral therapy (ART) and attending their follow-up appointments were randomly chosen to participate in the study.

Study population

The adults living with HIV who were selected at random to participate in the study were all receiving ART follow-ups at the ART clinics in the primary health care unit in East Wollega Zone.

Inclusion criteria

Adults living with HIV who had been attending ART clinics for follow-up appointments and had lived in the research locations for a minimum of six months prior to the study period.

Exclusion criteria

The most severely sick, unconscious, and communicative HIV-positive adults are those who are on antiretroviral therapy.

Sample size determination

Using an estimated risky sexual behavior of 32.9% from a prior study conducted among HIV-positive individuals attending antiretroviral therapy (ART) at Nekemte Referral Hospital in Ethiopia between March and April of 2018 (Mosisa et al., 2018), the study's sample size was determined using a single population proportion formula. Further, under these conditions: a 95% CI, a 95% confidence level, and a 5% margin of error (d).n = $\frac{(Z\alpha/2)^2\, p(1-p)}{d^2}$

Where: - α - level of confidence.

p - Percentage of an estimated risky sexual behavior (P) was 32.9%.

n - Sample size.

Z - Standard normal distribution curve value for 95% CI which is 1.96 (where α= 0.05).

d - Tolerable margin of error= 5% (0.05)

Based on the above assumption sample size was computed as:

$$n = \frac{(1.96)^2 0.329(1-0.329)}{(0.05)^2} = 339$$

This means that after accounting for a 5% non-response rate, the first objective's sample size was 356. A formula was utilized to adjust the sample size due to the fact that the source population of 1,078 clients is below the 10,000 finite population correction.

Studies in Gondar Referral Hospital and Addis Abeba established that the number of current partners and identified sex were associated factors for unprotected sexual practice, respectively (Molla & Gelagay, 2017; Demissie et al., 2015), thus these studies were used to determine the sample size for the factors. With the following parameters: 80% power, a 5% non-response rate, a 95% confidence level, an unexposed to exposed ratio of 1:1, n = 389 for the number of current partners, and n = 513 for sex, we can obtain the following results in EpiInfo version 3.5.1. Based on the estimates provided earlier, a larger sample size of 513 was deemed possible. Lastly, 538 HIV-positive individuals who were enrolled in antiretroviral therapy clinics made up the total sample size after accounting for the 5% non-response rate.

Sampling techniques:

With three main hospitals and seventeen health centers, the East Wollega Zone is home to twenty ART clinics. Six primary health care units were randomly selected for the study. These units included one hospital and five health centers that provide antiretroviral therapy (ART) and follow-up for people living with HIV/AIDS. During the study period, we counted all of the clients who visited ART clinics. Then, we divided the overall sample size by the number of adult clients who were receiving ART services at each health facility. In the research area, 538 adults who tested positive for HIV and were taking antiretroviral therapy were selected using a rigorous random sample technique. We started by tallying up all the adult patients who made monthly visits to the ART clinic for their follow-up appointments. An estimated 1,078 adult patients were making monthly visits to the ART clinic for follow-up appointments. Hangar Gute Health Centre had 208 patients per month, Arjo Gudatu Health Centre 83, Sibu Sire Health Centre 20, Gute Health Centre 67, and Jima Arjo District Hospital 79

patients per month for follow-up. The ART registration book served as a sampling frame, and the total number of PLHIV on ART in each institution was divided by the allotted sample size to establish the sampling intervals.

Data collection tools and procedures

A variety of evaluated literature informed the development of the structured interviewer-administered closed-ended questionnaires used to gather the data. Prior to collecting actual data, the questionnaire was pilot tested on a comparable population at several healthcare facilities. We collected data using an instrument that was originally produced in English and then translated to Afan Oromo, the regional working language, and returned to English for consistency's sake. The surveys collect data on demographics and other personal information, including details on the respondent's relationship status, medical history, behavior, fertility goals, health care providers, and socioeconomic status. The supervisors and data collectors received two days of training on the questionnaire, interview strategy, interview tactics, respondent privacy, and secret disclosure. Under the supervision of three qualified BSc. public health professionals, six diploma-graduate nurses working in the ART clinics of the various primary health care units collected the data. The data collection process was overseen by supervisors who also made sure the questions were consistent and comprehensive.

STUDY VARIABLES

Dependent variable

Risky sexual behaviour

Independent variables

Age, sex, marital status, educational status, occupation, place of residence, employment status, information on risky sexual behaviours

Partner-related factors

Number of partners, educational status of partners, type of partners, partner's occupation, discussion about safe sex with partner, HIV status of partner, disclosure status to partner.

Medical-related factors

Duration since diagnosed HIV positive, ART status, duration of ART, drug adherence, and recent CD4 count.

Individual factors

Discussions about safe sex practices

Behavioural factors

Substance use (i.e., drinking alcohol, chewing khat), having multiple sexual artners,

Fertility and health-related service characteristics

Number of children they had, I attended an HIV prevention discussion, received health education, and received counseling.

Operational definition

Risky sexual behaviour

A higher risk of developing new strains of HIV, spreading HIV infections, and other STDs is associated with this condition. The following characteristics are associated with this type of sexual behavior: having several

partners or infections; engaging in sexual activity without a condom or inconsistently using one; not disclosing one's HIV status to a sexual partner; and engaging in sexual activity while under the influence of substances (Belay &Addis., 2019).

Inconsistently use condoms

Not using condoms regularly in each sexual encounter.

Non-regular

Not included are frequent or steady partners (spouse, boy/girlfriend, etc.) who have paid within the past six months, but those with whom he or she had sexual relations once or twice are (Mosisa et al., 2018).

Regular partner

Whoever the respondent saw as a spouse or romantic partner during the past six months and with whom they had frequent sexual encounters (Agu & Igbe, 2014).

Data processing and analysis

A version of Epi Info 3.5.1 was used for data entry, and SPSS Software Version 24 was used for analysis. We ran both bivariate and multivariate tests. We used percentages and proportions to indicate how the respondents fell into several categories based on their socio-demographic, economic, partner-related, personal, and behavioral characteristics. We used a multivariate logistic regression model that included all explanatory factors with a p-value less than 0.25 at the bivariate analysis level of association. A 95% probability ratio To evaluate the existence and strength of the relationship between the dependent and independent variables at a P-value<0.05, the confidence interval was calculated. We presented the results using tables, texts, and charts. Checking for inter-correlation among explanatory variables is the initial step in building multiple regression models. To determine whether this effect was present in the models, we used the variance inflation factor (VIF) or tolerance. For that independent variable, tolerance is 1-R2 for the regression on the other independents, without considering the dependent.

The degree to which the tolerance approaches zero increases as the intercorrelation of the independent variables increases. Tolerance values below 0.20 typically suggest multicollinearity issues. Any VIF greater than or equal to 4 indicates the presence of multicollinearity. According to Hosmer et al. (2013), the models were evaluated for goodness of fit using the Hosmer and Lemeshow goodness of fit tests. If the test result was considered negligible, the model was considered to have good fit. Text, tables, and graphs were used to display the study's analytical and descriptive findings.

Data Quality Management

The data was collected using a standardized questionnaire that was presented by an interviewer. We taught six medical experts to collect data. In order to fine-tune the interview questions, translations, and allotted time, a pilot study was conducted with five percent of the total sample at the Nekemte health center in Nekemte town. With a strong focus on local vocabularies, the English questionnaire was translated into Afan Oromo and then back into

English to guarantee consistency. Prior to their deployment to the field, the data collectors were provided with daily feedback and adjustments by the lead investigator. The collected data was double-checked for completeness, accuracy, and clarity every day. The following day, before beginning the following day's activities, any mistakes, ambiguity, or incompleteness that were identified were addressed.

Ethical consideration

On July 21, 2020, the Institute of Health Sciences, Wollega University's Ethics Committee (protocol code: HIS-2032) gave its approval for the study to proceed in accordance with the principles outlined in the Declaration of Helsinki. Informed permission and an information leaflet gave the go-ahead for the research. In addition, the Institute of Health Sciences of Wollega University submitted a formal letter to the East Wollega Zonal Health Office. Subsequently, six Woreda Health offices under the East Wollega Zone Health Office were asked for permission and each Woreda Health office formally supported the application by sending a letter to each Primary Health Care Unit ART clinic that had received permission from them. All participants were given detailed information regarding the study's goals and methods, as well as any potential risks or advantages, the importance of confidentiality, and their freedom to refuse or withdraw from the study at any moment. Afterwards, we made sure to get each participant's spoken informed consent. Confidential interviews were conducted with clients who agreed to take part in the research. To ensure the privacy of the study's participants and the information they shared, we refrained from collecting any personally identifying information.

RESULTS AND DISCUSSION

Results

Socio-demographic characteristics of the respondents

A response rate of 99.8 percent was achieved from the 537 interviewees out of 538 estimated samples. Three hundred and one people, or 56.1% of the total, lived in rural regions, while 236 people, or 43.9%, lived in urban areas within the zone. No one who took the survey wasn't taking ART. The study included 291 female subjects, or 54.2% of the total, and the average age of the participants was 34.65 years (SD ± 6.958). The age bracket of 30–39 comprised 60.7% of the total study population, with the 18–29 age group coming in second at 24.0%.

Of the total participants, 246 (or 45.8%) were wed, 43 (or 8.2%) had lost a spouse to death, 84 (15.6%) were divorced, and 164 (30.5%) were not in a committed relationship. There were 321 participants (59.8% of the total) with 1–3 children, 52 (9.7%) with 4–6 children, and 164 (30.5%) without children. In terms of educational attainment, 225 people (41.9%) did not complete any formal schooling, 252 people (46.1%) completed elementary school, and 60 people (11.2%) completed secondary school or above. When asked about their occupation, 242 (45.1%) were farmers, whereas 159 (29.6%) were in the trade. Table 1 shows that 415 individuals, or 77.3% of the total, have monthly incomes below 500 Ethiopian birr.

Table1

Socio-demographic characteristics of HIV positive adults attending anti-retroviral treatment (ART) clinic at East Wollega Zone PHCU ART Clinic, west Ethiopia, 2020(N 537)

Characteristics (Variables)		Frequency (n=537)	Percentage
Sex			
	Male	246	45.8
	Female	291	54.2
Age			
	18-29	129	24.0
	30-39	326	60.7
	40-49	62	11.5
	>50	20	3.7
Residence			
	Urban	236	43.9
	Rural	301	56.1
Marital status			
	Unmarried	164	30.5
	Married	246	45.8
	Divorced	84	15.6
	Widowed	43	8.0
Educational status			
	No Education	210	39.1
	Primary	259	48.2
	Secondary	59	11.0
	College/University	9	1.7
Monthly Income			
	<500ETB	415	77.3
	500- 999ETB	64	11.9
	>1000ETB	58	10.8

Medical history of the study subjects

Out of the total number of responders, 324 (60.3%) were aware of their HIV status prior to the fifth year. On average, it had been 2.55 years (SD±0.60) since the person tested positive for HIV. The current companion was stayed with for an average of 2 years (SD ± 0.275). With an average duration of 2.56 (±0.63 SD) years since beginning anti-retroviral medication, over sixty percent, or 340 (63.3%), of the patients had been on the treatment for over two years. The majority of the patients in the study, 487 out of 578, had strong adherence to antiretroviral therapy (ART), and over half of the participants, 278 out of 51.8, had a recent CD4 count of >500 cells/mm3. The mean CD4 count was 1.74 (±0.645 SD).

Table-2

Medical history of HIV positive adults attending anti-retroviral treatment (ART) clinic at East Wollega Zone PHCU, west Ethiopia, 2020 (N=537)

Characteristics (Variables)	Frequency (n=537)	Percentage
Length of stay with current Partner		
<1year	39	8.0
1-4 years	173	35.0
>4 years	283	57.0
Time since ART start		
<1 year	40	7.4
1-2 years	157	29.3
>2 years	340	63.3
Time since tested positive		
<1 year	30	5.6
1-5 years	183	34.1
>5 years	324	60.3
Adherence to ART		
Good	487	90.7
Fair	49	9.1
Poor	1	0.2
Recent CD4 count		
<500	199	37.1
>500	278	51.8
Not known	60	11.2

Fertility and health-related service characteristics

A total of 321 respondents (59.8%) reported having multiple children. In terms of future family planning, 150 people (27.9%) are interested in starting a family; among them, 76 people (14.2%) want to have a single child and 63 people (11.7%) want a double. Within the last six months, 492 respondents (91.6%) were counseled on the significance of infection prevention, 282 (52.5%) received health education on HIV prevention, and 255 (47.5%) did not receive health education, according to Table 3. Figure 1 shows that 46.4% (95% CI: 41.8% to 52.0% of PLHIV) participated in unsafe sexual practices.

Table 3

Child desire and health-related service characteristics of HIV positive adults attending anti-retroviral treatment (ART) clinic at East Wollega Zone PHCU, west Ethiopia, 2020 (N=537)

Characteristics		Frequency(n=537)	Percentage
No. of children current they have	No children	164	30.5
	1-3	321	59.8
	>3	52	9.7
Desired to have a child	Yes	150	27.9
	No	387	72.1
Number of children they desire	One	76	14.2
	Two	63	11.7
	Three & above	14	2.6
	Don't desired	384	71.5
Had Received counseling	Yes	492	91.6
	No	45	8.4
Received Health education	Yes	282	52.5
	No	255	47.5

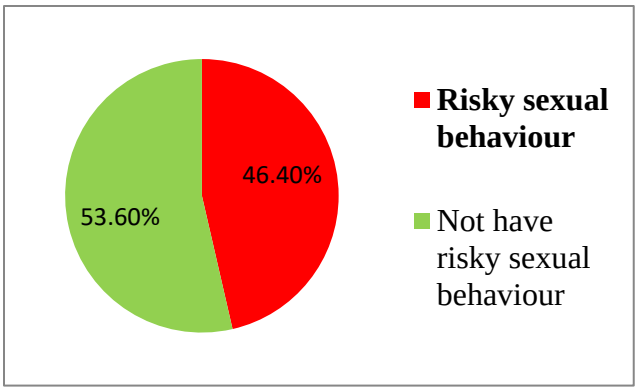

Figure 1. *Pie chart of the risky sexual behaviors among adult people living with HIV attending Anti-Retroviral Therapy clinics at East Wollega zone primary health care unit, 2020.*

More over 60%, 130 people, have been using condoms consistently, whereas 38.8%, or 83 people, have used them inconsistently in the six months leading up to the survey. But over half of the people who participated in the study (196 people) admitted to never using a condom during their most recent sexual experience. In addition, several couples did not want to continuously use condoms because they believed that their partner already had HIV (71 people, or 36.2% of the total). There were 58 participants (29.6%), 19 (9.7%) who believed that antiretroviral therapy (ART) prevents the spread of HIV, 18 (9.2%) who wanted to have a child, 5 (2.6%), 4 (2.0%), and 3 (1.5%) who were afraid to ask their partners to use condoms because they were afraid they would be rejected. Among all respondents, 187 (37.2%) have broached the subject of safe sex with their partners at some

point, while 308 (62.2%) have never done so. Nearly half of the people surveyed (282) and nearly all of the people surveyed (492) have used health education services or sought counseling from public health agencies in the past (Table 4).

Table 4

Discussion about safe sex practices among PLHIV attending anti-retroviral therapy (ART) at East Wollega Zone PHCU, west Ethiopia,2020 (N=537)

Characteristics	Response	Frequency	Percentage
Condom use in the last 6 months (n=409)	Yes	213	52.1
	No	196	47.9
Pattern of condom use (n=213)	Consistently	130	61.2
	Inconsistently	83	38.8
Reasoned for not using condom (n=196)	My partner already HIV positive	71	36.2
	I didn't use because I am infected	58	29.6
	Thinking ART prevents the acquisition& transmission of HIV	19	9.7
	My partner did not want to use condom	18	9.2
	Wanted to have a child (own/partner)	18	9.2
	Was drank and didn't think of Condom use	5	2.6
	Condom was not available	4	2.0
	I fear to ask my partner to use a condom	3	1.5
Discussion about safe sex (s) (n=495)	Yes	187	37.8
	No	308	62.2

The respondents' knowledge of HIV risk factors

Some 146 people (or 27.3% of the total) think that becoming drunk and then having intercourse increases the likelihood of contracting HIV, whereas 391 people (or 72.7% of the total) disagree. Unprotected intercourse between HIV-positive couples is associated with an increased risk of disease progression, according to almost half of the study participants (49.7%), while over half (270/50.3%) disagree. Among all individuals who took part in the study, 251 (46.7%) had more than one sexual relationship. Among those who took part in the study, 284 (or 53.0% of the total) think that it is critical to use a condom when having sexual relations with someone who is HIV positive, while 253 (47.0%) disagree. Of the people who took part in the study, 207 (or 40.4% of the total) do not think it is important to tell their partner or partners about their status in order to stop the spread of disease. Of the people surveyed, 347 (70.1%) hold the belief that contracting another STD will make HIV transmission easier, while 161 (30.0%) hold the opposite belief (Table 5).

Table 5

Knowledge about safe sex Practices among HIV positive adults attending anti-retroviral treatment (ART) clinic at East Wollega Zone PHCU, west Ethiopia, 2020 (N=537)

Characteristics		Frequency (n=537)	Percentage
Do you believe that unprotected sex between HIV positive Partners are risky for the disease progression?	yes	267	49.7
	No	270	50.3
Do you believe that disclosing self HIV status to partner/s is important to prevent disease transmission?	yes	320	59.6
	No	217	40.4
Had you sex with multiple sexual partners in the past 6 months?	yes	251	46.7
	No	286	53.3
Sex after excess alcohol consumption is risky?	yes	146	27.2
	No	391	72.8
Do you believe that getting infected with other sexually transmitted disease will enhance HIV transmission?	yes	376	70.0
	No	161	30.0
Have you ever had sex under the influence of alcohol in the last 6 months?	yes	194	36.2
	No	343	63.9
Have you disclosed your HIV status to your partner/s in the past 6 months?	yes	191	35.6
	No	346	64.4
Do you believe that using condom is important during sexual act between HIV positive partners?	yes	284	53.0
	No	253	47.0

Summary of the study subjects' sexual behaviours

Among those who participated in the survey, 256 (51.7%) reported having had several sexual partners in the six months preceding the data collection. When asked about their substance use in the six months leading up to the study, 190 participants (46.5%) admitted to using at least one substance. Among these, 111 participants (58.4%) reported using alcohol, 60 participants (31.3%) chewed khat, and 19 participants (10.0%) smoked cigarettes while on antiretroviral therapy (ART), respectively. A total of 285 individuals (57.6%) reported having a regular sexual relationship, whereas 210 (42.4%) reported having an irregular partner. In their most recent sexual experience, over half of the participants (196 people, or 47.9%) did not use a condom. Of those who did not regularly use condoms during sexual intercourse (38.8% of the total), 200 (40.1%) had not informed their partners that they were HIV positive, and approximately 148 (36.1%) had consumed alcohol prior to having sex while taking antiretroviral therapy over the past six months. Risky sexual behaviors were engaged in by 230 PLHIV, or 46.4% (95% CI: 41.8%-52.0%) (Figure 2).

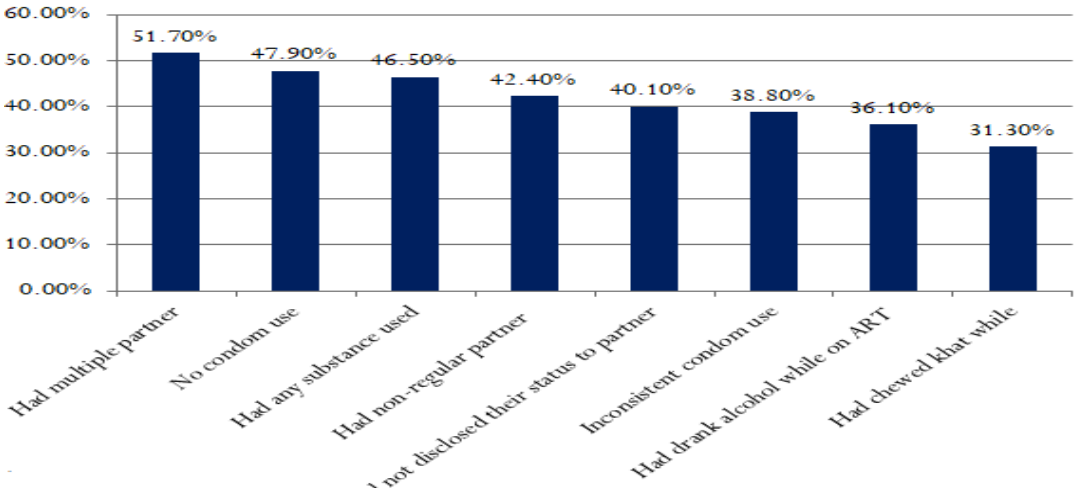

Figure 2 *Types of Risky Sexual Behaviors among Study Participants*

Factors associated with risky sexual behaviours

Risky sexual behaviors were found to be significantly associated with age, marital status, education level, occupation, number of sexual partners, type of sexual partners, number of sexual encounters, knowing partner's HIV status, receiving health education, disclosing partner's HIV status, substance use, alcohol consumption, condom use during sexual intercourse, and pattern of condom use in the last six months, according to bivariate level analysis. Nevertheless, the only factors shown to be significantly linked to risky sexual behaviors were the age of the respondents, the number of sexual partners of the respondents, the type of substances used (Khat usage), alcohol consumption, and the pattern of condom use.

At present, according to multivariate analysis, there is a 2.2-fold increased risk of engaging in hazardous sexual activity among HIV-positive individuals between the ages of 18 and 29 who visit an ART clinic compared to those aged 30 and up.

The odds ratio (AOR) for engaging in risky sexual conduct was 2.2 (95% CI: 1.31, 3.65), meaning that those with more than one sexual relationship were 2.2 times more likely to do so than those with a single partner. Chewing khat increased the likelihood of engaging in risky sexual conduct by 2.4 times compared to non-users or people who didn't chew at all (95% CI: 1.38, 4.10). People living with HIV who were using alcohol and attending antiretroviral therapy were twice as likely to engage in hazardous sexual behavior compared to those who did not use alcohol (AOR = 1.96, 95% CI: 1.34, 2.86). There was a 1.8-fold increase in the likelihood of engaging in risky sexual behaviors among respondents whose condom usage was inconsistent (AOR = 1.80, 95% CI: 1.14, 2.82) compared to those whose condom use was consistent throughout each sexual intercourse (Table 6).

Table 6

Factors associated with risky sexual behavior among people living with HIV attending anti-retroviral treatment at East Wollega Zone PHCU, west Ethiopia, 2020.

Characteristics	Risky sexual behavior		COR (95% CI)	AOR (95% CI)	p-value
	Yes (%)	No (%)			
Age in years					
18—29	69/134(51.5%)	65/134(48.5%)	1.734(0.984,3.06)	2.216(1.207,4.07)	0.010
30—39	150/324(46.3%)	174/324(53.7%)	1.408(0.851,2.33)	1.381(0.812,2.35)	0.234
> 40	30/79(40.0%)	49/79(62.0%)	1.00		
No.of partners					
One	142/239(59.4%)	97/239(40.6%)	1.00		
More than one	96/256(37.5%)	160/256(62.5%)	1.6(0.99,2.6)	2.19(1.31,3.7)	0.003*
Type of substance used					
Khat	42/67(62.7%)	25/67(37.3%)	2.08(1.24,3.46)	2.38(1.38,4.08)	0.002*
Cigarette	6/21(28.6%)	15/21(71.4%)	0.55(0.22,1.35)	0.51(0.27,1.31)	0.168
Not used	181/407(44.5%)	226/407(55.5%)	1.00		
Ever Consume alcohol					
No	163/316(51.6%)	153/316(48.4%)	1.00		
Yes	66/179(36.9%)	113/179(63.1%)	1.81(1.26,2.59)	1.96(1.34,2.86)	0.001*
Pattern of condom use					
Consistently	109/158 (69 %)	49/158(31.0%)	1.00		
Inconsistently	54 /100(54.0%)	46/100(46.0%)	1.57(1.02,2.41)	1.79(1.14,2.82)	0.012*
HIV status of Partner					
Positive	153/315(48.6%)	162/315(51.4%)	1.00		
Negative	25/52(48.1%)	27/52(51.9%)	0.99(0.56,1.74)	0.98(0.54,1.87)	0.954
Unknown	52/128(40.6%)	76/128(59.4%)	0.72(0.84,1.07)	0.67(0.44,1.03)	0.063
Type of sexual partner					
Regular	149/285(52.3%)	136/285(47.7%)	1.00		
Non-regular	101/210(48.0%)	109/210(51.9%)	0.61(0.43,0.9)	0.78(0.49,1.01)	0.073
Disclosure HIV status to partner					
Yes	147/295(49.8%)	148/295(50.2%)	1.00		
No	83/200(41.5%)	117/200(58.5%)	0.72(0.51,1.02)	0.87(0.66,1.28)	0.480

DISCUSSION

In this study, researchers in Ethiopia's East Wollega Zone looked at the frequency of risky sexual behavior among people living with HIV who were receiving antiretroviral therapy (ART) at primary health care units. As a result, nearly half of all ART users (46.4 percent; 95% CI: 41.8 to 52.0) had participated in sexually risky behaviour in the six months leading up to the data collecting period. Over half of these people (51.7%) had sexual relations with more than one person, and nearly half of them (196 people, or 47.9%) regularly used condoms. The results showed that this finding is significantly higher than the ones from Gondar Hospital in Ethiopia (38%), Nekemte Referral Hospital in Ethiopia (32.9%), and Togo (34.6%), according to Mosisa et al. (2018) and Hailemariam et al. (2019, respectively). Nevertheless, it falls short of the findings from the studies conducted in Arba Minch, Ethiopia (52%; Girum et al., 2018) and Kampala, Uganda (60.9%) (Ali et al., 2019). Study participants' health, educational background, socioeconomic status, location, and the kind of medical treatment they received could all play a role in explaining the discrepancy. Thus, people's propensity to participate in sexually dangerous behaviors may be exacerbated by their low socioeconomic and educational position.

Young adults (those between the ages of 18 and 29) reported twice as many instances of risky sexual behaviour than adults (those 30 and over). Research done in northwest Ethiopia is in agreement with this study (Ali et al., 2019). As people age, they are less likely to participate in sexually dangerous behaviors, such as unsafe or unprotected intercourse. Younger participants engaged in more sexually risky behaviors than older ones, according to a comparable study conducted in Gondar, Northwest Ethiopia (Molla & Gelagay., 2017). Possible causes include the fact that young people lack self-control when it comes to sexual impulses and are sexually hyperactive.

Participants with more than one sexual relationship were over two times more likely to partake in sexually risky behaviour compared to those with a single partner, according to this study. Belay and Addis (2019) and Mosisa et al. (2018) found that people with more than one sexual partner were more likely to engage in risky or unprotected sexual practices than those with a single partner. This finding is in line with previous research from Nekemte, Ethiopia, and Addis Ababa. One probable explanation is that people who have had more than one sexual partner may not have told their non-regular partners about their status. Additionally, this discovery showed that khat users were over twice as likely to partake in sexually dangerous activities. Earlier research in the same vein found similar results in Addis Abeba, Amhara Region, and Gambella town, Southwest Ethiopia (Wondemagegn & Berkessa, 2010; Tadesse & Yakob, 2012; Hailemariam et al., 2019). Another study that found a link between khat use and risky sexual behavior was an Ethiopian community-based study. This is because drug users are more likely to be influenced by their peers, and because, as said before, substance use can cause a person to lose control of their sexual drive.

Participants who drank alcohol were twice as likely to participate in sexually risky behaviours as those who had abstained from alcohol for the past six months, according to this study. Alcohol use was also associated with twice the likelihood of engaging in sexually risky behavior, according to a study out of Addis Abeba. Those who admitted to drinking were six times more likely to engage in sexually risky behavior, according to studies done in southwestern Ethiopia (Yalew et al., 2012), lending credence to this idea. In a same vein, researchers in Addis Abeba found that people who drank alcohol were twice as likely to participate in sexually risky behaviours compared to those who did not (Belay & Addis., 2019). Consistent counseling and messages to change harmful behaviors, such as cutting back on alcohol use and unsafe sexual practices, may explain the change. This might be because intoxication impairs judgment and planning when it comes to having sexual relations safely. When it comes to engaging in safe sexual behavior, alcohol impairs one's perception of danger, severity, and benefit. Risky sexual activity and its underlying causes among HIV-positive individuals receiving antiretroviral therapy should be further investigated in a large-scale investigation.

CONCLUSIONS

Comparatively, this study demonstrated that risky sexual behaviors were practiced by a higher percentage of HIV-positive individuals attending ART clinics (almost two-fourths of those living with the virus). Despite the low rate of regular condom use, the majority of research participants had sexual partners more than once. It is concerning that clients with HIV were able to infect healthy individuals or acquire new strains of the virus, which is a major concern for healthcare providers.

RECOMMENDATIONS

It is crucial to address the risky sexual behaviors of people living with HIV by ensuring that they regularly use condoms and by offering comprehensive counseling and health education during antiretroviral therapy (ART) consultations and follow-up care. Young individuals living with HIV need extra support in taking care of themselves.

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DECLARATION

Further, the authors declare that they have no competing interests.

DATA AVAILABILITY

The authors confirm that the data supporting the findings are available within the article materials.

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