

# Risky sexual behaviours among women of reproductive age in a high HIV burdened township in KwaZulu-Natal, South Africa

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## Research article

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# Abstract

**Background:** Despite several intervention programmes in South Africa, risky sexual behaviours among women of reproductive age remain a public health concern, thereby making them prone to unintended pregnancies, human immunodeficiency virus (HIV) infection and/or sexually transmitted infections (STIs). This study investigated the predictors of risky sexual behaviours among women of reproductive age in a high HIV burdened township in KwaZulu-Natal (KZN), South Africa.

**Methods:** This was a cross-sectional study conducted among 471 women of reproductive age (18-49 years, mean: 25.83) in 10 public health clinics in Umlazi township, using a structured questionnaire. Data were coded, entered into Epi Data Manager and exported to Stata for analysis. A Pearson Chi-square test and logistic regression models (bivariate and multivariate) were employed to assess the level of the association between the predictor and outcome variables and the p-value 0.05 or lower was considered statistically significant.

**Results:** More than half (51.80%) of women were aged 18-24 years and only a handful (18.26%) had tertiary qualification. The majority were single (88.96%) and the unemployed accounted for 53.50%. This study found that women who talked about condoms with their partners in the past 12 months were more likely ( $p < 0.0001$ ) to have used condoms during their last sexual experience. Older women ( $p = 0.035$ ) were more likely to use a condom at last sex, compared to younger women. However, women who were exposed to physical partner violence (hitting and/or slapping), those who had ever been diagnosed with HIV and those whose sexual partners were diagnosed with HIV, did not show a significant association with condom use during last sexual experience.

**Conclusion:** Exposure to physical partner violence and poor partner discussions about condoms are key deterrents to condom usage. Holistic interventions are required in order to address the risky behaviours, and consequently reduce sexually transmitted infections and/or unintended pregnancies.

## Background

Despite several intervention programmes in South Africa, risky sexual behaviours among women of reproductive age remain a public health concern. Risky sexual behaviours expose women to unintended pregnancies, HIV infection and/or sexually transmitted infections (STIs) (1). Most negative health-related consequences, including unintended pregnancies, HIV infection and/or STIs in women, emanate from risky sexual activities (2), such as multiple sexual partners, sexual encounter under the influence of alcohol or drugs, lack of condom use or early sexual debut (3, 4). One-fifth of women in their reproductive age (15–49 years) in South Africa are HIV positive (5). Poor sexual communication has been flagged as one of the most important challenges facing younger women (4), while an increasing number of adolescents with early sexual debut, with multiple partners and inconsistent condom use, has been reported in South Africa (6). Women remain vulnerable to gender-based violence (GBV) from their male partners (7), some of which affect women's ability to negotiate safer sex (8). These risky sexual

behaviour patterns continue to rise in South Africa, with reports showing the increasing number of people with multiple sexual partners and inconsistent condom use at last sex (6, 9).

The South African government has developed and implemented many interventional programmes and strategies, such as the National Adolescent Sexual and Reproductive Health and Rights Framework Strategy (2014–2019) and The National HIV, AIDS and STI Strategic Plan for South Africa 2007–2011 (10, 11), aimed at educating and encouraging safe sexual practices. These interventional programmes and strategies also had specific focus on improving the sexual behaviours of women in South Africa. However, risky sexual behaviours persist. Further studies have been conducted in South Africa and in other similar settings to determine predictors of risky sexual behaviours among individuals, but these have produced mixed findings. While increased access to HIV testing services has yielded some positive influence on risky sexual behaviour (12), on the same vein, there has been reports that utilizing HIV testing services has no influence on sexual behaviours of individuals (13).

Notably, the KZN province has the highest HIV prevalence in South Africa (27%) for people aged 15–49 years (9), with a 31.6% HIV prevalence among women aged 20–24 years (6), therefore, conducting this study in this region provides an important opportunity to understand the predictors of risky sexual behaviours among women from a clinic-based setting. Sexual behaviour in this study is defined as a form of sexual encounter with a single or multiple sexual partner(s) and including the use or non-use of preventive measures against sexually transmitted infections and/or pregnancy. Risky sexual behaviour in this context includes inconsistent condom use during the last sexual encounter. This study investigated the predictors of condom use at last sex among women of reproductive age in a high HIV burdened township in KwaZulu-Natal, South Africa, using a cross-sectional survey. The findings of this study are expected to be useful for informing policy-makers, healthcare professionals and researchers on the predictors of risky sexual behaviours.

## **Methods**

### **Study setting**

Umlazi Township, which is located in the province of KZN, is the second most populated township in South Africa, with an estimated population of more than half a million people (14). The township falls under the eThekweni Metro, which has the highest HIV prevalence in South Africa (9). Umlazi has ten public clinics serving an average total of more than 50 000 clients per month, and one public hospital. All ten public health clinics participated in the study.

### **Study design, participants and sampling**

An analytic cross-sectional survey was conducted over a period of five months (November 2018 to April 2019). The study sample comprised of 471 women aged 18–48 years who had prior sexual exposure, residing at Umlazi Township and utilising health services at any of the ten Umlazi Township clinics participating in the study. The determination of sample size per each site (clinic) was proportional to the

size and volume of patients seen at the facility. The District Health Information System (DHIS) was used to obtain each clinic's monthly headcount for the past six months preceding data collection, in order to determine the average patient volume. Potentially eligible women who utilised services at the time of data collection were approached, introduced to the study and invited to participate. Women below the age of 18 years and those aged 50 years and older were excluded. A convenience sampling technique was applied to enrol participants, due to time limitation. To ensure non-interruption of healthcare services, participants were only enrolled in the study after the health services had been rendered by clinic.

### **Study instrument and data collection**

A structured interviewer administered questionnaire was designed based on literature review (15, 16) and translated in English and IsiZulu (local) languages. The trained and experienced two Research Assistants (RAs), competent in both languages administered the questionnaires, following a refresher training conducted by the principal investigator. The RAs were not part of any clinic staff, therefore, they were external and not associated with any clinic staff or participants. The RAs explained the questionnaires in detail to participants who needed support. A pre-test of study instrument was conducted with 10 participants who did not form part of the actual study. The study instrument collected data on the demographic and socioeconomic characteristics, participants' awareness of modern contraceptives, the use of contraceptives and information related to sexual behaviour. A series of quality assurance processes were implemented to ensure data quality was not compromised but preserved, including data validation, data cleaning, questionnaire verification, as well as ensuring that questionnaires were tested for consistency.

### **Measures**

#### **Outcome variable**

The outcome variable was 'condom use at last sex'. This variable aimed to determine whether the participant had used a condom during the last sexual encounter. This variable is dichotomous and coded as: 0=no; 1=yes.

#### **Predictor Variables**

Selection of the following predictor variables was guided by the reviewed literature and the hypothetical foundation established from the reviewed literature. This study examined the variables at the individual level which included the characteristics of women aged between 18-49 years.

#### **Description of predictor variables and coding**

- Number of male sexual partners in the past three months

This variable aimed to determine the total number of sexual male partner(s) the participants had in the previous three months prior to the study. This variable was coded as: 0=none; 1=one; 2=more than one.

'None' was a reference category.

- Partner employed

This variable aimed to determine whether the current sexual partner is employed or not. This variable was coded as: 1=no; 2=yes. 'No' was a reference category.

- Ever Diagnosed with HIV

This variable aimed to determine whether the participant has ever been diagnosed HIV positive. This variable was coded as: 1=no; 2=yes. 'No' was a reference category.

- HIV status of sexual partner

This variable aimed to determine whether or not the sexual partner was HIV positive or negative. This variable was coded as " 1= do not know; 2=negative; 3=positive. 'Do not know' was a reference category.

- Sometimes hitting/slapping with partner

This variable aimed to determine whether there was sometimes violence perpetration between the participant and the partner. This variable was coded as: 1=neutral; 2=agree; 3=disagree. 'Neutral' was a reference category. 'Neutral' referred to participants who neither agreed nor disagreed.

- Lots of trust in the relationship

This variable aimed to determine whether there was a lot of trust between the participant and the partner. This variable was coded as: 1=neutral; 2=agree; 3=disagree. 'Neutral' was a reference category. 'Neutral' referred to participants who neither agreed nor disagreed.

- Partner has control over sex

This variable aimed to determine whether the partner had control over whether or not to have sex. This variable was coded as: 1=neutral; 2=agree; 3=disagree. 'Neutral' was a reference category. 'Neutral' referred to participants who neither agreed nor disagreed.

- Partner has control over condom use

This variable aimed to determine whether the partner had control over condom use. This variable was coded as: 1=neutral; 2=agree; 3=disagree. 'Neutral' was a reference category. 'Neutral' referred to participants who neither agreed nor disagreed.

- Ever diagnosed with STI in the past 12 months

This variable aimed to determine whether the participant had been diagnosed with an STI in the past 12 months. This variable was coded as: 1=no; 2=yes. 'No' was a reference category.

- Sex under the influence of alcohol

This variable aimed to determine the total number of times the participant had sex under the influence of alcohol in the past three months. This variable was coded as: 0=never, 1=more than one. 'More than one' was a reference category.

- Talked about condoms with partner in 12 months

This variable aimed to determine whether the participant had talked about condoms in the past 12 months. This variable was coded as: 1=no; 2=yes. 'No' was a reference category.

- Age at first sex

This variable aimed to determine the age in which the participant had sexual debut. This variable was coded as: 1=12-17 years; 2=18-24 years. Age-group '12-17 years' was a reference category.

## **Ethics**

Ethical approval to conduct this study was obtained from the Biomedical Research Ethical Committee (BREC) at the University of KwaZulu-Natal (Ref No: BE424/18). The National Health Research Database (NHRD) from the KwaZulu-Natal Provincial Department of Health (Ref No: KZ\_2018009\_013), and The EThekweni District's Ethical Review Committee also approved the study. Gatekeeper permissions were obtained from the participating facilities prior to data collection. To ensure confidentiality of respondents, no personal identifiers were captured in the questionnaires. Likewise, a written informed consent was obtained from the study participants prior to their enrolment. The principal investigator and two research assistants went through the informed consent with the potential participants in a language preferred by the participants. The study adhered to sound ethical standards including confidentiality, voluntariness of participation and full disclosure of the research process.

## **Data analysis**

Data were coded, entered into Epi Data Manager (version 4.6) (17) and exported to Stata (version 15.0) (18) for analysis. Data cleaning was conducted to ensure there's no discrepancies in data before analysis are carried out. Participants' background information was analysed using descriptive statistics. The frequency distribution and cross-tabulations of each predictor and outcome variable was carried out for categorical data. Frequency distributions of continuous variables were tested for normality using Shapiro-Wilks test. A Pearson Chi-square test and logistic regression models (bivariate and multivariate) were employed to assess level of significance and the association between the dependent and exposure variables. A stratified, cluster analysis was used for statistical testing. The Pairwise correlation test was used to assess whether correlations between predictor variables existed. The significance level was kept at  $p < 0.05$  for all the analyses, and at a confidence interval of 95%.

## **Results**

## Background Characteristics

The study sample consisted of 471 women who attended clinics in Umlazi Township anytime between November 2018 and April 2019. More than half (n=244, 51.80%) of the participants were aged between 18-24 years (Mean: 25.83 and SD:  $\pm 6.45$ ). Most women were single (n=419; 88.96%) and of Black African race (n=464; 98.51%). More than half (n=252; 53.50%) of participants were unemployed, while only a handful (n=86; 18.26%) had completed a tertiary level of education (Table 1).

## Sexual behaviour among study participants

All (100.0%, n=471) study participants had prior sexual exposure within the past 12 months, with 86.8% (n=409) reporting sexual exposure within the last 3 months. More than a third of participants (37.2%, n=175) experienced sexual encounter before reaching 18 years of age. There was an equal distribution between women who used a condom at the last sexual encounter (49.7%, n=234) versus those who did not use it (50.3%, n=237) in the past 12 months.

More than a quarter of participants (25.9%, n=122) had been diagnosed HIV positive in the course of their lives. Forty percent (40.2%, n=49) of these did not use a condom at their last sex encounter. Fifteen percent (15.1%, n=71) of participants were aware of their sexual partners' HIV positive status. Despite this awareness, more than half of these (56.3%, n=40) used a condom at their last sexual encounter. Only 11.5% (n=54) of participants reported to have been diagnosed with STI in the past 12 months preceding to the study. Of these, 53.7% (n=29) did not use a condom at last sexual encounter. The majority of participants (89.6%, n=422) did not have sexual encounter under the influence of alcohol in the past 3 months leading to the data collection.

The majority of participants (71.5%, n=337) reported that they were not exposed to violence with a sexual partner (i.e. sometimes hitting or slapping). About half of these (50.7%, n=171) used a condom at their last sexual encounter. More than a third (36.3%, n=171) of participants were neutral on whether or not the sexual partner has control over condom use, with 50.1% (n=86) of these not having used a condom at the last sex encounter. Close to a quarter (21.2%, n=84) of participants reported that the sexual partner has control over sex. The majority of participants (74.7%, n=352) had talked about condoms with a partner in the previous 12 months leading to the study. Fifty-six percent (56.5%, n=199) of these used a condom at last sex.

## Factors associated with condom use at last sex encounter in univariate and multivariate analysis

Condom use among women in Umlazi Township showed significant association with four factors at univariate analysis, and these were: ever diagnosed with HIV (OR 1.78, 95% CI: 1.16-2.72), having talked about condoms with a partner in the past 12 months (OR 4.02, 95% CI: 2.38-6.80), women's delayed sexual debut, 18-24 years (OR 1.79, 95% CI: 1.21-2.64) and women's older age category, 35-49 years (OR 2.80, 95% CI: 1.48-5.29). At multivariate analysis, only two variables were significantly associated with condom use at last sex among women in Umlazi Township. Participants who had talked about condoms

with a partner in the 12 months preceding the study were significantly likely to have used the condom in their last sex encounter. For example, the condom use at last sex encounter was 3.74 times (OR 3.74, 95% CI: 2.01–6.98) more likely in women who had talked about condom with their partners compared to those who did not. Older women (35-49 years) were significantly more likely to use a condom at last sex compared to their younger counterparts (OR 2.70, 95% CI: 1.07–6.81), suggesting that early sex debut is a risk factor to non-condom usage.

Interestingly, factors on women who reported to have ever been diagnosed with HIV ( $p=0.466$ ), those whose sexual partners were diagnosed HIV positive ( $p=0.847$ ), and those who were diagnosed with STI within the past 12 months leading to the study ( $p=0.139$ ) did not influence condom use at last sex encounter. Women who were exposed to partner violence (i.e. sometimes hitting or slapping with a partner) were not associated with condom use at last sex encounter ( $p=0.968$ ). Detailed univariate and multivariate analysis results are shown in Table 3.

## Discussion

This study aimed to investigate risky sexual behaviours and associated factors among women of reproductive age in Umlazi Township in KZN province, South Africa. The main findings of this study indicate that women who talked about condoms with their partner in the past 12 months were more likely to use condoms when having sex. In addition to that, having been diagnosed as HIV positive or having a sexual partner with a known HIV positive status, did not show any significant association with condom use at last sex encounter among women in Umlazi township. Furthermore, the sexual behaviors of women who reported to have more than one sexual partner in the past three months was risky, due to inconsistent condom use. The results of this study further showed that women who were exposed to physical partner violence (such as slapping or hitting) were less likely to use condoms at last sexual encounter.

The findings of this study are consistent with the findings of similar studies conducted in comparable settings (19, 20). The fact that women who talked about condoms with their partners in the past 12 months were more likely to use condoms during their sexual encounter suggests that being in a relationship where women are confident to have discussions related to sexual practices with their partners, is important for improving women's confidence to negotiate for condom use. Similar findings were shown in a study conducted in Tanzania (19). Women's capacity to speak about condoms with their sexual partners provides opportunities for improved sexual behavior and protection against STIs, HIV, as well as unintended pregnancies (19), while the opposite may be true for women who are unable to negotiate for condom use.

While some aspects of our study are consistent with the Tanzanian' study, the other findings of the two studies are contradictory, in so far as the associations between condom use and multiple sexual partners among women, are concerned (19). However, in Ethiopia, participants who were on antiretroviral therapy (ART) and had multiple sexual partners were more likely to engage in risky sexual behaviour (20), and this

pattern was observed in both males and females alike. In this study, we found no evidence to suggest that HIV positive status of women has any significant influence on condom use at multivariate analysis. This suggests the importance of strengthening HIV education among women and their sexual partners, given the risks of HIV infection. It has been shown that condom use is effective in preventing the spread of HIV and the STIs by more than 90% (21).

In a study conducted in South Africa (16), the researchers found that the factors that were previously found to be significantly associated with contraceptive use, such as being HIV positive, having been diagnosed with STI in the past 12 months, having concurrent sexual partners and early sexual debut, showed stronger negative associations with contraceptive use among women. Although our study did not precisely focus on contraceptive use, linking these behavioural changing patterns among women is important, given the concerns they are raising. Similar to this study, risky sexual behaviours among participants whose partners were HIV positive was also shown in Ethiopia (20). There is less chances of condoms use at sexual debut among youth (22), suggesting the importance of delaying sexual debut among women given the uninformed and/or unguided decisions and exposure to HIV infection (23). Interventions aimed at encouraging women's delayed sexual debut and condom use at first sexual encounter are imperative.

The following limitations to this study should be noted. Given that the sampling frame for this study was limited to women seeking healthcare services in public health clinics in Umlazi township, women who do not use public healthcare services or use them less frequently were excluded and/or under-represented in the sample. However, the participants of this study represented all the 10 public health clinics in Umlazi township. Therefore, the insights gained from the participants will likely be relevant to other public health clinics and similar settings in South Africa. This study sought self-reported sexual health information from participants, thereby making the findings vulnerable to social desirability bias. Furthermore, information deemed to have potential for leading to value judgements may have been withheld by the participants. Some participants may have been unable to recall whether or not a condom was used at last sexual encounter, leading to incorrect information provided. Older participants may have been unable to recall the age at which they had sexual debut. This may have contributed to reporting bias. Given the cross-sectional nature of the study design, it is not possible to establish a cause-and-effect relationship between study variables.

The findings of this study raise concerns over women's exposures to new HIV infections and STIs, amid risky sexual behaviours. Therefore, we aim to expand our research project to include a qualitative component towards understanding women's perceptions and experiences regarding risky sexual behaviours, HIV prevention and STIs in Umlazi township. Conducting longitudinal studies on this topic is important to understand women's sexual behavioural changes, exposures and patterns over time.

The findings of this study make a case for the importance of implementing and/or strengthening evidence-based educational programmes, aimed at improving women's sexual behaviours and HIV prevention strategies, as well as establishing support systems to overcome gender-based sexual

challenges. We further recommend that such programmes be integrated with school-health programmes to reach younger women, but also include men.

## Conclusion

Factors associated with risky sexual behaviours among women highlight a great risk of exposure to HIV and STIs in Umlazi township, KZN, South Africa. Some of the factors previously reported to have significant associations with improving sexual behaviours among women were not supported by the results of this study. The extent to which women engage in unprotected sexual activities are concerning and highlight an urgent need for a more holistic educational approach to improving women's sexual behaviours, HIV and STIs prevention, as well as including men.

## Abbreviations

AOR  
adjusted odds ratios  
CI  
confidence interval  
GBV  
gender-based violence  
HIV  
human immunodeficiency virus  
KZN  
KwaZulu-Natal  
OR  
odds ratios  
SSA  
Sub-Saharan Africa  
STIs  
sexually transmitted infections

## Declarations

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**Authors' contributions:** MH conceptualized and designed the study, as well as prepared the initial draft. KH and KP reviewed the study. All the authors reviewed the draft and approved the final version of the manuscript.

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**Availability of data and materials:** All the data analysed and reported in this paper will be made available upon request.

**Ethics approval and consent to participate:** Ethics approval was obtained through the Biomedical Research Ethics Committee (BREC) from the University of KwaZulu-Natal (Ref No: BE424/18). Approval was obtained through the National Health Research Database (NHRD) from the KwaZulu-Natal Provincial Department of Health (Ref No: KZ\_2018009\_013).

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**Competing interest:** The authors declare that they have no competing interests.

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# Tables

**Table 1: Sociodemographic characteristics of participants**

Background characteristics of respondents	Categories	Frequency (n)	Percent (%) of respondents by characteristic
<b>Sex</b>	Female	471	100,00
<b>Age group</b>	18-24 years	244	51,80
	25-34 years	172	36,52
	35-49 years	54	11,46
	Missing	1	0,21
<b>Total</b>		<b>471</b>	<b>100,00</b>
<b>Level of education</b>	Primary	10	2,12
	Secondary	373	79,19
	Tertiary	86	18,26
	Missing	2	0,42
<b>Total</b>		<b>471</b>	<b>100,00</b>
<b>Employment status</b>	Unemployed	252	53,50
	Employed	91	19,32
	Studying	124	26,33
	Missing	4	0,85
<b>Total</b>		<b>471</b>	<b>100,00</b>
<b>Marital status</b>	Married/living with partner	42	8,92
	Single	419	88,96
	Separated	4	0,85
	Missing	6	1,27
<b>Total</b>		<b>471</b>	<b>100,00</b>
<b>Population group</b>	Black African	464	98,51
	Coloured/Asian	4	0,85
	Missing	3	0,64
<b>Total</b>		<b>471</b>	<b>100,00</b>

**Table 2: Sexual behaviour of participants (condom use at last sex)**

	Condom use at last sex				
	No (n=237)		Yes (n=234)		Total (n=471)
	n	%	n	%	n
<b>Number of male sexual partners (past 3 months)</b>					
0	25	54,3%	21	45,7%	46
1	190	50,4%	187	49,6%	377
More than 1	16	50,0%	16	50,0%	32
<b>Total</b>	<b>231</b>		<b>224</b>		<b>455</b>
<b>Partner employed</b>					
No	40	50,0%	40	50,0%	80
Yes	172	50,9%	166	49,1%	338
<b>Total</b>	<b>212</b>		<b>206</b>		<b>418</b>
<b>Ever Diagnosed with HIV</b>					
No	172	54,4%	144	45,6%	316
Yes	49	40,2%	73	59,8%	122
<b>Total</b>	<b>221</b>		<b>217</b>		<b>438</b>
<b>HIV status of sexual partner</b>					
Negative	145	53,1%	128	46,9%	273
Positive	31	43,7%	40	56,3%	71
Do not know	35	47,9%	38	52,1%	73
<b>Total</b>	<b>211</b>		<b>206</b>		<b>417</b>
<b>Sometimes hitting/slapping with partner</b>					
Agree	31	63,3%	18	36,7%	49
Neutral	7	63,6%	4	36,4%	11
Disagree	166	49,3%	171	50,7%	337
<b>Total</b>	<b>204</b>		<b>193</b>		<b>397</b>
<b>A lot of trust between you and him</b>					
Agree	138	50,2%	137	49,8%	275
Neutral	30	58,8%	21	41,2%	51
Disagree	32	50,0%	32	50,0%	64
<b>Total</b>	<b>200</b>		<b>190</b>		<b>390</b>
<b>Partner has control over sex</b>					
Agree	49	58,3%	35	41,7%	84
Neutral	91	51,1%	87	48,9%	178
Disagree	60	44,8%	74	55,2%	134
<b>Total</b>	<b>200</b>		<b>196</b>		<b>396</b>
<b>Partner has control over condom use</b>					
Agree	38	55,9%	30	44,1%	68
Neutral	86	50,3%	85	49,7%	171
Disagree	78	49,1%	81	50,9%	159
<b>Total</b>	<b>202</b>		<b>196</b>		<b>398</b>
<b>Diagnosed with STI (past 12 months)</b>					

No	199	49,6%	202	50,4%	401
Yes	29	53,7%	25	46,3%	54
<b>Total</b>	<b>228</b>		<b>227</b>		<b>455</b>
<b>Sex under influence of alcohol (past 3 months)</b>					
No	211	50,0%	211	50,0%	422
Yes	16	48,5%	17	51,5%	33
<b>Total</b>	<b>227</b>		<b>228</b>		<b>455</b>
<b>Talked about condoms with partner (past 12 months)</b>					
No	68	75,6%	22	24,4%	90
Yes	153	43,5%	199	56,5%	352
<b>Total</b>	<b>221</b>		<b>221</b>		<b>442</b>
<b>Age at first sex</b>					
12-17 years	104	59,4%	71	40,6%	175
18-24 years	117	45,0%	143	55,0%	260
<b>Total</b>	<b>221</b>		<b>214</b>		<b>435</b>
<b>Age group</b>					
18-24 years	132	54,1%	112	45,9%	244
25-34 years	89	51,7%	83	48,3%	172
35-49 years	16	29,6%	38	70,4%	54
<b>Total</b>	<b>237</b>		<b>233</b>		<b>470</b>

Table 3: Factors associated with condom use at last sex in univariate and multivariate analysis

Determinants	Odds ratios (unadjusted)	P- value	95% conf. interval	Odds ratios (adjusted)	P-value	95% Conf. Interval
<b>Number of male sexual partners (past 3 months)</b>						
0 (ref)						
1	1.17	0.613	0.63 2.17			
More than 1	1.19	0.705	0.48 2.94			
<b>Partner employed</b>	1.00	0.9	0.61 1.63			
No (ref)						
Yes	0.97	0.886	0.59 1.57			
<b>Ever diagnosed with HIV</b>						
No (ref)						
Yes	1.78	0.006	1.16 2.72	1.33	0.466	0.62 2.85
<b>HIV status of sexual partner</b>				1.50	0.131	0.89 2.53
Do not know (ref)						
Negative	0.81	0.433	0.48 1.36	1.10	0.784	0.57 2.12
Positive	1.89	0.606	0.62 2.29	1.10	0.847	0.44 2.74
<b>Sometimes hitting/slapping with partner</b>						
Neutral (ref)						
Agree	1.02	0.982	0.26 3.95	1.03	0.968	0.19 5.55
Disagree	1.80	0.354	0.52 6.27	2.05	0.360	0.44 9.56
<b>Lots of trust in the relationship</b>						
Neutral (ref)						
Agree	1.42	0.258	0.77 2.60			
Disagree	1.43	0.346	0.68 3.00			
<b>Partner has control over sex</b>						
Neutral (ref)						
Agree	0.75	0.275	0.44 1.26			
Disagree	1.29	0.267	0.83 2.02			
<b>Partner has control over condom</b>						

<b>use</b>								
Neutral (ref)								
Agree	0.80	0.436	0.45	1.41				
Disagree	1.05	0.822	0.68	1.62				
<b>Ever diagnosed with STI (past 12 months)</b>								
No (ref)								
Yes	0.85	0.574	0.48	1.50	0.59	0.139	0.29	1.19
<b>Sex under influence of alcohol</b>								
More than 1 (ref)								
Never	0.84	0.626	0.42	1.68				
<b>Talked about condoms with partner in 12 months</b>								
No (ref)								
Yes	4.02	0.000	2.38	6.80	3.74	<0.0001	2.01	6.98
<b>Age at first sex</b>								
(Ref: 12-17 years)								
18-24 years	1.79	0.003	1.21	2.64	1.50	0.150	0.86	2.61
<b>Age group</b>								
(Ref: 18-24 years)								
25-34 years	1.10	0.636	0.74	1.62	0.85	0.530	0.52	1.40
35-49 years	2.80	0.002	1.48	5.29	2.70	0.035	1.07	6.81

Conf.=Confidence