

## **Differences in Condom Use among Never Married Young Men and Women in Zambia**

### **ABSTRACT**

The present study explored factors that affect the use of condoms among young men and women who have never been married in Zambia. The data that was employed in this study was derived from the 2013 Zambia Demographic Health Survey (ZDHS). Logistic regression analysis was used to identify factors affecting gender differentials in condom usage by considering socio-economic variables. The study revealed that about 12 per cent of females and 16 per cent of males reported having had sex with more than one to three partners; and 29 per cent of females and 37 per cent of males reported using condoms during their last sex intercourse with their partners. Strong predictors of condom usage were Age, Wealth status, Educational level, Media exposure and alcohol drinking. The study findings showed that females who had completed secondary education were 1.4 times more likely to report having used condoms during sexual intercourse with their partners. Male youths who were working were 1.5 times more likely to report having used a condom during their last sexual intercourse with their partners compared to the male youths who were not working. It was further revealed that, the socio-economic and demographic factors were cardinal determinants of condom use among youths who have never been married youths in Zambia. These findings have shown consistency with other studies done within sub-Saharan Africa and other countries in relation to the determinants of condom use among youths who have never been married. The study recommends interventions to promote and encourage condom use by taking into account the gender differentials of age, media exposure and socioeconomic status of the target populations.

**Key words:** Gender differentials, condom use, never married youths, Zambia

## 1. Introduction

Over the years, research has revealed that people of all ages are prone to sexually transmitted infections (STIs) including Human Immuno Virus (HIV) [1]. However, young people have increased rates of exposure to the risks of STIs. Various mechanisms were instituted to combat STIs globally. One such mechanism is the correct and consistent condom use. Unfortunately, many studies have also found out that the use of condom among the young men and women who have never been married has persistently been low especially in sub-Saharan Africa [2].

In most of sub-Saharan Africa region (SSA), the prevalence rates of STIs are high. According to the UNAIDS data, in most heavily affected countries, about 66 per cent adults and children were infected with HIV every day in 2015 [1]. Most sub-Saharan African countries are characterised by young people. Zambia like most of the SSA, has a young population with 45.4 per cent of people aged below 15 years. The population is also characterised by the continuing urban drift. Between 2000 and 2010, the percentage distribution of youths aged between 15 and 35 years old reduced from 34.5 per cent to 33.3 per cent in rural areas and increased from 41.4 per cent to 41.9 per cent in urban areas. The median age was 16.9 years old (Urban: 18.7 years old; Rural: 15.6 years old) [3].

Zambian adolescents and young adults are significantly at high risk of HIV infection from unprotected sexual intercourse [4]. The number of proximate and distal determinants of risk include the early onset of sexual activity, unprotected sex, sexual abuse, early marriages and pregnancies, substance and alcohol abuse and unsafe cultural practices. Between 2007 and 2014, the Zambia Demographic Health Survey (ZDHS) reported that risky sexual behaviours increased with the percentage of adolescent girls reporting a sexual partner almost doubled, while low rates of reported condom use at last sex did not change [4].

Research and other scholarly works in the past and present examined reasons that prevent young men and women from using condoms. For instance, a Demographic and Health Survey conducted in 1997 in Madagascar revealed that some of the reasons that hindered young people from using condoms were lack of information about condoms either as a preventive measure from STIs or as a mode of family planning and the attitudes and perception of condom use. The survey also found out that 45 per cent of women aged between 15 and 19 years old and 54 per cent of those aged between 20 and 24 years had never heard of STIs while 31 per cent and 30 per

cent respectively had never heard about HIV or AIDS. Both groups had also never heard about condoms either as a preventive measure against STIs and HIV or as a form of birth control [5].

A cross sectional study in Madagascar's Toamasina conducted on 1,915 unmarried sexually active youths found out that condom use was relatively low despite its known advantages [5]. It was found out that amongst the 1,915 respondents only 42 per cent of males and 21 per cent of females reported using a condom in their life time. Out of the 63 per cent of those that had used a condom in their life time, only 17 per cent used condoms consistently of both sexes. Such findings are similar to those of cross sectional study conducted in Kajola, Nigeria on 350 out of school unmarried youths aged between 15 and 24 years old [6]. The study found out that of the 350 respondents, 262 (74.9%) reported having had sex before but only 29 per cent used condoms of both sexes.

Most studies showed that males compared to females, males used condoms more than females. Hence gender was also regarded as a determining factor to young people's use of condoms. Meeker and Klein's study found out that 42 per cent males and 21 per cent of females reported having used a condom in their life time while 13 per cent of males and 10 per cent of females used condoms on an irregular basis [5]. Similarly, condom use was high among males than females in Adebisi and Asuzu's study; 44.7 per cent and 29.7 per cent respectively, thus showing that use of condoms was dependent on being male [6]. However, Thato also argued that gender was not a determining factor of condom use as the study found both sexes were most likely to use condoms if they had greater intentions [7].

## 2. METHODOLOGY

The present study used data from the 2013 Zambia Demographic Health Survey (ZDHS). The survey was based on nationally representative sample carried out by Central Statistical Office (CSO) with technical assistance from the Demographic Health Surveys Programme at ICF International which was funded by the United States Agency for International Development (USAID). The survey used a two-stage stratified cluster sampling design. At the first stage, 722 Enumeration Areas (EA) were selected using systematic random sampling with probability proportional to size. At the second stage, 25 households per EA were selected again using systematic random sampling. Methods and data collection procedures have been published elsewhere [4].

The ZDHS included a special module designed to collect information on various demographic and health indicators including individual characteristics, sexual activity, marriage, family planning knowledge and use, HIV and AIDS-related knowledge, attitudes and behaviour. The household questionnaires also collected information on the demographic and economic characteristics of all household members. In this study, the analysis was restricted to never married adolescents aged 15-24 in order to specifically look at their condom use.

## 2.1 Data Analysis

The data analysis for the study was carried out in two stages. Firstly, cross tabulations were used to examine the relationship between the independent (socio-economic and demographic variables) and dependent (sexual behaviour) variables. For the statistical analysis, chi-square tests were conducted at the bivariate level for independent variables at  $p < 0.01$  and  $p < 0.05$  significant level. Secondly, the liner Binary logistic regression was used to identify factors influencing condom use by considering socio-economic and demographic variables. The result of the logistic regression models were converted into odds ratios, which represented the effect of a one-unit change in the explanatory variable on the indicator of condom use. Odds ratios larger than one indicates a greater likelihood of using condom than for the reference category; odds ratios smaller than one indicates a smaller likelihood compared to the reference category.

## 2.2 Dependent variable

Condom use is defined as if never married young males and females had used condoms at last sexual intercourse with one or both of their partners. The measurement and description of independent variables is stated in Table 1.

**Table 1. Description and measurement of independent variables**

| Variables                              | Description                                                                                                                                                                                 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Age                                    | Age of the respondent is categorized as 15-19 and 20-24.                                                                                                                                    |
| Religion                               | Religion is classified as Catholics and Protestants.                                                                                                                                        |
| Residence                              | Place of residence is coded as urban or rural.                                                                                                                                              |
| Wealth index                           | To measure socioeconomic status, we used DHS a wealth index, which divides households into three groups: poor, middle and rich according to the number of goods owned by the household.     |
| Work status                            | Work status of the respondent is classified into two categories; those working and not working.                                                                                             |
| Educational level                      | Educational level of the respondent is categorized into primary and secondary or higher education.                                                                                          |
| Reading newspaper at least once a week | Exposure to media was measured by frequency of reading newspaper at least once a week. It is classified as those who are reading newspapers at least once a week and less than once a week. |

|                                          |                                                                                                      |
|------------------------------------------|------------------------------------------------------------------------------------------------------|
| Listening to radio at least once a week  | It is classified as those who are listening to radio at least once a week and less than once a week. |
| Watching television at least once a week | It is classified as those who are watching to radio at least once a week and less than once a week.  |
| Drinks alcohol                           | It is grouped into two those drinking and not drinking alcohol                                       |

### 3 Results

#### 3.1 Background Characteristics of the Sample

The background characteristics of the sample are shown in Table 2. More than half of the respondents were in the age range of 15 to 19 years old (72% of females and 65.4% of males) while the rest were aged between 20 and 24 years old (27.5% females and 34.6% males). With regard to religion, the majority of the respondents were Protestants (78.3% of males and 80.3 per cent of females) while the minority were Catholic (21% of males and 19.7% of females). The results also showed that more than half of the respondents were from rural areas (57.5% of males and 51.2% of females). The distribution of respondents by wealth quintile showed that 24 per cent of females and 27 per cent of males were ranked poor, 19.7 per cent of females and 21.3 per cent of males were categorised as belonging to the middle class and 56.3per cent of the females and 50.8 per cent of the males where ranked rich. The data further shows that there were more respondents who were not working for both genders (77.9% of females and 54.9% of males).

The education characteristics of the respondents showed that 70 per cent of females and 64.2 per cent of males had completed secondary or higher education whereas 30 per cent of the females and 35.8 per cent of the males had only acquired primary education. Furthermore, 68% of the females and 67.8 per cent of the males reported reading newspapers less than once a week. On the contrary, 31.9 per cent of the females and 32.2 per cent of the males read newspapers at least once a week. Moreover, more than half of the respondents listened to the radio at least once a week (54% of females and 63% of males). On the other hand, 45.8 per cent of the males and 37 per cent of the females listened to the radio less than once a week. With regard to exposure to television, the majority of respondents (51.7% of females and 52.7 % of males) watched television less than once a week. Meanwhile, 48.3 per cent of the females and 47.6 per cent of the males watched television less than once a week. The data further indicated that 5.4 per cent females and 15.1 per cent of males reported drinking alcohol.

Table 2: Background characteristics of never married males and females in Zambia (aged 15-24)

| Characteristics                          | Female | N    | Male | N    |
|------------------------------------------|--------|------|------|------|
| Age                                      |        |      |      |      |
| 15-19                                    | 72.5   | 3058 | 65.4 | 3304 |
| 20-24                                    | 27.5   | 1161 | 34.6 | 1750 |
| Religion                                 |        |      |      |      |
| Catholic                                 | 19.7   | 839  | 21.7 | 1093 |
| Protestant                               | 80.3   | 3380 | 78.3 | 3961 |
| Place of residence                       |        |      |      |      |
| Rural                                    | 57.5   | 2428 | 51.2 | 51.2 |
| Urban                                    | 42.5   | 1791 | 48.8 | 48.8 |
| Wealth Index                             |        |      |      |      |
| Poor                                     | 24.0   | 1013 | 27.9 | 1410 |
| Middle                                   | 19.7   | 831  | 21.3 | 1077 |
| Rich                                     | 56.3   | 2375 | 50.8 | 2567 |
| Work status                              |        |      |      |      |
| Not-working                              | 77.9   | 3272 | 54.9 | 2767 |
| Working                                  | 22.1   | 947  | 45.1 | 2287 |
| Educational level                        |        |      |      |      |
| Primary                                  | 30.0   | 1266 | 35.8 | 1808 |
| Secondary+                               | 70.0   | 2953 | 64.2 | 3246 |
| Reading newspaper at least once a week   |        |      |      |      |
| Less than once a week                    | 68.1   | 2878 | 67.8 | 3425 |
| At least once a week                     | 31.9   | 1341 | 32.2 | 1629 |
| Listening to radio at least once a week  |        |      |      |      |
| Less than once a week                    | 45.8   | 1927 | 37.0 | 1868 |
| At least once a week                     | 54.2   | 2292 | 63.0 | 3186 |
| Watching television at least once a week |        |      |      |      |
| Less than once a week                    | 51.7   | 2183 | 52.4 | 2643 |
| At least once a week                     | 48.3   | 2036 | 47.6 | 2411 |
| Drinks alcohol                           |        |      |      |      |
| No                                       | 94.6   | 3991 | 84.9 | 4292 |
| Yes                                      | 5.4    | 226  | 15.1 | 762  |

### 3.2 Number of Sexual Partners

On the overall, fewer females (11.6%) than males (15.9%) reported having had sex with three or more partners in the last 12 months. Respondents aged between 20 and 24 years old (females 15.2%, males 17.2%) were more likely to report having sex with three or more partners compared to the age group between 15 and 19 years old (females 9.1%, males 14.9%). Respondents from protestant denomination (females 12.1%, males 13.7%) were more likely than

those from Catholic (9.6%) to report having had sex with three or more partners. The results showed that females from poor backgrounds were likely to report having sex with three or more partners compared to those from middle and rich backgrounds (poor 13.8%, middle 13.1% and the rich 9.8%). On work status, working females (16.7%) were more likely to report having had sex with three or more partners as compared to women who were not working (9.5%). On listening to the radio, females who listened to the radio less than once a week(12.8%) were more likely to report having had sex with three or more partners compared to those who listened to the radio at least once a week (10.5%). Females who watched television less than once a week (12.5%) were more likely to report having had sex with three or more partners compared to those who watched television at least once a week (10.5%). There was no statistical significance on this domain among the males. With regard to drinking alcohol, those who drank alcohol (19.1%) were more likely to report having had sex with three or more partners as compared to those who did not drink (10.9%). Alcohol consumption did not show any significant results among the males

Table 3. Never married sexually active females and males who reported having had sex with three or more partners

| Characteristics                        | % females reported having had sex with three or more partners |      | % males reported having had sex with three or more partners |      |
|----------------------------------------|---------------------------------------------------------------|------|-------------------------------------------------------------|------|
|                                        | %                                                             | N    | %                                                           | N    |
| Age                                    |                                                               |      |                                                             |      |
| 15-19                                  | 9.1**                                                         | 1254 | 14.9*                                                       | 1635 |
| 20-24                                  | 15.2                                                          | 871  | 17.2                                                        | 1446 |
| Religion                               |                                                               |      |                                                             |      |
| Catholic                               | 9.6*                                                          | 408  | 13.7*                                                       | 687  |
| Protestant                             | 12.1                                                          | 1713 | 16.7                                                        | 2383 |
| Place of residence                     |                                                               |      |                                                             |      |
| Rural                                  | 11.1                                                          | 1191 | 15.4                                                        | 1542 |
| Urban                                  | 12.2                                                          | 934  | 16.4                                                        | 1539 |
| Wealth Index                           |                                                               |      |                                                             |      |
| Poor                                   | 13.8*                                                         | 550  | 17.1                                                        | 888  |
| Middle                                 | 13.1                                                          | 490  | 15.0                                                        | 708  |
| Rich                                   | 9.8                                                           | 1085 | 15.7                                                        | 1485 |
| Work status                            |                                                               |      |                                                             |      |
| Not-working                            | 9.5**                                                         | 1491 | 15.1                                                        | 1420 |
| Working                                | 16.7                                                          | 622  | 16.7                                                        | 1656 |
| Educational level                      |                                                               |      |                                                             |      |
| Primary                                | 11.6                                                          | 594  | 17.4                                                        | 1038 |
| Secondary or higher                    | 11.6                                                          | 1530 | 15.1                                                        | 2039 |
| Reading newspaper at least once a week |                                                               |      |                                                             |      |

|                                          |        |      |      |      |
|------------------------------------------|--------|------|------|------|
| Less than once a week                    | 12.1   | 1510 | 16.4 | 2085 |
| At least once a week                     | 10.5   | 609  | 15.0 | 994  |
| Listening to radio at least once a week  |        |      |      |      |
| Less than once a week                    | 12.8*  | 1012 | 16.8 | 1102 |
| At least once a week                     | 10.5   | 1110 | 15.5 | 1976 |
| Watching television at least once a week |        |      |      |      |
| Less than once a week                    | 12.5*  | 1216 | 15.6 | 1670 |
| At least once a week                     | 10.4   | 908  | 16.3 | 1408 |
| Drinks alcohol                           |        |      |      |      |
| No                                       | 10.9** | 1951 | 15.6 | 2427 |
| Yes                                      | 19.1   | 173  | 17.3 | 654  |
| Total                                    | 11.6   | 2124 | 15.9 | 3081 |

\*\*\* Significant at  $P < 0.01$ ; \*\* Significant at  $P < 0.05$

### 3.3 Condom Use Among Never Married

On the overall, about 28.9 per cent of females and 36.8 per cent of males reported using a condom during last sex. Female respondents aged between 20 and 24 years old (30.9%) and males (42.6%) were more likely to report using a condom at last sex compared to the age group of 15 to 19 years old (females 27.5%, males 31.6%). Respondents from the rural residences (females 31.8%, males 38.8%) were more likely to report having used a condom at last sex as compared to those from urban residences (females 25%, males 34%). The wealth index shows that respondents from rich backgrounds (females 32.7% males 41%) were more likely to report having used a condom at last sex as compared to those from poor backgrounds (females 21.7% and males 32%). On work status, working respondents (females (31.3%) and males (38.8%)) were more likely to report using a condom at last sex as compared to respondents who were not working (females 28% and males 34%).

Regarding respondents educational level, respondents who had secondary education (females 30.8%, males 40.1%) were more likely than those who had primary education (females 24%, males 30.2%) to have used a condom at last sex. Respondents who read newspapers at least once a week (females 32.7% and males 41.2%) were more likely to report having used a condom at last sex as compared to those who read the newspaper less than once a week (females 27.3% and 34.6% males ). On listening to the radio, respondents who listened to the radio at least once a week (females 30.5% and males 38%) were more likely to report having used a condom at last sex compared to those who listened to the radio less than once a week (female 27% and male 34.5%). Those who watched television at least once a week (females 33.3% males 40.1%) were more likely to report having used a condom at last sex as compared to those who watched

television less than once a week (female 25.6% and 34% males).With regards to drinking alcohol, those who drank alcohol (females 53.6% and 48.3% males) were more likely to report having used a condom at last sex as compared to those who did not drink (females 26.7% males 33.6%).

Table 4.Never married sexually experienced youths who reported having using condom during last sex with their partners

| Characteristics                          |                       | % of females who had used condom during last sex |      | % of males who had used condom during last sex |      |
|------------------------------------------|-----------------------|--------------------------------------------------|------|------------------------------------------------|------|
|                                          |                       | %                                                | N    | %                                              | N    |
| Age                                      | 15-19                 | 27.5*                                            | 1251 | 31.6**                                         | 1617 |
|                                          | 20-24                 | 30.9                                             | 871  | 42.6                                           | 1406 |
| Religion                                 | Catholic              | 30.1                                             | 408  | 38.3                                           | 671  |
|                                          | Protestant            | 28.7                                             | 1710 | 36.4                                           | 2341 |
| Place of residence                       | Rural                 | 31.8**                                           | 1190 | 38.8**                                         | 1520 |
|                                          | Urban                 | 25.1                                             | 932  | 34.7                                           | 1503 |
| Wealth Index                             | Poor                  | 21.7**                                           | 548  | 32.3**                                         | 871  |
|                                          | Middle                | 28.6                                             | 490  | 33.6                                           | 692  |
|                                          | Rich                  | 32.7                                             | 1084 | 41.0                                           | 1460 |
| Work status                              | Not-working           | 28.0*                                            | 1491 | 34.5**                                         | 1406 |
|                                          | Working               | 31.3                                             | 619  | 38.8                                           | 1612 |
| Educational level                        | Primary               | 24.0**                                           | 592  | 30.2**                                         | 1017 |
|                                          | Secondary or higher   | 30.8                                             | 1529 | 40.1                                           | 2002 |
| Reading newspaper at least once a week   | Less than once a week | 27.3**                                           | 1507 | 34.6**                                         | 2041 |
|                                          | At least once a week  | 32.7                                             | 609  | 41.2                                           | 980  |
| Listening to radio at least once a week  | Less than once a week | 27.0*                                            | 1013 | 34.5*                                          | 1082 |
|                                          | At least once a week  | 30.5                                             | 1106 | 38.0                                           | 1938 |
| Watching television at least once a week | Less than once a week | 25.6**                                           | 1214 | 34.0**                                         | 1635 |
|                                          | At least once a week  | 33.3                                             | 907  | 40.1                                           | 1385 |
| Drinks alcohol                           | No                    | 26.7**                                           | 1948 | 33.6**                                         | 2385 |
|                                          | Yes                   | 53.8                                             | 173  | 48.3                                           | 638  |
| Total                                    |                       | 28.9                                             | 2122 | 36.8                                           | 3023 |

\*\*\* Significant at P < 0.01; \*\* Significant at P < 0.05

### 3.4 Factors Affecting Condom Use

The present study used linear logistic regression to identify factors influencing condom use. The results showed that age, wealth status, education level, and drinking alcohol emerged as salient predictors of condom use at last sex among female youths. Female youths aged between 20 and 24 years old showed a strong likelihood of having used a condom at last sex with their partner. The age group of 20 to 24 years old was 1.9 times more likely to report using a condom at last sex as compared to age group of 15 to 19 years old. The wealth index also revealed that youths from a middle class background were 1.4 times more likely to use a condom at last sex as compared to those from a rich or poor background. Moreover, female youths who had secondary education or higher were 1.4 times more likely to report using condoms in comparison to those that had only acquired primary education. Lastly, drinking alcohol was significantly associated with a strong likelihood of female youths using a condom at last sex with their partners. Those who drink alcohol were 3.8 times more likely to report using a condom during last sex with their partners as compared to those who did not drink.

For adolescent males, the results showed that age, work status, place of residence, educational level and drinking alcohol emerged as salient predictors of condom use at last sex among never married male youths. Male youths aged 20-24 showed a strong likelihood of having used a condom at last sex. The age range of 20- to 24 years old was 2.2 times more likely to report using a condom at last sex as compared to age group of 15 to 19 years old. Working males showed a strong likelihood of having used a condom at last sex. Working males were 1.5 times more likely to report having used a condom at last sex compared to those who did not work. Other than that, respondents from urban residence were found to be 1.2 times more likely to report having used a condom at last sex as compared to those from rural residences. Logistic regression further found that male youths who had secondary education or higher were 1.4 times more likely to report using condoms in comparison to those that had only acquired primary education. Lastly, drinking alcohol was significantly associated with a strong likelihood of male youths using a condom at last sex with their partners. Those who drink alcohol were 2.2 times more likely to report using a condom during last sex as compared to those who did not drink.

245 Table 5. Logistic Regression Analysis data of socio-economic and demographic variables on  
 246 never married male and females who reported having using condom during last sex  
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| Variables                                |                       | Females         |                       | Males           |                       |
|------------------------------------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|
|                                          |                       | Exp ( $\beta$ ) | Significant level (P) | Exp ( $\beta$ ) | Significant level (P) |
| Age                                      | 15-19                 | 1.0000          |                       |                 |                       |
|                                          | 20-24                 | 1.9086          | 0.0000                | 2.1767          | 0.0000                |
| Religion                                 | Catholic              | 1.0000          |                       |                 |                       |
|                                          | Protestant            | 1.0092          | 0.9355                | 0.5067          | 0.9453                |
| Place of residence                       | Rural                 | 1.0000          |                       |                 |                       |
|                                          | Urban                 | 0.9569          | 0.7118                | 1.2132          | 0.0406                |
| Wealth Index                             | Poor                  | 1.0000          |                       |                 |                       |
|                                          | Middle                | 1.3828          | 0.0276                | 1.1283          | 0.2575                |
|                                          | Rich                  | 1.1071          | 0.5572                | 1.0432          | 0.7269                |
| Work status                              | Not-working           | 1.0000          |                       |                 |                       |
|                                          | Working               | 1.5483          | 0.000                 | 1.4904          | 0.000                 |
| Educational level                        | Primary               | 1.0000          |                       |                 |                       |
|                                          | Secondary or higher   | 1.3519          | 0.0114                | 1.4109          | 0.0001                |
| Reading newspaper at least once a week   | Less than once a week | 1.0000          |                       |                 |                       |
|                                          | At least once a week  | 0.9411          | 0.5526                | 0.1074          | 0.2092                |
| Listening to radio at least once a week  | Less than once a week | 1.0000          |                       |                 |                       |
|                                          | At least once a week  | 0.9579          | 0.6572                | 1.0689          | 0.4055                |
| Watching television at least once a week | Less than once a week | 1.0000          |                       |                 |                       |
|                                          | At least once a week  | 0.9135          | 0.4680                | 0.9678          | 0.7244                |
| Drinks alcohol                           | No                    | 1.0000          |                       |                 |                       |
|                                          | Yes                   | 3.7581          | 0.000                 | 2.1931          | 0.000                 |

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### 251 3. Discussion

252 The main aim of this study was to examine the determinants of condom use among never  
 253 married male and female youths. To begin with, overall, bivariate analysis showed that across all  
 254 variables, men were more likely to use condoms at first premarital sex as compared to women.

Condom use among women was generally low. The data identified five strong predictors of condom use among never married youths during first sex. These factors included age, working status, educational level, reading newspapers at least once a week and watching television. The study found out that the older unmarried males and females who were aged between 20 and 24 years old were more likely to use condoms during their first sexual encounter as compared to the younger males. These findings are consistent with Oyediran, Feyisetan and Akpan who found out that the proportions of the respondents who reported condom-use at first sexual intercourse increased with age [8]. Another study by Long et al, found out similar results because the study identified age as a strong predictor of condom use on a Chinese sample [9].

This study found out that the higher the education level of the respondents the less likely they were to be sexually active at a younger age and also more likely used a condom during their first sexual intercourse encounter. The delayed sexual debut could be attributed to more time spent in doing school work and more likelihood of accessing sex education during school time. For the females compared to males, education level was more of a significant factor for condom use than to the males. The findings are consistent with a study on a sample of Nigerian university students which found that high level of education was a strong determinant of condom use among male youths [10].

The current study also examined the relationship between the socioeconomic status and condom use. Social economic status measured by wealth index presented an interesting factor that influenced condom use among young men and women. The data revealed that young men and women from rich social economic backgrounds were significantly more likely to have used a condom at first sex encounter compared to their colleagues from the middle and poor social economic backgrounds. MacPhail and Campbell conducted a study in South Africa that aimed at investigating social factors that hinder condom use amongst youths [11]. The study found out that the economic context of adolescent sexuality was among the six factors that determined condom use.

Multivariate results also showed that the economic context factor mostly affected females compared to males. This however may be attributed to the vulnerability of women in the poor category as they try to impress their sexual partners who did not like to use condoms. These findings are also in line with Walusaga, Kyohangirwe and Wagner in a study conducted in Uganda which examined gender differences as determinants of condom use among youths [12].

Exposure to the media through reading newspapers and watching television for at least once in a week increased the likelihood of the never married males to use condoms during their first sexual encounter compared to those that did not read newspapers and watch television, respectively. These findings also suggest that access to information on sexual and reproductive health can determine condom usage among youths. Through television and newspapers, youths are more likely to come across information that encourages condom use and discourages sexually risky behaviour. A similar study conducted in Zambia also demonstrated that compared to non-viewers, campaign viewers were 2.38 times more likely to have ever used a condom. The odds ratio of condom use during the last sex encounter was 2.1 for respondents who recalled at least 3 television spot advertisements compared to other respondents [13]. These findings are in line with a study conducted in China by Long (2012) who suggested that sex education and sensitisation were necessary intervention strategies in the reduction of the HIV prevalence rates among the youths [9]. Furthermore, sex education was helpful in the elimination of misconceptions and negative beliefs about condom use. Similarly, as demonstrated by a study among Nigerian students, mass-media exposure was positively associated with the use of a condom by the respondents during their first sexual encounter [14]. This implies that exposure to mass media has a huge and significant influence on the respondent's likelihood of using condoms.

Lastly, the study brought out alcohol consumption as yet another significant determinant of condom use among the never married youths in Zambia. This finding was only significant among males but not among females. The study found out that more males who consumed alcohol engaged into risky sexual behaviours compared to females. A possible explanation is that men are more likely to engage in risky sexual behaviour when they take alcohol hence do not see the need to protect themselves.

This study therefore justifies to a larger extent, that the socio-economic and demographic factors are cardinal determinants of condom use among never married men and women in Zambia. Most of these findings showed consistency with other studies done within sub-Saharan Africa and elsewhere on the determinants of condom use among never married youths. As a result, factors like age, socioeconomic and educational status, alcohol usage and utilisation of the media are significant factors in the use of condoms among youths. Nonetheless, gender differentials were also apparent in the study as males stood out in most factors as compared to females. For instance, the percentage of alcohol consumption was more significant in male youths as

compared to female youths. This further highlighted males' vulnerability to engage in risky sexual behavior. On the other hand, due to economic vulnerability, most female youths were less likely to report using condoms at first sexual encounter as compared to male youths.

#### **4. Conclusion**

Zambia still faces a major challenge in reducing HIV infections among the young adults, especially adolescent girls and young women. This study has highlighted some of the gender specific challenges that the youths face regarding condom use. Notwithstanding, several efforts that have been made, at both national and local levels, to protect adolescents and young adults from HIV infections through the promotion of condoms and integrated approach to addressing adolescent and young people's sexual and reproductive health and rights (SRHR). However, unlike the previous national HIV strategic frameworks (NASFs), the current Fast-Track NASF 2017-2021 has recognised adolescents girls and boys aged between 15- and 19 years old and young women and men aged between 20 and 24 years old as distinct vulnerable populations who need a mix of targeted but gender differentiated programmes including heightened condom promotion and availability [15].

On and above the envisioned NASF efforts, this study recommends tailored interventions that seek to fight STIs including HIV and unwanted pregnancies through enhanced condom promotion and programming. Such interventions should not only tackle the barriers to condom usage such as limited awareness about the efficacy of condoms, economic vulnerabilities, erratic condom supplies but also address the overall gender and social inequalities that limit women's sexual assertiveness. This can be done by aggressively engaging Non-Governmental Organisations (NGOs), Community-Based Organisations (CBOs) and other stakeholders that work with the youths on a constant basis. Interactive and transformative peer-to-peer training and women empowerment skills building activities centered on sexual and reproductive health are necessary. In-school and community quizzes, games, youth friendly insaka's and peer to peer health talks. Lastly, enhance information exposure on media related to condom usage. These would enhance the usage of condoms among never married youths in Zambia.

## CONSENT AND ETHICAL CONSIDERATIONS

The survey procedure and instruments for the 2013 Zambia Demographic Health Survey was ethically approved by the Zambia Biomedical Research Ethics Committee. A written consent was taken from all of the respondents prior to starting the interview and all aspects of the ZDHS were strictly confidential. Since this study is based on analysis of secondary data, the ethical approval was not necessary; however, permission to use this data was sort and granted by Central Statistics Office and Macro Inc.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## References

1. UNAIDS.UNAIDS 2016–2021 Strategy: On the Fast-Track to end AIDS. Geneva, Switzerland: Joint United Nations Programme on HIV and AIDS (UNAIDS), 2016.
2. Njau B., Mwakalo V., Mushi D. (2013) Correlates of Use of Condoms Among Sexually Active Youth in Southern Highlands, Tanzania. SAGE Open: 1–9. DOI: 10.1177/2158244013491406 sgo.sagepub.com
3. GRZ, CSO. 2010 Census of Population and Housing: National Analytical Report. Lusaka: Government of the Republic of Zambia (GRZ), Central Statistical Office (CSO), 2012.
4. CSO.Zambia Demographic and HealthSurvey, (2014). Maryland: CSO and Macro-International Inc; 2014.
5. Meekers, D., Agha, S., & Klein, M. (2005).The impact on condom use of the “100% Jeune” social marketing program in Cameroon. *Journal of Adolescent Health*, 36(6), 530.
6. Adebisi, A. O., &Asuzu, M. C. (2009).Condom use amongst out of school youths in a local government area in Nigeria. *African Health Sciences*, 9(2).
7. Thato, S., Charron-Prochownik, D., Dorn, L. D., Albrecht, S. A., & Stone, C. A. (2003). Predictors of condom use among adolescent Thai vocational students. *Journal of Nursing Scholarship*, 35(2), 157-163.
8. Oyediran K.A., Oluwadaisi I.F., Akmap T (2011). Predictors of condom-use among young never-married males in Nigeria *J Health PopulNutr*, 29, pp. 273-285
9. Long, L., Yuan, T., Wang, M., Xu, C., Yin, J., Xiong, C., ...&Nie, S. (2012). Factors associated with condom use among male college students in Wuhan, China. *PLoS one*, 7(12), e51782.

- 394 10. Lagarde, E., Caraël, M., Glynn, J. R., Kanhonou, L., Abega, S. C., Kahindo, M., ...&  
395 Study Group on the Heterogeneity of HIV Epidemics in African Cities. (2001).  
396 Educational level is associated with condom use within non-spousal partnerships in four  
397 cities of sub-Saharan Africa. *Aids*, 15(11), 1399-1408.
- 398 11. Campbell, C., &MacPhail, C. (2002). Peer education, gender and the development of  
399 critical consciousness: participatory HIV prevention by South African youth. *Social*  
400 *science & medicine*, 55(2), 331-345.
- 401 12. Walusaga, H. A., Kyohangirwe, R., & Wagner, G. J. (2012).Gender differences in  
402 determinants of condom use among HIV clients in Uganda. *AIDS patient care and*  
403 *STDs*, 26(11), 694-699.
- 404 13. Underwood, C., Hachonda, H., Serlemitsos, E., &Bharath-Kumar, U. (2006).Reducing  
405 the risk of HIV transmission among adolescents in Zambia: psychosocial and behavioral  
406 correlates of viewing a risk-reduction media campaign. *Journal of Adolescent*  
407 *Health*, 38(1), 55-e1.
- 408 14. [MacPhail, C.](#), and [Campbell, C.](#), (2001). Peer Education, gender and the development of  
409 critical consciousness: participatory HIV prevention by South African Youth, *Social*  
410 *Science and Medicine*, Vol 52, No. 11, pp. 1613-1627.
- 411  
412 15. National AIDS Commission (2017) National HIV/AIDS Strategic Framework 2017-  
413 2021Lusaka: NAC, 2017