



Determinants of condom use at first sex among young people aged 15-24 years in Zambia

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Abstract

In many parts of the world, including Zambia, the health risks of unsafe sexual and reproductive behaviour among young people aged 15-24 years are receiving growing attention. This is largely because they are at a stage when sexual and reproductive activity, including risky sexual behaviour, is likely to begin, meaning that they are an important target group in the fight against HIV and AIDS, and the development of family planning programmes. Based on the 2005 Zambia Sexual Behaviour Survey, this article seeks to provide the level and determinants of condom use at first sex among young people in Zambia. Logistic regression models, separated for young men (N = 1,205) and young women (N = 1,608), using STATA 11 were used for the analysis of the determinants of condom use at first sex. The study establishes that condom use at first sex differ by cohort, gender, urban/rural residence, marital status, educational attainment, and province of residence. It further provides evidence that marital status, education attainment, province of residence and socioeconomic status are the strongest predictors of condom use at first sex among young people in Zambia. It is therefore recommended that the promotion of condom use at first sex among young people should be prioritised as an indispensable intervention aimed at reducing premarital sex and teenage pregnancy, and tackling their increased vulnerability to sexually transmitted infections such as HIV.

Keywords: Condom use at first sex, HIV, young people, Zambia

Introduction

In many parts of the world, including Zambia, the health risks of unsafe sexual and reproductive behaviour among young people, used in this paper to refer to the combination of respondents aged 15-19 (also known as adolescents) and respondents aged 20-24 (usually considered young adults), are receiving growing attention ^[1]. This is largely because young people are at a stage when sexual activity and reproductive activity including risky sexual behaviour, is likely to begin which means they are an important target group in the fight against HIV and AIDS, and the development of family planning programmes ^[2]. Risky sexual behaviour among young people can lead to sexually transmitted infections (STIs) including HIV, unintended pregnancy, and unsafe abortions ^[3, 4, 30, 31, 32, 35].

Part of Zambia's response to these sexual and reproductive health problems, has been to develop an epidemiological surveillance and research system for STIs, programmes for promoting safer sexual behaviour, and social marketing schemes for the distribution of condoms ^[4, 5]. To date, Zambia has collected sexual and reproductive behaviour data through the *Zambia Demographic and Health Survey* (ZDHS) (1992-2009) and the *Zambia Sexual Behaviour Survey* (ZSBS) (1998-2007). Collectively these surveys constitute an enormous potential source of information about the sexual behaviour of young people in Zambia.

Despite such commitments, sexual and reproductive health services remain inadequate and young people's sexual and reproductive health needs are neglected. For example, condom use is still far below the level needed to make a significant dent in the HIV epidemic ^[5]. While surveys show that knowledge about STIs and HIV and AIDS in Zambia, as in many other countries, is considerably high, this knowledge has not adequately translated into safer sexual

practices, especially among young people. Survey reports between 2000 and 2009 indicate that on average over 80 percent of all adolescents and adults had heard of HIV and AIDS ^[6] and most respondents indicated that HIV infection can be avoided through measures like condom use during sexual intercourse, being faithful to one partner or limiting the number of partners, and sexual abstinence.

Over the years, young people in Zambia have exhibited two distinct sexual and reproductive health behaviours. First, a delay in sexual debut and first childbearing has been observed among young people. Survey data from the ZDHS for the period 1992-2007 and the ZSBS for the period 2000-2009 indicates a rise in age at first sex, age at first childbearing, and an overall reduction in teenage pregnancy. Second, Zambia has made minimal success in encouraging young people to use condoms at their first sexual encounter, from avoiding premarital sex, and reducing the number of sexual partners. Consistent data across a number of national surveys in Zambia indicate that the proportion of young people engaging in sex with non-regular partners has increased, while condom use during sex with non-regular partners has decreased ^[2, 6]. Of serious concern is the frequent finding that only a small proportion of sexually active young people use condoms despite vigorous marketing and condom promotions currently in place. Notably, among adolescents and young adults aged 15-24 who have had sex, only 29 percent reported using a condom the first time they ever had sex, and only 30 to 40 percent of young, single, sexually active people aged 15-24 had used a condom at last sex ^[6]. These statistics point to the fact that many young people in Zambia are still engaging in risky or unsafe sexual behaviour which may expose them to STIs including HIV, or unintended pregnancies.

In addition, condom use at first sexual intercourse remains low among young people, posing health risks of STIs [5]. Recent data from the 2009 ZSBS shows that condom use at first sex among young people has remained low and a survey by the [6] shows that slightly more adolescent females aged 15-19 (30.6 percent) than males (27.1 percent) reported using condoms at first sex in 2009; while a higher proportion of young male adults aged 20-24 (34.6 percent) than females (25.6 percent) reported using a condom the first time they had sex, during the same year. The report also notes that young people aged 15-24 were much more likely to report using a condom at first sex than respondents older than 25 years, which might be hinting at progress facilitated by condom promotion efforts aimed at the youth [6]. These statistics underscore the fact that the consequences of young people's sexual and reproductive behaviours are of grave concern and immediate efforts are necessary to prevent or understand this behaviour and develop policies that adequately respond to these realities [3]. Arguably, the use of condoms at first sex is a protective measure from a number of health related ailments especially STIs. It is therefore vital to investigate gender differences among young people.

Method

The main objective of this article is to examine the determinants of condom use at first sex among young people aged 15-24 in Zambia using the 2005 ZSBS. More specifically, it endeavours: to investigate how levels in condom use at first sex among young people in Zambia differ by cohort, gender, urban/rural residence, marital status, educational attainment and province of residence; and to examine the determinants of condom use at first sex among young people in Zambia.

(i) Data source

The study therefore used a quantitative approach in analysing data from the 2005 ZSBS. In Zambia, the first AIDS case was reported in 1984 [7]. Since then, self-reported data on sexual behaviour and condom use has been available from the ZSBS conducted in 1998, 2000, 2003, 2005 and 2009; and from the ZDHS of 1992, 1996, 2001/2002 and 2007. The ZSBSs offer insights into different facets of young people's sexual behaviours, and most importantly, are useful primary sources for an examination of levels and determinants of the sexual behaviour of young people in Zambia.

(ii) Analysis

STATA 11 statistical software programme was used to analyse the data. Three levels of analysis were employed. Firstly, descriptive statistics were created to generate descriptive statistics of the levels of condom use at first sex of young women (N = 1,608) and young men (N = 1,205), and the statistical significance of differences in proportions was tested using the chi-square statistic. Secondly, logistic regression models were used for the analysis of the determinants of condom use at first sex among young people in Zambia. Separate grouped models were conducted for young men and young women.

Condom use at first sex, was coded: 1 if the respondent used a condom at first sex and 0 if the respondent did not use a condom at first sex. Respondents in the 2005 ZSBS were asked to state if they used a condom the first time they had sex or not. The logistic regression model formula took the

form:

$$\ln(p/q) = B_0 + B_1X_1 + \dots + B_kX_k$$

Where:

p is the probability that a respondent used a condom during sexual debut; q (or $1-p$) is the probability that the respondent did not use a condom at sexual debut; B_0, B_1, \dots, B_k are regression coefficients, and X_1, X_2, \dots, X_k are explanatory variables [8, 27].

Odds ratios are thus reported for logistic regressions of the three models which were created. The first model estimated the effect of age, urban/rural residence, marital status and educational attainment on condom use at first sex, while the second model added in a province of residence variable. In the final model, socioeconomic status (SES) variable was included to the model that controlled for age, urban/rural residence, marital status, educational attainment and province of residence. A Principal Components Analysis was used to create a SES composite index of household wealth [9, 10, 11].

(iii) Limitations

It is possible that young respondents do not or cannot always openly or truthfully answer questions dealing with the intimate topic of their sexual behaviour and practices. Understandably adolescents, especially if they are unmarried or live in settings where sexual relationships outside marriage are censured, are probably even more likely than adults to be reticent about their sexual behaviour [11]. It is also possible that very young teenagers who are only just beginning to develop a sense of their own sexuality may be especially unlikely to want to discuss this part of their lives.

Results

1. Levels in condom use at first sex

a. Condom use at first sex of young men aged 15-24 years

As Table 1 shows, there were more urban than rural young men who used a condom the first time they had sex. Moreover, less than a quarter of rural young men (19.22 percent) reported having used a condom at first sex, while slightly more than a quarter (27.70 percent) of urban young men used a condom at their first sexual intercourse. Condom use at first sex among married young men was very low compared to their unmarried counterparts. There were 10.92 percent married young men who used a condom at first sex, while close to 29 percent of unmarried young men (27.88 percent) used a condom at their sexual debut. Irrespective of educational background, not more than 50 percent of young men used a condom the first time they had sex. On one hand, less than a quarter of young men with no education (17.02 percent) and with primary education (16.60 percent) used a condom at their first sexual encounter. On the other hand, more than a quarter of young men with secondary education (27.22 percent) and higher education (48.48 percent) used a condom at their first sexual intercourse. In general, condom use at first sex increased with every level of education.

With regard to province of residence, only Luapula and Lusaka provinces reported more than a quarter of young men who used a condom at first sex: 40.74 percent in Luapula province and 39.41 percent in Lusaka province. In

the other seven provinces, between 10 percent and 24 percent of young men used a condom at first sex: 10.00 percent in the Northern province, 11.76 percent in the North-Western province, 14.12 percent in the Southern province, 16.67 percent in the Central province, 21.74 percent in the Eastern province, 23.21 percent in the Copperbelt province, and 24.00 percent in the Western province. Therefore, condom use at first sex among young men was highest in Luapula province and lowest in Northern Province. Overall, less than a quarter (23.63 percent) of young men in the surveyed sample used a condom at their sexual debut.

Table 1: Percentage of young men aged 15-24 years who used a condom at first sex by selected covariates, ZSBS 2005

Background Characteristic	Percent of condom use at first sex	Total percent	Number of respondents
Place of Residence			
Rural	19.22	100.00	64
Urban	27.70	100.00	100
Marital Status			
Married	10.92	100.00	19
Unmarried	27.88	100.00	145
Education			
No Education	17.02	100.00	8
Primary	16.60	100.00	42
Secondary	27.22	100.00	98
Higher	48.48	100.00	16
Province			
Central	16.67	100.00	6
Copperbelt	23.21	100.00	13
Eastern	21.74	100.00	15
Luapula	40.74	100.00	11
Lusaka	39.41	100.00	67
Northern	10.00	100.00	4
North-Western	11.76	100.00	6
Southern	14.12	100.00	24
Western	24.00	100.00	18
Overall male	23.63	100.00	164 (N = 694)

Note: The chi-square test on sample distributions yielded $p < 0.01$. Total sample size is in parenthesis.

(a) Condom use at first sex of young women aged 15-24 years

Table 2 shows that there were fewer young women who used a condom at first sex in rural areas compared to their counterparts in urban areas. Less than a quarter of young women in rural areas (15.68 percent) used a condom at their first sexual intercourse, while slightly more than a quarter of young women in urban areas (32.28 percent) used a condom at first sex. Almost a similar picture (like that of young men) of fewer young women's use of condoms at first sex is displayed regarding marital status. About 15 percent of married young women (14.50 percent) used a condom at first sex, while only 39.95 percent of unmarried young women used a condom at their first sexual encounter.

In terms of educational attainment, there is a gradual increase in the use of condoms at first sex as the level of education progresses. Less than 20 percent of young women without education (9.91 percent) and with primary education (16.67 percent) used a condom at their first sexual debut. However, there were more than a quarter of young women with secondary education (35.99 percent) and higher education (40.00 percent) who used a condom at first sex.

The lowest use of condom use at first sex was observed within the cohort of uneducated young women, while the highest condom use at sexual debut was observed within the cohort of young women with higher education.

There were very few young women who used a condom at their first sexual intercourse in Northern and Luapula provinces, 5.26 percent and 10.00 percent respectively. However, more than a quarter of young women in Copperbelt province (29.09 percent), Lusaka province (29.93 percent), Southern province (25.63 percent) and in Western province (77.87 percent) used a condom at their first sexual encounter. Between 17 percent and 22 percent of young women used a condom at first sex in the remaining three provinces; notably, 16.67 percent in Central province, 17.31 percent in Eastern province and 22.03 percent in North-Western province.

Overall, only 24.34 percent of young women in the surveyed sample used a condom at their first sexual intercourse. These results confirm the findings of [13] when they observed that adolescents were more unlikely to use a contraceptive the first time they had sex and were more likely than older women to experience a contraceptive failure.

Table 2: Percentage of young women aged 15-24 years who used a condom at first sex by selected covariates, ZSBS 2005

Background Characteristic	Percent of condom use at first sex	Total percent	Number of respondents
Place of Residence			
Rural	15.68	100.00	82
Urban	32.28	100.00	184
Marital Status			
Married	14.50	100.00	97
Unmarried	39.95	100.00	169
Education			
No Education	9.91	100.00	11
Primary	16.67	100.00	85
Secondary	35.99	100.00	158
Higher	40.00	100.00	12
Province			
Central	16.67	100.00	15
Copperbelt	29.09	100.00	16
Eastern	17.31	100.00	18
Luapula	10.00	100.00	4
Lusaka	29.93	100.00	88
Northern	5.26	100.00	4
North-Western	22.03	100.00	13
Southern	25.63	100.00	61
Western	77.87	100.00	47
Overall female	24.34	100.00	266 (N = 1,093)

Note: The chi-square test on sample distributions yielded $p < 0.01$. Total sample size is in parenthesis.

In general, there was evidence that slightly more young women (24.34 percent) than young men (23.63 percent) used a condom at their first sexual encounter. The high levels of condom use among young women could plausibly be associated with the dual protection of condoms, namely from unwanted pregnancy and from STIs, as advanced in other literature [14, 15, 16, 17].

2. Determinants of condom use at first sex

(b) Determinants of condom use at first sex for young men aged 15-24 years

Table 3 shows the logistic regression analysis of the determinants of condom use at first sex among young men aged 15-24 years. Model I controls for current age, urban/rural residence, marital status and educational attainment. As shown, young men’s current age is positively associated with having used a condom at first sex. This confirms observations made in other empirical studies that an increase in age is associated with a corresponding increase in condom use. A study by Blanc and Way [13] found that the older the age at first intercourse the more likely young people are to practice contraception. There is no difference in the odds of having used a condom at first sex between young men who reside in rural areas and young men who reside in urban settings. The odds of having used a condom at first sex are 3.11 times higher for unmarried young men compared to married young men. The use of condoms at first sex is high among unmarried young people compared to married young people. In sub-Saharan Africa, current contraceptive use is higher among sexually active unmarried teens than it is among married teens [13]. Nevertheless, consistent condom use is negatively associated with being married or being in a cohabiting relationship [18]. In addition, having primary education is strongly negatively associated with having used a condom at first sex for young men. The odds of having used a condom

at first sex are 1.48 times higher for young men with secondary education. Young men with higher education have 3.25 times higher odds of having used a condom at first sex than young men who did not use a condom at first sex. In this model, only marital status and higher education have statistically significant effects.

Model II in table 3 introduces the variable province of residence in the model that controls for current age, urban/rural residence, marital status and educational attainment. Current age is still positively associated with having used a condom at first sex. Unlike in the previous model, residing in urban areas is strongly negatively associated with having used a condom at first sex compared to residing in rural areas for young men. The odds of having used a condom at first sex are 3.64 times higher for unmarried young men than for married young men. Unlike in model I, having primary, secondary and higher education are all strongly positively associated with having used a condom at first sex, for young men. All the provincial variables are strongly associated with having used a condom at sexual debut. Nonetheless, the Eastern, Luapula and Lusaka provinces have statistically significant effects of condom use at first sex. Notably, the odds of having used a condom at first sex for young men are 3.11 times higher in the Eastern province, 7.98 times higher in Luapula province and 4.48 times higher in Lusaka province than for young men in the North-Western province.

Table 3: Logistic regression analysis of the determinants of condom use at first sex among young men aged 15-24 years, ZSBS 2005

Condom use	Model I (N = 693)		Model II (N = 693)		Model III (N = 650)	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Age	1.05	0.04	1.05	0.05	1.05	0.05
Residence						
Urban	1.00	0.21	0.78	0.24	0.68	0.30
Marital Status						
Unmarried	3.11***	0.90	3.64***	1.12	3.98***	1.30
Education						
Primary	0.96	0.41	1.07	0.48	1.12	0.54
Secondary	1.48	0.64	1.64	0.74	1.84	0.88
Higher	3.25**	1.81	2.66*	1.55	2.86*	1.80
Province						
Central			1.66	1.06	1.26	0.86
Copperbelt			2.25	1.37	1.42	0.95
Eastern			3.11**	1.69	2.83*	1.55
Luapula			7.98***	4.89	7.74***	4.82
Lusaka			4.48***	2.47	3.89**	2.31
Northern			1.12	0.78	0.88	0.65
Southern			1.29	0.69	1.05	0.60
Western			2.18	1.15	1.56	0.87
SES						
Piped water					2.07*	0.86
Flush toilet					1.20	0.41
Electricity					1.07	0.44
Television					0.83	0.31
Telephone					1.02	0.34
Refrigerator					0.96	0.37
Safe wall					0.58	0.25
Log likelihood		-359.71		-341.37		-312.01

* Significant at the .10 level ** Significant at the .05 level *** Significant at the .01 level Note: Omitted categories are rural male, married male, no education, north-western and car

Model III in table 3 includes SES in the model that controls for current age, urban/rural residence, marital status, educational attainment and province of residence. Young men’s current age remains positively associated with having

used a condom at first sex. Similar to model II, residing in urban areas is strongly negatively associated with having used a condom at first sexual intercourse. Being unmarried is strongly positively related to having used a condom at

sexual debut for young men. There is evidence that as young men progress in education, their odds of having used a condom at first sex increases significantly. This confirms the findings of a study by Agha ^[19] on sexual activity and condom use in Lusaka, Zambia where the use of condoms among men was elevated among those who had an education beyond the secondary level. Similarly, Prata *et al.* ^[18] in their study on gender differences on condom use among 15-24 year olds in Angola found that for both males and females, consistent condom use was positively associated with higher levels of education. Moreover, the odds of having used a condom at first sex are 2.86 times high for young men with higher education than for young men without education. The influence of education on condom use among young people has been reported in other literature ^[20, 21]. A cross-sectional survey to predict the determinants of sexual debut and recent condom use among sexually active secondary school students in Tanzania found that condom use increased with levels of education but that gender was not significantly linked to increased condom use ^[20]. Results from a more recent ZSBS which measured young people aged 15-24 years who used condom at last sexual intercourse shows that condom use increased with the level of education ^[21].

Furthermore, model III demonstrates that with the exception of the Northern province, the odds of having used a condom at first sex are higher for young men in the other seven provinces than for young men in the North-Western province. Finally, for young men, living in a household with television, a refrigerator and safe walls is strongly negatively associated with having used a condom at first sex compared to living in a household with a car. Besides, for young men, living in a household with piped water, a flush toilet, electricity and a telephone is strongly positively associated with having used a condom at first sex, compared to living in a household with a car.

On the whole, the strongest predictors of condom use at first sex for young men is being unmarried, having higher education, residing in the Eastern, Luapula or Lusaka provinces, and living in a household with piped water.

(c) Determinants of condom use at first sex for young women aged 15-24 years

Table 4 presents the logistic regression analysis of the determinants of condom use at first sex among young women aged 15-24 years. In model I, young women's current age is negatively related to having used a condom at first sex. The odds of having used a condom at first sex are 1.45 times higher for urban young women than their unmarried counterparts. Unmarried young women's odds of having used a condom at first sex are 2.86 times higher compared to married young women. For young women, having primary, secondary and higher education are all positively associated with having used a condom at first sex. The odds of having used a condom at first sex for young women with secondary education are 3.12 times higher, and with tertiary education 3.66 times higher compared to uneducated young women. Urban residence, unmarried status and having secondary or higher education are all statistically significant in this model.

Model II in table 4 introduces the provincial variable in the model that controls for current age, urban/rural residence,

marital status and educational attainment. Young women's current age remains strongly negatively associated with condom use at first sex. Unlike their male counterparts in table 3, for young women, residing in urban areas is positively associated with using a condom at first sex compared to residing in rural areas. The odds of having used a condom at first sex are 2.72 times higher for unmarried young women compared to married young women. Education has a statistically significant effect on the use of a condom at first sex for young women with primary, secondary and higher education. The odds of having used a condom at first sex are 1.84 times higher for young women with primary education, 3.72 times higher for young women with secondary education and 4.41 times higher for young women with higher education compared to uneducated young women. This is consistent with what has been observed among their male counterparts where condom use increases with levels of education. For young women, with the exception of the Eastern and Western provinces, residing in all the other seven provinces is strongly negatively associated with having used a condom at first sex. Only the Northern Province has a statistically significant effect on the use of condom use at first sex for young women.

A SES index is introduced in model III that controls for current age, urban/rural residence, marital status, educational attainment and province of residence. Like in the previous models, for young women, age is negatively associated with having used a condom at first sex. Residing in urban areas initially had a significant effect in the previous models, but this relationship becomes insignificant once SES is accounted for. Residing in urban settings is positively associated with having used a condom at first sex compared to residing in rural areas. The odds of having used a condom at first sex are 2.63 times higher for unmarried young women than for married young women. After controlling for current age, urban/rural residence, marital status, educational attainment, province of residence and SES, as young women progress in their education, the odds of their having used a condom at first sex generally increases significantly. Secondary education has an insignificant effect on condom use at first sex once SES is accounted for in the model. As in the previous model, only the Eastern and Western provinces are positively associated with condom use at first sex for young women. Similarly, for young women, the Northern Province is statistically significant although it is negatively associated with having used a condom at first sex. Living in a household with piped water or a flush toilet, are all negatively associated with having used a condom at first sex compared to living in a household with a car. For young women, living in a household with electricity, television, a telephone, a refrigerator or safe walls are all positively associated with having used a condom at first sex compared to living in a household with a car. Previous studies have generally observed that higher socio-economic status leads to a greater likelihood of using condoms during first intercourse ^[21].

Overall, there was evidence that being unmarried, with primary and secondary education, residing in Northern Province, and living in a household with a flush toilet, are the strongest predictors of condom use at first sex for young women.

Table 4: Logistic regression analysis of the determinants of condom use at first sex among young women aged 15-24 years, ZSBS 2005

Condom use	Model I (N = 1089)		Model II (N = 1089)		Model III (N = 1015)	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Age	0.97	0.03	0.97	0.03	0.96	0.03
Residence						
Urban	1.45**	0.25	1.74***	0.39	1.42	0.42
Marital Status						
Unmarried	2.86***	0.48	2.72***	0.48	2.63***	0.48
Education						
Primary	1.63	0.57	1.84*	0.65	1.88*	0.70
Secondary	3.12***	1.11	3.72***	1.35	3.93	1.51
Higher	3.66***	1.91	4.41***	2.32	5.33***	3.04
Province						
Central			0.82	0.38	0.86	0.41
Copperbelt			0.66	0.32	0.74	0.39
Eastern			1.12	0.48	1.10	0.49
Luapula			0.77	0.49	0.90	0.58
Lusaka			0.65	0.26	0.64	0.28
Northern			0.27**	0.17	0.16**	0.13
Southern			0.53	0.21	0.51	0.22
Western			1.17	0.46	1.14	0.47
SES						
Piped water					0.95	0.27
Flush toilet					0.57**	0.14
Electricity					1.04	0.28
Television					1.31	0.33
Telephone					1.11	0.25
Refrigerator					1.05	0.29
Safe wall					1.24	0.39
Log likelihood		-540.98		-532.76		-499.88

* Significant at the .10 level ** Significant at the .05 level *** Significant at the .01 level Note: Omitted categories are rural female, married female, no education, north-western and car

Discussion

There was evidence that condom use at first sex among young people in Zambia differs by current age, gender, urban/rural residence, marital status, educational attainment and province of residence. Condom use at first sex remains one of the major challenges confronting young people in Zambia. As observed in other studies [for example, 5, 13], the present study found low levels of condom use among young people during their first sexual intercourse. For example, less than a quarter of young men (23.63 percent) and young women (24.34 percent) used a condom at first sex. The study further confirms available evidence that more young people in urban areas than in rural areas used a condom at their first sexual encounter [22]. A recent study by CSO *et al.* [2] observed a similar pattern and noted that ‘contraceptive use is higher among women in urban areas than among women in rural areas (48 and 37 percent, respectively)’.

The assertion that condom use is negatively associated with being married or being in a cohabiting relationship [13, 23] found support in this study. The study found that more unmarried young people (27.88 percent men and 39.95 percent women) used a condom at first sex compared to their married counterparts (10.92 percent men and 14.50 percent women). Hendriksen *et al.* [23] also observed that married young people were less likely to use a condom during their recent sexual intercourse.

There was evidence that condom use is positively associated with higher levels of education [18, 20, 26, 34]. The study found that condom use increased with the level of education for both young men and young women. There were more young people with secondary and higher education who used a

condom at first sex compared to young people with primary education and no education. High levels of condom use among more educated young people have been documented in a number of recent studies [22, 24, 33, 34].

The expectation that more urbanised provinces record high percentages of condom use at first sex compared to more rural provinces due to, for example, high exposure to family planning messages through the media and easy accessibility of condoms in urban provinces, was not supported without contrasting evidence. The use of condom at first sex was more evident in rural provinces (such as Luapula and the Western) than in more urbanised provinces (such as the Copperbelt and Lusaka) suggesting that condom promotion campaigns might have been more successful in rural than in urban areas. More recent empirical research indicates that the ‘Eastern province [had] the highest proportion of women currently using a family planning method (53 percent), followed by Copperbelt (48 percent)’ and ‘the lowest proportion of married women using a family planning method [was] in Luapula (16 percent)’ [2]. The erratic use of condoms among young people in Zambia is an indication that they are still engaging in risky or unsafe sexual behaviour which exposes them to STIs and unintended pregnancies [28, 29].

Conclusion

The present study established that condom use at first sex among young people in Zambia differ by cohort, gender, urban/rural residence, marital status, educational attainment, and province of residence. The identification of age, education, marital status, SES and province of residence as strongest determinants of sexual behaviour among young

people in Zambia demands investment in programmes that aim at promoting delay in sexual debut, encouraging condom use at first sex, and addressing the factors that contribute to premarital sex. The promotion of condom use at first sex among young people especially in rural areas should be a priority. All the obstacles faced by rural communities such as in- accessibility and non-availability of condoms should be addressed. Investing in female-led condom initiatives (to compliment male-led condom initiatives) in the fight against HIV and AIDS would equally add value. Finally, the implications for these findings are that understanding changes in condom use at first sex, is indispensable for targeted interventions aimed at reducing premarital sex and teenage pregnancy, and tackling increased vulnerability to STIs, among young people in Zambia.

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