

Risky Sexual Behavior and Associated Factors Among Sexually-Active Unmarried Young Female Internal Migrants Working in Burayu Town, Ethiopia

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Abstract

Background Young female internal migrants are highly vulnerable to risky sexual behaviors (RSB) which may result in serious health problems such as unintended pregnancy, abortion and sexually transmitted infections including HIV. RSB include early sexual debut (before 18 years), having multiple sexual partners, sex without condom or inconsistent use of condom and sex under influence of substance use. This study aimed to assess the magnitude and the factors associated with RSB among sexually-active unmarried young female internal migrants in Burayu Town, Ethiopia.

Methods A cross sectional study design was used for the study. A total of 267 respondents were recruited in to the study using simple random sampling technique. A semi-structured interviewer administered questionnaire was used to obtain information from the study participants. The collected data were cleaned, coded and entered into Epi data version 3.1 and then exported to SPSS Ver.21 for analysis. Multiple logistic regression models were used to indicate the association between dependent and independent variables.

Results About 35% of the young female internal migrants had sexual debut before age of 18 years; 64.4% had sex without condom or inconsistently used condom; nearly one quarter of the participants had multiple sexual partners and 29.6% had sex under influence of substance uses. The magnitude of RSB among the study participants was (79.1%). Sexting [AOR 3.47(95%; CI;1.10-11.94)], frequent indulgence of social media [AOR 10.9(95%;CI;2.31-51.89)], feeling of embarrassment to buy condom [AOR 8.28(95%; CI; 2.10-32.62)], unfavorable attitude toward using condom for steady and loving relationship [AOR 5.72(95%; CI; 1.47-22.24)] were related with RSB while self-efficacy [AOR 0.15(95%: CI; 0.04-0.57)] to use condom and perceived risks of getting pregnant [AOR 0.05(95%; CI; 0.01-0.23)] were found to be protective factors.

Conclusion The study found high levels of RSB among sexually-active unmarried young female internal migrants. This finding suggests an urgent need of intervention to promote safe sex among this group. Special attention and prompt interventions are needed to promote the use of condom. Moreover, intense efforts should be made to improve awareness on the seriousness of exposure to sexting and judicious use of social media among unmarried female internal migrants.

Background

Ethiopia is one of the developing countries in Sub-Saharan Africa with an estimated 80 percent of population inhabited in the rural area (1). Notwithstanding, the recent urbanization rate in the country is rapidly increasing at about 5.4 percent per year and by 2028 the country's population in urban areas will reach 30 percent (2). Internal migration (mainly rural to urban) is the main reason for the rapid increase (3).

Internal migrations in Ethiopia are due to social, economic, climatic and political factors like elsewhere in sub-Saharan Africa (4,5). The reasons include but not limited to the factors such as drought, war, famine,

political turmoil, forced migrations, education, searching for a better job opportunity and marriages or escaping from early marriages (4,6,7). Young people are a dominant group among all internal migrants in the country (6–8). However, they are an economically disadvantaged group with little education and limited skills (6,9).

Migration during the formative adolescent and early adult years can affect life-course transitions through several pathways and can lead young people to risky sexual behaviors (10,11). First, migration can alter existing sexual partnerships, and provide mobile individuals an opportunity to acquire new partners. Secondly, migrants are physically separated from their usual social norms and networks so that they may experience social isolation (12,13). Thirdly, they also might feel emotionally distanced from partners at home (12,14). Moreover, migrants have limited knowledge and access to reproductive health services (15,16). So, they are more likely to engage in risky sexual behaviors than non-migrants (12,14,17,18). Risky sexual behavior may result in serious health problems such as unintended pregnancy, abortion and sexually transmitted infections (STIs) including HIV (19).

In Ethiopia, risky sexual behavior was higher among migrants than non-migrants (6,7,20–22). According to the study conducted in Northwest Ethiopia, 80.4% of young female internal migrants were engaged in risky sexual practices (21). Indeed, there is high prevalence of multiple sexual partners, less utilization of condom and higher proportion of commercial sex engagement among migrants than non-migrants in the country (6).

Most studies conducted on risky sexual behaviors in Ethiopia were mainly focused on key populations such as female sex workers, secondary school students, university students, adolescents, youths and substance users (6,20,21,23–25). Nevertheless, the study that focused on sexual behavior of internal migrants is very limited. As a result, very little is known about the relationship between migration and risky sexual behavior among young female internal migrants in Ethiopia. Therefore, this study examined risky sexual behavior and associated factors among sexually-active unmarried young female internal migrants working in Burayu town, Ethiopia.

Methods

Study setting and period

The study was conducted in Burayu town, Ethiopia. The town is located 10 km to the West of Addis Ababa, the capital city of Ethiopia. The town has six kebele (the smallest administrative unit in Ethiopia). The town's strategic locations (near Addis Ababa city) and availability of infrastructures attracted domestic and foreign investors to the town. As a result, a large number of young people mostly from rural and semi urban areas move to the town to find better work opportunity. This study included three of the kebele located in Burayu town namely Lakku katta, Burayyu katta and Gafarsa nonno. In addition, the study was done from April to June 2019 among participants recruited from factories, restaurants, hotels, cafeterias, bars and beauty salons located in the selected kebele.

Study design, participants and sampling procedures

A cross-sectional study design was conducted to assess the magnitude and factors associated with risky sexual behaviors among sexually active unmarried young female internal migrants.

Sample size (n) was determined based on a single population proportion formula with the following assumptions. The prevalence of risky sexual behavior among young female internal migrants was 80.4%, which was taken from a study conducted in Tiss Abay town, Ethiopia (21). The level of confidence (α) was set at 0.05 ($Z(1-\alpha) = 1.96$) and the margin of error was taken as 0.05. Accordingly, the calculated sample size with 10% consideration for non-response rate was 267.

Eligibility criteria included being female, being in the age group of 15–24 years, had experience of penetrative sexual intercourse over the last six months, unmarried, internal migrants, employed in one of the requirement settings and having consented to participate in the study.

Prior to recruitment, informational leaflets about the survey were distributed to the staff in each recruitment site. Of the 783 individuals who were screened for eligibility, 267 participants were recruited to the study based on the calculated sample size. All the eligible women gave informed consent to participate in the study. To select the study subjects, sampling frames were developed from leaflets of individuals who were eligible for the study. Therefore, study subjects were selected by simple random sampling technique.

Data collection techniques and instrument

An interviewer-administered structured questionnaire was used to collect information from each participant. The English version of the questionnaire was adopted from a WHO standard questionnaire on sexual and reproductive behaviours of young people with modification to fit the objectives of the study. The questionnaire had both open and close ended questions to address all questions pertinent to the study. The key factors that were associated with young female internal migrant's risky sexual behaviors were organized and classified as socio-economic and demographic characteristics, behavioral and motivational characteristics, and cognitive and psychological characteristics.

Measurement

Risky Sexual behavior measurement: for the purposes of this study, RSB are considered as initiating sexual debut before the age of 18, not using or inconsistent condom use, sex under the influence of substances and having multiple sexual partners. Other studies also recognized these as measure of risky sexual behavior (20,26). The participants were asked all of the questions created to measure risky sexual behavior. These variables are defined as: (a) Subjects had more than one sex partners at a time over the last six months in a period after migration, (b) The respondent initiated the first sexual intercourse before age of 18 years in the period after migration or currently less than 18 years old and experienced penetrative sexual intercourse over the last six months in a period after migration but initiated sexual intercourse before migration, (c) Subjects had sexual intercourse without condom or inconsistent use of

condom during the last 6 months preceding the date of the survey and in the period after migration, (d) Subjects had sexual intercourse under influence of substance use (like alcohol, khat and shisha) during the last 6 months preceding the date of the survey and in the period after migration.

Perceived risks of contracting HIV/STIs were measured by the question that asked "Were you ever concerned that you might contract AIDS or another sexually transmitted disease from your sexual partner?" This dichotomous measure was coded 1= yes, if they had ever used a condom, 0 if otherwise.

Data quality assurance

The qualities of data were assured through careful design, translation and retranslation of study tool language from English version to local languages (Amharic and Afan Oromo) and vice versa. The questionnaire was pretested before data collections and possible corrections were made. Besides, two days training for the interviewers and supervisors were conducted. The confidential face-to-face survey interviews were conducted by trained female data collectors of similar age to the participants due to sensitive nature of the queries. In addition, the pilot test was done but the results were not included to the actual study. Based on the feedback from the pilot study, immediate corrective measures were taken. Furthermore, continuous and close supervision of the data collecting procedures, proper categorization, and coding of the data were done. The Principal Investigators and the supervisors checked completeness and consistency of data on a daily basis.

Data entry, processing and analysis plan

Data were checked for completeness and inconsistencies. Then, they were cleaned, coded and entered to EPI data for validation. Lastly, it was exported to Statistical Package for Social Science (SPSS) version 21 for analysis.

Descriptive statistics were used to summarize the data while table and diagrams were used to present information. Binary logistic regression was used to observe associations between dependent and independent variables. Purposive selections of variable with a p-value of < 0.25 on bivariate analysis were considered for binary logistic regression to control the effect of other confounders. Then, a significant level was set at $p < 0.05$.

Ethical consideration

Ethical clearance was obtained from University of Ibadan /University College Hospital (UI/UCH) Ethical Review Board. Similarly, clearance was obtained from the Oromia Regional Health Bureau (ORHB). The ORHB directed the Burayu town's health Bureau and respective institutions to allow the study to be conducted.

The purpose of the study was explained and verbal consent was obtained from each study participant prior to the interviews. The respondents were informed that they had the right to be involved or refuse to participate in the study. In addition, the respondent had the right to withdraw from the study at any time

during the interview. The participants were assured that the data would be handled exclusively by the investigators and no one would be able to recognize them in the report. Confidentiality of the information obtained from each participant was maintained.

- **Operational Definition**

Young female: in this study, referred to women aged between 15-24 years of age.

Risky sexual behavior (RSB) is defined as any sexual activity that increases the risk of contracting sexually transmitted infections and unintended pregnancies. It includes having sex with multiple sexual partners, not using or inconsistent condom use, sex under the influence of substances and initiation of sex before the age of 18 years. An individual is considered as engaging in risky sexual practice if she experienced at least one or more of the above behaviors (20,26).

Migrants: are those whose current places of residence are outside their places of childhood residence prior to the survey

Internal migration: refers to people within a country moving to another location within its borders.

Consistent condom use is the behavior that youth uses a condom at every sexual contact or intercourse on a continuous basis.

Adequate knowledge about male condom: The respondents who were agreed on the following questions were categorized as they had adequate knowledge about condoms. (a) having heard about the male condom (b) had ever seen a male condom in demonstration (c) had knowledge that they prevent HIV/STD (d) had knowledge that they prevent unplanned pregnancy and being able to mention at least three forms of care needed for the correct use of the male condom.

Inadequate knowledge about male condom: never having heard about the male condom or having heard, but never seen a male condom in demonstration or not know as it serve to prevent STD/HIV; or when the respondent could not mention at least three forms of care needed for the correct use of male condom.

Results

Socio-demographic characteristics of the participants

The majority 153 (57.3%) of the participants were in the 15-19 years' age (with a mean of 18.85 years), (SD=2.337). With regard to religious affiliation, majority (123{46.1%}) of the participants were protestants and 98(36.7%) were Ethiopian orthodox religion followers. In addition, nearly half (124{46.4%}) of the study participants attended religious service more than once per week.

Table 1: Percentage distribution of socio-demographic characteristics of sexually active unmarried young female internal migrants in Burayu town, Ethiopia

Variables	Frequency (N=267)	Percentage (%)
Age of respondent (Mean=18.85 years, S.D=2.337, Variance=5.464)		
15-19 years	153	57.3
20-24 years	114	42.7
Religious affiliation		
Protestant	123	46.1
Ethiopian Orthodox	98	36.7
Muslim	29	10.9
Others	17	6.4
Frequency of attending religious service		
More than once a week	124	46.4
More than once a month	101	37.8
Never attend	42	15.7
Educational Status		
Primary	46	17.2
Secondary	116	43.4
Tertiary	105	39.3
Currently studying		
Yes	97	36.3
No	170	63.7
Place of residence before migration		
Urban	126	47.2
Rural	141	52.8
Length of time stayed in Burayu		
<2 years	138	51.7
2-5 years	74	27.7
>5 years	55	20.6
Live with at least one member of their family		
Yes	74	27.7
No	193	72.3
Monthly income in Ethiopian Birr*		
<1000	74	27.7
1000-2000	153	57.3
>2000	40	15.0

Behavioral characteristics of study participants

This study revealed that more than one-fourth (73{27.3%}) of the study participants went to the clubs over the last six months while one-fifth (53{19.9%}) of them went to the cinema or movie houses. Ninety-two (34.5%) study participants watched pornography at least once over the last six months. Nearly three-fourth (195{73.0%}) of the study participants used social media and the majority (107{54.9%}) of these used it many times daily. In addition,

94(48.4%) respondents who were active on the social media indulged in sexting with men over the last six months.

With regard to substance use, more than half (136{50.9%}) of the participants used alcohol, 47(17.6%) chewed khat while 63{23.6%} respondents smoked cigarettes or weeds.

Table 2: Percentage distribution of behavioral characteristics of sexually active unmarried young female internal migrants in Burayu town, Ethiopia

Variables	Frequency (N=267)	Percentage (%)
Went to clubs or parties over the last 6 months		
Yes	73	27.3
No	194	72.7
Went to cinema house over the last 6 months		
Yes	53	19.9
No	214	80.1
Currently use alcohol		
Yes	136	50.9
No	131	49.1
Currently chew Khat		
Yes	47	17.6
No	220	82.4
Currently smoked cigarettes/weeds		
Yes	63	23.6
No	204	76.4
Watched pornography		
Yes	92	34.5
No	175	65.5
Use social media		
Yes	195	73.0
No	72	27.0
Frequency of use of social media*		
Many times a day	107	54.9
Several times a week	43	22.1
Once a while	45	23.1
Indulged in sexting over social media with men*		
Yes	94	48.2
No	101	51.8

**** Indicates N=195***

Table 3: Percentage distribution of sexuality and reproductive health characteristics of sexually active unmarried young female internal migrants in Burayu town, Ethiopia

Variables	Frequency (N=267)	Percentage (%)
Marital status of the most recent sexual partner		
Single	199	74.5
Married	28	10.5
Divorced	25	9.4
Separated	15	5.6
Self-description of the relationship with partner		
Casual	59	22.1
A serious relationship but with no intention of marriage	67	25.1
Important and might lead to marriage	86	32.2
Engaged to be married	55	20.6
Had sex without their willingness		
Yes	69	25.8
No	198	74.2
Discussed about SRH with ≥ 1 family members		
Yes	52	19.5
No	215	80.5
Received SRH information at current destination		
Yes	121	45.3
No	146	54.7
Ever received SRH information at school		
Yes	181	67.8
No	86	32.2
Discussed about FP and STIs with their partner		
Yes	166	62.2
No	101	37.8
Experienced pressure for sexual intercourse		
Yes	135	50.6
No	132	49.4
Had planned first sex at current destination		
Yes	68	25.5
No	199	74.5
Had intergenerational sexual intercourse		
Yes	82	30.7
No	185	69.3
Gave sex after food invitation or other gifts		
Yes	79	29.6
No	188	70.4
Gave sex in exchange for money		
Yes	47	17.6
No	220	82.4

Table 4: Risk perception, knowledge and attitude toward condom use among sexually-active unmarried young female internal migrants in Burayu town, Ethiopia

Variables	Frequency(N=267)	Percentage (%)
Knowledge about condom		
Adequate	101	37.8
Inadequate	166	62.2
I feel embarrassed to buy condom		
Agree	161	60.3
Disagree	106	39.7
Condoms are suitable for steady and loving relationships		
Agree	130	48.7
Disagree	137	51.3
Condoms reduce sexual pleasure		
Agree	129	48.3
Disagree	138	51.7
Condoms are suitable for casual relationships		
Agree	222	83.1
Disagree	45	16.9
Condoms should be used in premarital sex		
Agree	188	70.4
Disagree	79	29.6
Using condom is distrusting your partner		
Agree	131	49.1
Disagree	136	50.9
A girl can suggest the use of condom		
Agree	180	67.4
Disagree	87	32.6
I have self-efficacy toward condom use		
Agree	86	32.2
Disagree	181	67.8
Perceived risks of contracting HIV/STIs		
Yes	156	58.4
No	111	41.6
Perceived risks of getting pregnant		
Yes	121	45.3
No	146	54.7

[Figure 1]

Table 5: Factors associated with risky sexual behavior among sexually-active unmarried young female internal migrants in Burayu town, Ethiopia

Variables	Sexual Behavior		COR 95% CI	AOR 95% CI
	Risky	Not risky		
Age of respondents				
15-19 years	119	34	1.97(1.15-3.37)	1.47(0.41-5.37)
20-24 years	73	41	1	Ref.
Live with ≥1 member of their family				
Yes	46	28	1	Ref.
No	146	47	1.89(1.07-3.35)	3.69(0.79-17.06)
Went to clubs over the last six months				
Yes	61	12	2.44(1.23-4.86)	1.1(0.16-6.08)
No	131	63	1	Ref.
Went to cinema over the past six months				
Yes	45	8	2.56(1.15-5.74)	3.57(0.49-26.05)
No	147	67	1	Ref.
Currently uses alcohol				
Yes	112	24	2.98(1.69-5.23)	2.23(0.48-10.33)
No	80	51	1	Ref.
Watched Pornography over the last six months				
Yes	75	14	2.80(1.46-5.37)	2.39(0.49-11.73)
No	113	59	1	Ref.
Frequency of using social media				
Many times a day	45	4	9.0(2.77-29.28)	10.9(2.31-51.89)**
Several times a week	75	26	2.31(1.10-4.83)	3.39(0.58-19.60)
Once a while	25	20	1	Ref.
Had sexting with sexual partner				
Yes	79	15	2.67(1.34-5.32)	3.47(1.10-11.94)*
No	67	34	1	Ref.
Had involuntary sex				
Yes	62	7	4.63(2.01-10.68)	2.61(0.41-16.45)
No	130	68	1	Ref.
Ever received SRH information at school				
Yes	123	58	0.52(0.28-0.97)	0.34(0.07-1.79)
No	69	17	1	Ref.

Table 5: Factors associated with risky sexual behavior among sexually-active unmarried young female internal migrants in Burayu town, Ethiopia (Continued)

Variables	Sexual Behavior		COR 95% CI	AOR 95% CI
	Risky	Not risky		
Had planned the first sex after migration				
Yes	40	28	1	Ref.
No	152	47	2.26(1.26-4.06)	3.56(0.75-16.96)
Gave sex after food invitation or other gifts				
Yes	60	9	3.36(1.57-7.19)	15.62(0.91-267.96)
No	131	66	1	Ref.
Gave sex in exchange for money				
Yes	42	5	3.92(1.49-10.34)	9.64(0.53-175.02)
No	150	70	1	Ref.
Able to refuse sex without condom				
Yes	56	60	0.10(0.05-0.20)	0.15(0.04-0.57)**
No	136	15	1	Ref.
Perceived risks of contracting HIV/STIs				
Yes	99	57	0.34(0.18-0.61)	0.37(0.10-1.43)
No	93	18	1	Ref.
Perceived risks of getting pregnant				
Yes	67	54	0.21(0.12-0.37)	0.05(0.01-0.23)***
No	125	21	1	Ref.
Knowledge about condom				
Adequate	61	40	0.41(0.24-0.70)	0.48(0.13-1.77)
Inadequate	131	35	1	Ref.
I feel embarrassed to buy condom				
Agree	136	25	4.86(2.74-8.61)	8.28(2.10-32.62)**
Disagree	56	50	1	Ref.
I use condom in steady and loving relationships				
Agree	75	55	1	Ref.
Disagree	117	20	4.29(2.38-7.73)	5.72(1.47-22.24)*

***p<0.05 **p<0.01 *** p<0.001**

Discussion

In this study, 34.5% study participants had sexual debut before ages of 18 years. This finding was much higher than the report of study conducted in China (17%) (17). However, it was lower (49.8%) than that of the study from Nigeria (27). This difference might be explained by the educational, economic, and healthcare disparities between countries. For instance, Chinese inhabitants might enjoy better socioeconomic prosperity and better healthcare facilities that provide SRH services than Ethiopia. In addition, the study from Nigeria was conducted among reproductive age group women while the present study only included young female. So, due to the age difference, the respondents from the study conducted in Nigeria might be more susceptible to recall bias than the present study participants. Thus, the study in Nigeria might overestimate the magnitude of RSB and could be a reason for the difference.

Nearly one-fourth (23.97%) of the study participants had multiple sexual partners during the last six months. Similar finding have been reported among female internal migrant workers in China (28).

This study found that 64.4% of the respondents had sex without condom or inconsistently used condom in their most recent sexual intercourse during the last six months. Likewise, the study conducted among unmarried female migrants from Shanghai reported nearly similar finding, (66.8%) (29). On the other hand, another study from China reported higher (84%) prevalence of sex without condom or inconsistent use of condom among female internal migrants workers (28). The discrepancy might be due to the fact that the study in China measured condom use over the last three most recent sexual intercourses while this study measured only the most recent sexual intercourse. This might underestimate the prevalence of sex without condom or inconsistent use of condom in the present study.

The magnitude of risky sexual behavior among study participants in this study was 71.9 %. This finding was lower than the results reported from Tiss Abay town of Amhara regional state of Ethiopia (80.4%) (21). The disparity could be due to the fact that the present study was conducted among all types of internal migrants while the study from Tiss Abay town was done mainly among rural to urban migrants. In addition, Tiss Abay town is semi-urban and the study showed that the migrants in small urban areas acquire reproductive health knowledge sooner than migrants in the metropolitan area (30).

More than one-third (34.5%) of the study participants watched pornography at least once over the last six months. This finding was higher than that of the study conducted in Jimma town of Ethiopia among preparatory students (25). This study was done among internal migrants while the study from Jimma town was among preparatory students who were combination of both migrants and non-migrants. This could be the reason for the difference because of the fact that an internal migrant has less control from family so that they could engage themselves in activities that deviate from their culture (31).

Nearly three-fourth (73.0%) of the study participants used social media and the majority (54.9%) of these used it many times daily. In addition, about (48.4%) of the respondents who were active on the social

media indulged in sexting with men over the last six months. This finding was higher than the result of the studies conducted in the United States (32,33).

This study found that, one-fourth (25.8%) of the study participants were raped by their sexual partners or strangers over the last six months preceding the data collections period. The studies conducted in Northwest Ethiopia among street females (34) and that conducted in Southern Ethiopia among university students (35) found similar results even though they reported life time and one-year prevalence of rape, respectively.

Regarding the discussion and communication with family about SRH, only one-fifth (19.5%) of the study participants ever discussed about SRH with at least one of their family members. Even though the study population was different, an earlier study conducted among internal migrant children in Ethiopia reported that 21% of the migrant parents talked to them about HIV and only 11% reported discussions on sex (8).

The majority (156{58.4%}) of the respondents expressed the perceived risks of contracting HIV. However, this finding was lower than the result reported from China, (71.0%)(36). The difference might be that the present study used only young age groups while the study from China was conducted among all age groups. Older people might have higher risk perception than younger age group.

Even though it was only in bivariate analysis, age of the study participants has statistically significant association with sexual behavior, [COR 1.97(95%; CI; 1.15-3.37)]. After adjustment for potential covariates, age of the study participants has no statistically significant association with sexual behavior of the respondents' [AOR 1.47(95%; CI; 0.41-5.37)]. Consistent with this study finding, younger age was reported as predictors of internal migrants' risky sexual behavior on previous studies (36,37).

The unadjusted analysis showed that alcohol use was associated with risk sexual behavior of young female internal migrants, [COR 2.98(95%; CI; 1.69-5.23)]. The reason might be due to the nature of alcohol in decreasing attention to safe sex practices, altering rational decision-making and increasing risk-taking behaviors (38,39).

Recent technology is facilitating the tendency to have multiple sexual partners and practical sexual behavior as reported in previous studies (32,33). In this study, the respondents who shared sexually explicit texts, images or/and videos with their sexual partners over social media were about 3.5 times more likely to experience risky sexual behavior than those never sexted, [AOR 3.47(95%; CI;1.10-11.94)]. Consistent with this study finding, sexting of any kind was associated with higher rates of engaging in a variety of sexual behaviors but the impact of image-sexting are more prominent than pure texting (40). In contrary, study from United States reported that sexting was not associated with risky sexual behaviors (32). Further studies are recommended for a better understanding of the association between sexting and risky sexual behavior.

In bivariate analysis, the respondents who were forced to have sex over the last six months preceding the field data collection were 4.65 times more likely to have risky sexual behavior than their counterparts,

[COR 4.63(95%; CI; 2.01-10.68)]. It is not surprising that rape victims were vulnerable to risky sexual behavior in previous studies (34,35).

Young women who had received sexuality education through schools, parents or other family members were less likely to engage in risky sexual behaviors in previous studies (41,42). Consistent with the former studies, unadjusted analysis showed that school-based sexuality and reproductive health information predict risky sexual behavior of the study participants in this study, [COR 0.52(95%; CI; 0.28-0.97)]; However, this association was not more established on multivariate analysis, [AOR 0.34(95%; CI; 0.07-1.79)].

Statistically significant association was established between respondents who exchanged sex for money despite the fact that there was no significant association on the adjusted analysis. The unadjusted analysis implies that the study participants who gave sex in exchange for money were nearly four times more likely to have risky sexual behavior than their counterparts, [COR 3.92(95%; CI; 1.49-10.34)]. Similar to this study, transactional sex was associated with risky sexual behavior according to the study conducted in Northwest Ethiopia (21).

Previous studies finding reported that the women who reported hunger were more likely to engage in transactional sex which was significantly exposed them to unprotected sexual intercourse(18,43). The unadjusted finding of this study also found statistically significant association, [COR 3.36(95%; CI; 1.57-7.19)]. A possible explanation for this result is that migrants are economically disadvantaged, so that they might have been participated in risky behavior to support their daily life.

The study participants who reported feeling of embarrassment to buy condom were about eight times more likely to have risky sexual behavior than their counterparts on adjusted analysis, [AOR 8.28(95%; CI; 2.10-32.62)]. In agreement with this finding, previous studies identified embarrassment to buy condom as a key risk factor in young people's sexual behaviour (41,44). Moreover, the respondents who had negative attitude about the use of condom for steady and loving relationships were about six times more likely to have risky sexual behavior than those who had positive attitude about the importance of condom for the same purpose on multivariate analysis, [AOR 5.72(95%; CI; 1.47-22.24)]. Young people believe that condoms do not play a role in a relationship based on love and they are less likely to perceive themselves at risk of contracting HIV/AIDS or unwanted pregnancy according to the report from a previous study (45).

The women who reported ability to refuse sex without condoms were 85% less likely to have risky sexual behavior than their counterparts in this study, [AOR 0.15(95% CI; 0.04-0.57)]. In agreement with this study, finding from Cameroon showed that self-efficacy was protective factor of sexual behavior (46).

The perceived risks of getting pregnant has statistically significant association with risky sexual behavior both on bivariate and multivariate analysis, [COR 0.21(95%; CI; 0.12-0.37)] and [AOR 0.05(95%; CI; 0.01-0.23)], respectively. This means that the women who reported perceived risks of getting pregnant were

95% less likely to have risky sexual behavior than their counterparts after adjustment for potential confounders.

Limitation of the study

This study results should be interpreted while considering several limitations. First, we cannot draw causal conclusions owing to the cross-sectional design of the study. Secondly, given that the sample population was limited to one city, the investigator could not assert that it is representative of all sexually-active unmarried female migrant workers in Ethiopia. Thirdly, this study was limited in its reliance on self-reported data because it is a sensitive topic; however, we tried our best to obtain unbiased responses. Despite these limitations, this study identified a range of major reproductive health issues related to young female internal migrants that affect their sexual behavior which was probably underexplored in Ethiopia by previous studies.

Conclusion

A considerable proportion of sexually active unmarried young female internal migrants practice risky sexual behavior which endangers their future life. More than one-third of the unmarried young female migrants had sexual debut before age of 18 years; nearly one-fourth of the study participants had multiple sexual partners during the last six months; almost two-thirds of the respondents had sex without condom or inconsistently used condom on their most recent sexual intercourse and about three out of ten respondents had sex under the influence of alcohol.

Some variables were found to have been associated with risky sexual behaviour in this study. These included sexting, frequent indulgence of social media, feeling of embarrassment to buy condom, unfavorable attitude towards using condom for steady and loving relationship. Even though the association was not established after adjustment, age of respondent, family composition, frequency at clubs or parties, cinema house, watching pornography, alcohol use, rape, planned first sex after migration and transactional sex were also associated with risky sexual behavior.

Perceived self-efficacy to use condom and perceived risks of getting pregnancy were found to be protective of risky sexual behavior among unmarried young female internal migrants. In addition, adequate knowledge of condom, school-based SRH education, parental child communication on SRH and perceived risks of contracting HIV/STIs were also protective of risky sexual behavior on unadjusted analysis.

This finding suggests an urgent need of intervention to promote safe sex among this group. Special attention and prompt interventions are needed to promote the use of condom. Such interventions should include targeting the prevailing misconceptions, unfavorable attitudes and other dynamics related to not using condom or inconsistent condom use which was prominent in this study. Strategies to channel young female internal migrants into productive and safe livelihoods should be emphasized to minimize

rape, transactional sex and sex work. The study also suggests that more intense efforts should be made to improve awareness about the seriousness of exposure to sexting. In addition, judicious use of social media among sexually-active unmarried young female internal migrants is needed.

Abbreviations

AB: Ararso Baru; AIDS: Acquired Immuno-deficiency Syndrome; AOA: Adeyemi O. Adekunle; AOR: Adjusted odds ratio; COR: Crude odds ratio; FGD: Focus Group Discussion; HIV: Human Immuno-deficiency Virus; IAA: Ikeola A. Adeoye; RSB: Risky Sexual Behaviour; SRH: Sexual and Reproductive Health; SPSS: Statistical Package for Social Sciences; STIs: Sexually Transmitted Infections; USAID: United States Agency for International Development; UNFPA: United Nations Fund for Population Activities; PAULESI

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from University of Ibadan /University College Hospital (UI/UCH) ethical review board. Similarly, clearance was obtained from the Oromia Regional Health Bureau (ORHB) through PAULESI. The ORHB directed the Burayu town's health Bureau and respective institutions to allow the study to be conducted.

The purpose of the study was explained and verbal consent was obtained from each study participant prior to the interviews. The respondents were informed that they had the right to be involved or refuse to participate in the study. In addition, the respondent had the right to withdraw from the study at any time during the interview. The participants were assured that the data will be handled exclusively by the investigators and no one would be able to recognize them in the report. Confidentiality of the information obtained from each participant was maintained.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing Interest

The authors declare that they have no competing interests

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Author's contribution

Ararso Baru made substantial contributions to conception, design, acquisition of data, analysis, interpretation of data, drafting of the manuscript and the critical review of the draft manuscripts. AOA and IAA were assisted with the design, analysis, and interpretations of the data and the critical review of the manuscript drafts. All authors read and approved the final draft of the manuscript.

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Figures

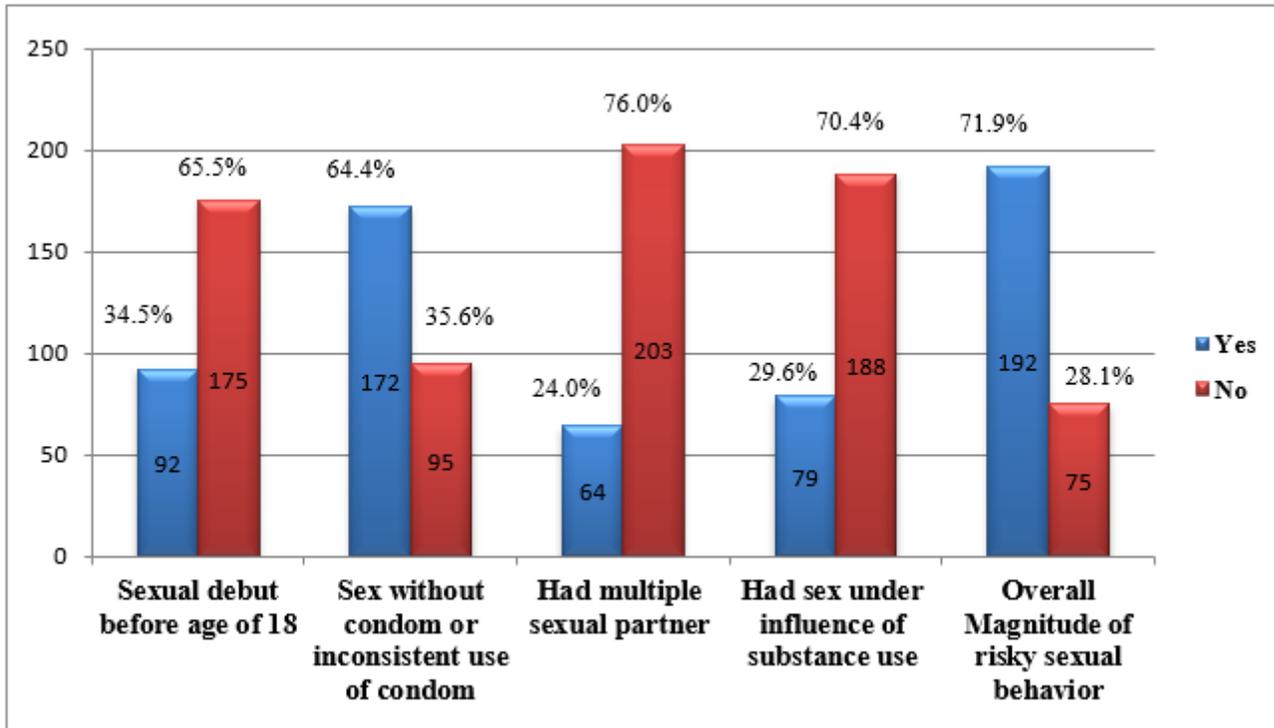


Figure 1

Magnitude of risky sexual behavior among sexually active unmarried young female internal migrants in Burayu town, Ethiopia.