



## **Gender Differentials in Primary Sexual Abstinence among the Youth in Zambia**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Author TK designed the study, performed the statistical analysis and wrote the first draft of the manuscript. Author CM managed the literature searches and edited the document. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

The main aim of the current study was to examine factors affecting primary sexual abstinence among the male and female youth in Zambia. Data employed in this study was derived from the 2013 Zambia Demographic Health Survey. Logistic regression analysis was used to identify influencers of primary sexual abstinence by considering socio-economic variables. Among strong predictors identified were age, religion, wealth status, working status, reading newspapers, watching television and drinking alcohol. Based on the study's findings, 35 percent of males and 31 percent of females reported practising primary sexual abstinence (PSA). The female youth from rich backgrounds were 1.8 times more likely to report practising primary abstinence compared to those from poor backgrounds. The male youth aged between 20-24 were 5 times more likely to practice primary sexual abstinence compared to those aged between 15-19. Drinking alcohol was negatively associated with the likelihood of practising primary sexual abstinence. This study has demonstrated that socio-economic and demographic variables have a significant influence on primary sexual abstinence among the youth. As such, interventions

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that seek to fight HIV and teen pregnancies through abstinence in Zambia must take into consideration these aspects while paying special attention to the role these factors play on gender.

*Keywords: Gender differentials; primary abstinence; youth; Zambia.*

## 1. INTRODUCTION

As the most important and effective mode of prevention of sexually transmitted infection (STI) and pregnancy prevention, sexual abstinence is a global topic that is mostly associated with unmarried adolescents and the youth [1]. Nonetheless, no consensus exists about whether sexual abstinence defines a health protective behaviour or something more inclusive. Some take a public health approach, defining abstinence as refraining from specific types of sexual contact, such as vaginal, oral and anal sex by persons who are not married [2]. Others, on the other hand, adopt a more inclusive definition which incorporates attitudes, moral and religious beliefs, and lifestyle choices [3].

Additionally, adolescents may understand sexual abstinence differently from adults. Research on middle and late adolescents suggest that these individuals consider abstinence as more than just not having sex; and concepts such as commitment, virginity and “doing the right thing” are regarded as important [4]. In one programme evaluation, adults defined abstinence in behavioral terms (no vaginal, anal or oral intercourse), while the youth additionally listed use of alcohol, cigarettes, drugs, and pornography as incongruent with an abstinent lifestyle [5]. Moreover, many adolescents and young adults do not define oral sex and other non-coital behaviours as “sex” [4]. Therefore, because of the many controversies surrounding what abstinence is and is not. Abstinence may be defined in behavioral terms as ‘postponing sex, never had sex, or refraining from further intercourse if already experienced’ [6]. It is however then important to note that although ‘persons practising sexual abstinence are likely to be virgins, virginity is not a requirement for sexual abstinence’ [7].

Contextual and developmental issues influencing abstinence are poorly understood. Research shows that adolescents differ in beliefs, attitudes and sexual behaviours by age, gender, and sexual experience [8]. Intervention studies on sexual onset have found differences in outcomes between males and females, and between

sexually experienced and inexperienced participants [6]. According to the National Commission on Adolescent Sexual Health the past 40 years have witnessed a dramatic change in adolescent sexual behaviours [9]. In spite of the efforts to educate young people regarding risks of early coitus, adolescents in the United States are increasingly sexually active, at an earlier age, and demonstrate high-risk sexual behaviors through much of their lives [10].

Despite increased evidence on sexual activity in adolescents, some are still choosing to abstain from sex. According to Keller, 71 percent of adolescents having had intercourse by age of 18, virgins account for the other 29 percent [11]. An assortment of variables influences adolescent’s decision on sexual behaviour are based on family structure, mutual closeness, and consistency of values between parent and child [12]. Future- and achievement-oriented teens are more likely to delay sexual intercourse and use contraception when it does begin [12]. Additionally, high self-esteem, a sense of directedness, and goal orientation are all associated with delayed sexual activity and effective contraceptive use. Those who view religion as important to them and who attend church services regularly appear to be more likely to abstain from sexual activity, although other authors report little confirmation of the relationship between religion and adolescent sexual attitudes, and behaviours [13].

There are a number of factors that influence adolescent sexual abstinence or engagement. [11] found that choice was an important ingredient to this outcome. A study by Blinn found that fear of pregnancy and contracting an STD including AIDS as well as possessing conservative sexual values and religiosity were the main reasons [14]. Other studies attribute access to public goods such as education as more likely to promote abstinence among adolescents [15]. Other reasons are more traditional and cultural, where exposure to certain practices such as initiation ceremonies for both girls and boys can influence them to either engage or disengage in sex [16]. In addition, exposure to the media (which brazenly endorses

sex), low self esteem and personal values, desire to conform to perceived peer's pre-marital sexual activity and difference between the age of puberty and age of marriage do affect adolescent sexual abstinence [17]. Other factors which influence the adoption of abstinence by young people include unequal gender norms [18] parental influence [6] poverty [19] alcohol use, perceived self-efficacy to refuse sex [20] attitude towards premarital sex and religiosity [21].

Owing to what has been discussed above, one would state that a variety of reasons influence adolescents, including virgins and already sexually experienced youth, to choose abstinence. These reasons range from fear of adverse consequences to normative ideas around the appropriateness of having intercourse. Given that adolescents report specific reasons for being abstinent, intervention strategies could become more effective if they incorporated these reasons as part of their educational methodology. However, this paper was premised on the understanding that currently, there is no clear appreciation of gender aspects or factors that exactly influence adolescents to abstain from any form of sexual orientation in Zambia. Therefore, the current study aimed at investigating gender differentials in primary sexual abstinence among the youth in Zambia.

## **2. METHODOLOGY**

This study used data from the 2013 Zambia Demographic Health Survey (ZDHS). The survey was based on a nationally representative sample carried out by the Central Statistical Office with technical assistance from the Demographic Health Survey Programme at ICF International which was funded by the United States Agency for International Development (USAID). The ZDHS is designed to collect information on various demographic and health indicators including individual characteristics providing data on sexual activity, knowledge and use of condoms, HIV/AIDS related knowledge, HIV testing, attitudes and behaviour etc. In the proceeding sections, details are provided on the variables, their measurements and the data analysis process.

### **2.1 Measurement of Variables**

#### **2.1.1 Dependent variable**

Primary abstinence is defined as "unmarried youths aged between 15-24 who reported having

never had sexual intercourse". The measurement and description of independent variables is stated in Table 1.

## **2.2 Data Analysis**

Data analysis was carried out in two stages. Firstly, cross tabulations were used to examine the relationship between selected independent (socio-economic and demographic) variables and the dependent (primary abstinence) variable. Secondly, linear logistic regression was used to identify factors influencing primary abstinence by modelling socio-economic and demographic variables with the main dependent variable. Logistic regression results were then converted to odds ratios for ease of interpretation.

## **3. RESULTS**

### **3.1 Background Characteristics**

Over half of respondents in the sample were in the age range of 15-19 (55% of females and 59.2% of males) while those aged between 20-24 were about 45 percent females and 41 percent males. Majority of respondents were Protestants (males 79%, females 81.4%); there were more respondents from rural areas (51% males, 51.2% females) compared urban areas. By wealth quintile, results show that 33 percent of females and 31 percent males were ranked poor, 20.4 percent females and 21.7 percent males were ranked middle income, and 47 percent of females and 48 percent of the males were ranked rich. By working status, more respondents reported not working comparatively.

In terms of education 60 percent of females and 63.3 percent of males had reached secondary education; while 40 percent of females and 37 percent of males had only acquired primary education. The results further showed about 40 percent of females and 37 percent of the males read newspaper less than once a week were. More than half of respondents listened to the radio at least once a week (51% of females and 63% of males). With regard to watching television, majority (59.4%) of females and males (55% of males) watched television less than once a week. On alcohol consumption, results show that more than eighty percent of respondents did not consume alcohol (94.9% of the females and 83% of the males).

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

<b>Variables</b>	<b>Description</b>
Age	Age of the respondent is categorised as 15-19 and 20-24.
Religion	Religion is classified as Catholics and Protestants.
Place of Residence	Place of residence is coded as urban or rural.
Wealth Index	To measure socio-economic status, DHS wealth index was used, 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 categorised 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

**Table 2. Sample distribution of male and female youth in Zambia (15-24)**

<b>Characteristics</b>	<b>Female</b>	<b>N</b>	<b>Male</b>	<b>N</b>
<b>Age</b>				
15-19	54.8	3686	59.2	3344
20-24	45.2	3040	40.8	2306
<b>Religion</b>				
Catholic	18.6	1248	21.3	1196
Protestant	81.4	5462	78.7	4428
<b>Place of residence</b>				
Rural	50.9	3426	49.2	2780
Urban	49.1	3300	50.8	2870
<b>Wealth Index</b>				
Poor	32.9	2212	30.5	1723
Middle	20.4	1370	21.7	1224
Rich	46.7	3144	47.8	2703
<b>Work status</b>				
Not-working	69.6	4655	50.7	2868
Working	30.4	2038	49.3	2782
<b>Educational level</b>				
Primary	39.9	2681	36.7	2075
Secondary+	60.1	4040	63.3	3575
<b>Reading newspaper at least once a week</b>				
Less than once a week	39.9	5039	68.9	3892
At least once a week	60.1	1687	31.1	1758
<b>Listening to radio at least once a week</b>				
Less than once a week	48.9	3289	37.5	2123
At least once a week	51.1	3434	62.5	3527
<b>Watching television at least once a week</b>				
Less than once a week	59.4	3989	54.8	3089
At least once a week	40.6	2737	45.2	2561
<b>Drinks alcohol</b>				
No	94.9	6377	82.8	4679
Yes	5.1	349	17.2	971

### **3.2 Practise of Primary Abstinence**

Overall, more males (35%) than females (31%) reported practising primary abstinence (PPA). Respondents aged between 15-19 (female 49% and males 50%) were more likely to report PPA compared to respondents aged between 20-24 (females 9.5% and males 13%). Females from the Catholic Church were more likely (34%) to report PPA compared to those from Protestant Churches (30.5%). In the same vein, females (36%) and males (37.5%) from rural areas were more likely to have reported PPA compared to respondents from urban residences (females 26%, males 32.2%). By wealth index, results show that informants from rich backgrounds were more likely (females 41% males 40%) to report PPA compared to those from poor wealth quintiles (females 21%, males 30.2%). Respondents who were not working were more likely (females 38%, males 47%) to PPA compared to those who were working (females, 15% and males 22.2%). Furthermore, respondents with primary education were more likely (females 75%, males 37%) to report PPA compared to those with secondary education (females 65% and males 34%).

In the same way, females who read newspapers at least once a week were more likely (44%) to report PPA compared to those who read newspapers less than once a week (27%). There was no significant association between reading newspapers and PPA among males. Respondents who listened to the radio at least once a week were more likely (females 34%, males 36%) to report PPA compared to those who listened to the radio for less than once a week (females 28%, males 34%). With regard to watching television, those who watched television at least once a week were more likely (females 41.2% and males 39) to PPA compared to those who watched television less than once a week (females 24%, males 31.4%). Respondents who did not drink alcohol were more likely (females 32% and 40% males to report PPA compared to those who did not drink alcohol (females 15.4%, males 11%).

### **3.3 Relationship between of Practice of Primary Abstinence and Socio-economic and Demographic Characteristics**

To understand factors influencing the practice of primary abstinence, Logistic regression analysis was carried out considering socio-economic and

demographic variables' influences. Results of the logistic regression analysis are presented in Table 3. These results show, place of residence (rural urban for females) wealth status, higher education as well as reading newspapers, watching television and drinking alcohol are strong predictors of PPA among female adolescents. Females aged between 20-24 were less likely to practice primary abstinence as compared to respondents aged between 15-19. Similarly, respondents from Protestant denominations were negatively associated with the likelihood of practising primary abstinence. Furthermore, those from rich backgrounds were 1.8 times more likely to report practising primary abstinence as compared to respondents from poor backgrounds.

Moreover, working females were negatively associated with the likelihood of practising primary abstinence. However, reading newspapers at least once a week was positively associated with strong likelihood of respondents practising primary abstinence. Moreover, respondents who watched television at least once a week were 1.5 times more likely to report practising primary abstinence as compared to those who watched television less than once a week. Those who drank alcohol were negatively associated with the likelihood of practising primary abstinence.

Logistic regression analysis identified age, rich wealth status, listening to the radio at least once a week and taking alcohol as significant predictors of practising primary abstinence among the male youth. Males aged between 20-24 were about 5 times more likely to practise primary abstinence compared to respondents aged between 15-19. Furthermore, those with rich wealth status background were 1.6 times more likely to report practicing primary abstinence compared to respondents from poor backgrounds. Respondents who had secondary education were less likely to report practicing primary abstinence as compared to those who had primary education. However, listening to the radio at least once a week was positively associated with strong likelihood of respondents practicing primary abstinence. Moreover, respondents who watched television at least once a week were 1.2 times more likely to report practicing primary abstinence as compared to those who watched television less than once a week. Those who drank alcohol were negatively associated with the likelihood of practising primary abstinence.

**Table 3. Percentage of youths who reported practising primary abstinence**

Characteristics	% of females who practise primary abstinence		% of males who practise primary abstinence	
	%	N	%	N
<b>Age</b>				
15-19	48.9**	3686	49.9**	3344
20-24	9.5	3040	13.0	2306
<b>Religion</b>				
Catholic	33.8**	1248	33.8**	1196
Protestant	30.5	5462	35.1	4428
<b>Place of residence</b>				
Rural	36.0**	3426	37.5**	2780
Urban	26.0	3300	32.2	2870
<b>Wealth Index</b>				
Poor	20.9**	2212	30.2**	1723
Middle	24.9	1370	30.1	1224
Rich	41.0	3144	39.8	2703
<b>Work status</b>				
Not working	38.2**	4655	47.0**	2868
Working	14.9	2038	22.2	2782
<b>Educational level</b>				
Primary	75.0**	2681	37.1**	2075
Secondary+	64.8	4040	33.5	3575
<b>Reading newspaper at least once a week</b>				
Less than once a week	26.9**	5039	34.4	3892
At least once a week	43.5	1687	35.7	1758
<b>Listening to radio at least once a week</b>				
Less than once a week	27.8**	3289	36.0*	2123
At least once a week	34.2	3434	34.1	3527
<b>Watching television at least once a week</b>				
Less than once a week	24.1**	3989	31.4**	3089
At least once a week	41.2	2737	38.8	2561
<b>Drinks alcohol</b>				
No	32.0**	6377	39.7	4679
Yes	15.4	349	10.9	971
<b>Total</b>	31.1	6726	34.8	5650

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

#### 4. DISCUSSION

Abstinence has been recommended as a measure with high potential of reducing the rates of new HIV infections and also teenage pregnancies [1]. Abstinence, especially among unmarried youth is a key component of the Abstinence, Be faithful and use Condoms (ABC) approach [22]. This study aimed at examining factors influencing primary sexual abstinence among male and female adolescents in Zambia.

Overall, there were more male than female adolescents who had practicing primary abstinence until marriage. Associated aspects found to be significant in influencing primary abstinence include age, religion, wealth status, working status, education level, place of residence, reading newspapers, watching television and drinking alcohol. Like most researchers [23] found that males were less likely to abstain from sex as compared to females.

**Table 4. Logistic regression analysis data of socio-economic and demographic variables on females and males who reported practising primary abstinence**

Variables	Female			Male		
	Exp ( $\beta$ )	95% CI	P- value	Exp ( $\beta$ )	95 % CI	P- value
<b>Age</b>						
15-19						
20-24	0.1113	0.09-0.61	0.000	0.2039	0.17-0.23	0.000
<b>Religion</b>						
Catholic						
Protestant	0.8425	0.72-0.98	0.0279	1.0113	0.87-1.17	0.8854
<b>Place of residence</b>						
Rural						
Urban	1.1067	0.94-1.30	0.2198	0.9347	0.79-1.10	0.4232
<b>Wealth Index</b>						
Poor						
Middle	1.0099	0.83-1.22	0.9188	0.9203	0.76-1.10	0.3723
Rich	1.8365	1.47-2.28	0.0000	1.5908	1.29-1.96	0.0000
<b>Work status</b>						
Not working						
Working	0.4946	0.42-0.57	0.0000	0.5121	0.45-0.58	0.0000
<b>Educational level</b>						
Primary						
Secondary or higher	1.0315	0.89-1.19	0.6709	0.8002	0.69-0.92	0.0031
<b>Reading newspaper at least once a week</b>						
Less than once a week						
At least once a week	1.7724	1.53-2.04	0.3352	0.0000	0.92-1.24	0.3352
<b>Listening to radio at least once a week</b>						
Less than once a week						
At least once a week	1.0820	0.95-1.23	0.2319	0.8663	0.75-0.99	0.0400
<b>Watching television at least once a week</b>						
Less than once a week						
At least once a week	1.4832	1.25-1.75	0.0000	1.1708	0.99-0.37	0.0574
<b>Drinks alcohol</b>						
No						
Yes	1.4144	0.29-0.58	0.0000	1.2912	1.23-1.36	0.0000

In the same way, age was a significant factor for primary sexual abstinence in both males and females. These findings were consistent with who found fewer significant factors associated with sexual abstinence among older adolescents compared to younger ones [24]. The current study found that females aged between 20-24 were less likely to practice primary abstinence compared to the age group of those between 15-19. For the males, the opposite was true; those aged 20-24 were more likely to practice primary abstinence compared to those aged between 15-

19. However, these results contradict what found [24]. Many subjective observations can be itemised to explain this disjuncture; however, the most probable could be that during ages 20-24, most females are most likely hoping for marriage and they therefore fall in relationships where they have very little negotiating power in which they are less likely to practise primary abstinence.

Results from bivariate analysis revealed that educational level had an impact on primary sexual abstinence among the youth. These

results resonate with what found in Uganda [25]. However, what found concerning students in primary level is at variance with the current findings where there were more students likely to practice primary sexual abstinence compared to those with secondary education [25]. These results were out of the ordinary and may require further research to investigate why lower educational level was positively associated with primary abstinence.

Religion seems to be a single most important aspect that may influence PPA among the youth in Zambia. This is so because by and large, much of Zambia is predominantly religious (Christian). This view is also held by many researchers [26]. In the current study however, the religious factor was only influential to the females but not males. With regards to socio-economic status, studies have found that high socio-economic status was associated with postponing sexual intercourse [27,24]. This study established that wealth status was also a salient factor that influenced youth's intention to wait until marriage to have sex. These results were similar across gender. Related to wealth is the working status of youths; this study has found a significant relationship between the practice of primary abstinence with working status. This study examined exposure to media and PPA in terms of watching TV or reading a newspaper. Clearly, exposure to both media increased youth's likelihood to abstain from sex. These results can be attributed to specific elements of the two forms where elements on sexual and reproductive health get communicated. Otherwise, the media has potential to reduce the likelihood of primary abstinence if other aspects (like sexual content) are to be taken into account [28-31]. In the final analysis, this study was also aimed to establishing the influence that drinking alcohol may have on PPA. Results show that in fact, alcohol affected primary sexual abstinence among the youth in Zambia. It is important to note that alcohol was only significant on females respondents.

## 5. CONCLUSION

In examining determinants of sexual abstinence among the youth in Zambia, the study established a number of evidently significant factors which affected delayed sexual debut amongst adolescents until marriage. These factors included exposure to the

media, age, religion, wealth status, alcohol consumption (mostly found females only). This study is in agreement with other African and western based studies which have shown that socio-economic and demographic variables have a significant influence on primary sexual abstinence among the youth. Interventions that seek to fight HIV and teen pregnancies through encouragement of sexual abstinence in Zambia should take into consideration, socio-economic and demographic factors while paying special attention to gender differences in the way these affect males and females.

## CONSENT AND ETHICAL APPROVAL

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.

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