Beyond Adolescents: Patterns and Correlates of Sexual Behaviour of Men Aged 50+ in sub-Saharan Africa

Abstract

Since the advent of HIV/AIDS, sexuality studies have focused on adolescents because of the assumption that they are highly sexually active and the myths that older people are asexual. This study therefore deviates from that pattern to examine the patterns and determinants of sexual behaviour of ever married men aged 50 and above in 10 countries in Sub-Saharan Africa. Data for ever married men age 50 years and above was extracted from the latest Demographic and Health Surveys of 10 sub-Saharan African countries and was pooled together to maximize the sample size. The 10 countries are Cameroon, Kenya, Lesotho, Malawi, Mozambique, Nigeria, Uganda, Rwanda, Senegal and Zimbabwe. The study population for this study was ever married men aged 50 years plus and the total sample was 5 394 older men. Multivariate Logistic regression analysis was performed to identify the critical correlates of different sexual behaviour indicators. The study shows that in sub-Saharan Africa, a large proportion of men aged 50 plus irrespective of their marital status is highly sexually active and a small and significant proportion has multiple sexual partners. Condom use with non-spousal partner is low. The correlates of condom use are educational level, multiple sexual partners, ever tested for HIV and age at first sex among older men this region. Condom use at last sex with a casual partner, marriage type and region were found to be predictors of having multiple sexual partners among these men. Knowing that older men aged 50 plus are sexually active as adolescents, and also engage in multiple sex partnerships and low condom use, prevention programs should also be extended to include older men instead of the current of the narrow focus on adolescents and youth. We call for further investigation of sexual behaviour of older men and women using mixed methods approach.

Keywords: sexual behaviour, older men, ever married, condom use, multiple sexual partners

Introduction

Ever since the emergence of HIV/AIDS in Sub-Saharan Africa the subject of human sexual behaviour has received much attention in scientific research. The target population for many sexuality studies in sub-Saharan Africa has been the younger generation- teenagers, adolescent, youth and the reproductive age group (15- 49 years) thereby neglecting the older segment of the population. It is argued that research on sexual behaviour among the elderly (50 years plus) has been limited due to small and non-representatives samples, lack of large population based data in most countries especially developing countries (Freeman & Anglewicz, 2012), methodological challenges (Gott & Hinchliff, 2003) and the existence of myths and assumptions like older people are 'asexual' and sexuality is not important to older people therefore they cannot be a risky group (Hodson & Skeen, 1994).

Different studies have indicated the increasing prevalence of HIV/AIDS among older persons. A study that was done by Negin and Cumming (2010) showed that approximately 3 million people aged 50 years plus were HIV positive in 2007. Some of the countries that had the highest number of older people living with HIV were Mozambique, Nigeria and Zimbabwe (Negin & Cumming, 2010). Freeman and Anglewicz (2012) study in rural Malawi revealed that the HIV prevalence among older men (50-64) was two times higher than that of men aged between 15 and 49, (8.9% compared to 4.1%) respectively. National surveys in South Africa reported that about 11% of people aged 50-54; 5% of those aged 55-59 and 4% among those aged 60+ reported HIV/AIDS (Peltzer, Phaswana-Mafuya, Mzolo, Tabane, & Zuma, 2010; Shisana et al., 2005). In America 19% of the people who were living with HIV were older people aged 55 plus in 2010 (CDC, 2013). UNAIDS (2013) estimated

that around 3.6 million adults aged 50+ are living with HIV. While these studies indicate high prevalence of HIV among older men, sexuality studies tend to focus on adolescent men and women, ignoring the population of older men who are equally at risk.

Though it is often claimed that older men are asexual, several scholars have reported that older individuals are sexually active (Golub et al., 2010; Lindau et al., 2007; Peltzer et al., 2010). Studies that have been done on sexual activity of older people in developed countries especially in America reported high prevalence of sexual activity among older individuals (Araujo, Mohr, & McKinlay, 2004; V. Call, Sprecher, & Schwartz, 1995; DeLamater & Sill, 2005; Enzlin, Mak, Kittel, & Demyttenaere, 2004; Lovejoy et al., 2008; Sormanti & Shibusawa, 2007).

In developing countries few studies from Knodel and Chayovan (2001) and Todd et al. (2009) have shed light on the fact that the older population group is sexually active not asexual. Todd et al. (2009) using longitudinal (cohort) data of Uganda, Zimbabwe and South Africa showed that a larger proportion of men aged 50–65 years are sexually active regardless of their age. In Thailand a study by Knodel and Chayovan (2001) also showed a significant percentage of sexually active older men. Peltzer et al. (2010) reported that about 41.1% of individuals aged 50+ had been sexually active, with older men being more sexually active than women. Other studies reported high prevalence of extramarital sexual behavior among older men in Zambia (Kimuna & Djamba, 2005)

Research in most developing countries has also further shown that risky sexual behaviours such as having multiple sexual partners and lack of condom use during intercourse with non-spousal partner are very common among older men (Cooperman, Arnsten, & Klein, 2007;

Freeman & Anglewicz, 2012; Golub et al., 2010; Illa et al., 2008; Kinga, Issacb, Ademolab, & Nnennad, 2010; Todd et al., 2009). A study by Cooperman et al. (2007) revealed that risky sexual behaviours were common among older men (50+) who were HIV negative compared to those men who were HIV positive. Having multiple concurrent sexual partnership and inconsistent or non-use of condom are some of the major risk factors for sexual transmission of HIV infection (Ahmed et al., 2001; Mah & Halperin, 2010; Morris & Kretzschmar, 1997) .

Literature has also shown that factors such as age, place of residence, marriage type, wealth status, educational level, religion, HIV status and knowledge are associated with sexual activity. Sexual activity and desire tend to decline continuously in older age groups (Araujo et al., 2004; V. Call, Sprecher, S., Schwartz, P., 1995; Knodel & Chayovan, 2001; Lindau et al., 2007; Marsiglio & Donnelly, 1991).

Religion also plays an important role in influencing the life of individuals in many societies. The extent to which religion can influence individual lives however depends on the incorporation and individual's commitment to the doctrines and policies of their respective religious affiliations (Garner, 2000; Lehrer, 2004). Commitment is said to be more important than religious affiliation in affecting sexual attitudes and behaviour (Odimegwu, 2005; Smith, 1998)

Other studies have shown that despite the high awareness of condom, most men do not use it during sexual intercourse (Akwara, Madise, & Hinde, 2003; Nwokoji & Ajuwon, 2004). A study conducted by Lawoyin (2004) on married men's condom use with commercial sex workers (CSWs) in Nigeria showed that 55.2% of the respondents had never used condoms. Several studies have also shown that older adults are less likely to use condoms than younger age groups (Kinga et al., 2010; Todd et al., 2009).

Clearly studies on older men's sexual behavior have dominated Western literatures. Our search of electronic databases identified only two of such studies in sub-Saharan Africa. Even these studies have different objectives and were not meant to examine older men's sexual behavior. In order to address this shortcoming in sub-Saharan African literature, this study is conceptualized to examine the patterns, differentials and correlates of sexual behavior of older men aged 50 years and above.

In this study we investigate the prevalence and correlates of sexual behavior among male adults over 50 years of age. We focus on correlates of sexual behavior and sexual risk defined as unprotected sexual relations and multiple sexual partnerships. The study used multivariate logistic modeling to estimate the significance of socioeconomic and demographic characteristics in predicting the likelihood of sexual activity and risky sexual behaviors among adult males of age 50 and above. Various independent variables were selected based on previous research findings on sexuality.

Methods

Data

Data for this study was extracted from the most recent Demographic and Health Surveys conducted in ten countries in sub-Saharan African except for Nigeria where the 2008 NDHS data was used because the current 2013 NDHS did not interview men aged 50 years and above. The selected countries and survey years were Cameroon 2011, Kenya 2008, Lesotho 2009, Malawi 2010, Mozambique 2011, Nigeria 2008, Uganda 2011, Rwanda 2011, Senegal 2010/11 and Zimbabwe 2010/11. The extracted data for ever married men aged 50 years plus from the above DHSs was then pooled together to form one dataset. Pooling of datasets was

done so that we could have a large sample size for this study that could yield meaningful statistical results. Earlier analysis that was done for each individual countries showed small sample sizes for individual and this affected statistical analysis. These countries were chosen from a list of African countries mainly because men aged 50 years plus were part of the survey sample.

Out of the three questionnaires that were used in each country's DHS the Men's questionnaire was adopted since it provides relevant data on the sexual behaviour of men aged 50 plus. Specifically, it provides relevant information on background characteristics of the respondents (age, residence, education, religion, wealth etc.), sexual behaviour; number of sexual partners in the last twelve months, the identity of their last three partners, condom use during their most recent sexual act with their last three partners and their knowledge and perceptions of HIV/AIDS. As the spouse was one of the last three partners, information on partner characteristics and condom use is available for two extra partners.

Sampling technique

The surveys (DHSs) are based on nationally representative samples. The sample for all the DHSs is selected using a stratified two-stage cluster design. In the first stage, sampling clusters (usually census enumeration areas) are selected proportional to size. In the second stage, a sample of households is selected from a complete household listing for the cluster.

Study Population

This study was restricted to ever married men aged 50 years and above. Ever married men in this study refer to respondents who are currently married, widowed, separated or divorced. The weighted sample size for this study was 5 394 older men.

Variables

Outcome variable

Sexual behaviour is the dependent variable measured by three variables: recent sexual activity, multiple sexual partners and condom use. Recent sexual activity defined as sexually active within 4 weeks prior to survey. It is coded as No=0 or Yes=1. Multiple sexual partners is derived from the question "Have you had sexual intercourse with any other woman other than your spouse in the last 12 months?" with No=0 or Yes=1 response. Condom use is derived from the question "The last time you had sexual intercourse did you use a condom?" response is categorized as No=0 or Yes=1.

Additional questions were asked to determine the number of such partners, the length of each relationship and whether condoms were used during intercourse with these partners.

Independent Variables

The predictor variables selected for the analysis include age, place of residence, marriage type, educational level, religion, wealth status, ever been tested for HIV, HIV/AIDS prevention and transmission knowledge. *Age* is a continuous variable and it ranges from 50 years and above; place of residence was defined as rural or urban; age at first intercourse is a continuous variable; marriage type was stratified into monogamy or polygamy; educational level was divided into no education; primary and secondary/higher education; wealth status was defined as poor, middle and rich; religion was grouped into Catholics, Other Christians Muslim and other; ever been tested for HIV has a Yes or No category of responses and HIV/AIDS prevention/transmission knowledge was divided into poor, average and high knowledge.

The HIV prevention/transmission knowledge variable was created from the responses to questions asked about how HIV can be prevented. These include (i) not having sex at all (ii)

using condoms (iii) having just one sexual partner would reduce their chances of getting AIDS and (iv) whether one can get AIDS from mosquito bites or sharing food with a person who has AIDS. Correct knowledge was scored 1 and incorrect knowledge was scored 0 for each question to obtain the score for HIV prevention/transmission knowledge. The HIV score was then categorized into three using the mean and the standard deviation. Values below the mean score were scored low; values above the mean score were scored high knowledge while the average score were scores between low and high.

These variables were selected because research in other settings has revealed them to be potentially influential in sexual behavior. For example age is usually a stronger predictor of sexuality (Odimegwu & Adedini, 2013). Age at first intercourse is a predictor of extramarital sex and risky sexual behavior during adolescence and adulthood (Kimuna & Djamba, 2005)

Statistical analyses

Data was analyzed using STATA version 12.0 (StataCorp., 2011). Sampling weights contained in the Demographic and Health Survey dataset were used in the data analysis. This was important because sampling weights tend to correct for any differentials in response rate and for any unequal probability used to select the subject in the sample.

Our analytical approach included univariate, bivariate and multivariate analyses. The univariate analysis shows the distribution of respondents by key variables. The bivariate logistic regression was then carried out to examine the bivariate relationship between each of the selected variables and sexual behaviour variables. Finally multivariate logistic regression analysis was then carried out in order to examine the net effects of the variables on older men's sexual behavior. The first model examines the net effects of the selected independent variables on condom use during last sexual encounter while the second model examines the effect of the socioeconomic and demographic variables on having multiple sexual partners.

The level of significance for all statistical tests was 0.05. The pair wise correlation matrix was conducted to check for the strength of the linear relationship between variables and no variables were found to be highly correlated with each other.

Results

About 74% of the respondents reported that they were sexually active four weeks prior to the survey and 9% of the older men reported that they had a sexual encounter with multiple sexual partners (excluding spouse) in the last 12 months (Table 1). Over 90% of the men reported that they did not use a condom during their last sexual encounter. Among those who reported multiple sexual partners 88% of them did not use condom during their last intercourse with the other woman (1). Accurate knowledge of how HIV can be prevented or transmitted was fairly high, with about 49% of the older men having a score of high knowledge and 41% having average knowledge. However 66% of the older men reported that they had never taken an HIV test in their lifetime. The average age of the respondents was 54 years and the average age at first intercourse was 20 year**s**. Most of the respondents were rural residents (69%) and monogamy was the most dominant type of marriage among the older men (table 1).

The bivariate analysis results in Table 2 shows that rural residents (UOR 0.50; CI 0.53-0.85), polygamists (UOR 0.45; CI 0.31-0.65) and Muslim older men (UOR 0.41 CI 0.29-0.58) were less likely to use a condom during their last sexual encounter compared to the reference category. Furthermore older men, who were educated, wealthier, ever tested for HIV, whose HIV transmission and prevention knowledge score was average or high and those who reported having multiple sexual partners were significantly more likely to use a condom during their last sexual encounter compared to the reference category at bivariate level.

The unadjusted odds ratios (UOR) and confidence interval results for having multiple sexual partners presented in Table 2 shows that current age is positively associated with having multiple sexual partners (UOR 1.03 CI 1.00-1.06). Increase in educational level and wealth increases the likelihood of having multiple sexual partners among older men. Compared to those who never tested for HIV those older men who had taken an HIV test at any point in their lifetime were 1.82 times more likely to have multiple sexual partners (UOR 1.82 CI 1.51-2.20). Also high HIV prevention and transmission knowledge increases the likelihood of having multiple sexual partners significantly. Rural residents were 0.66 times less likely to have multiple sexual partners compared to urban residents (UOR 0.66 CI 0.54-0.79). Other Christians (UOR 0.77 CI 0.62-0.96) and Muslim (UOR 0.29 CI 0.22-0.39) older men had lower odds of having multiple sexual partners compared to Catholics. Age at first sex was also significantly associated with having multiple sexual partners (UOR 0.95 CI 0.93-0.98).

In Table 3 the multivariate model for condom use showed that age at first sex, educational level, multiple sexual partners and ever been tested for HIV were significant predictors of condom use among older men in sub-Saharan Africa region. Those older men who initiated sex at a later age were more likely to use condom during a sexual encounter compared to those who started having sexual intercourse earlier (AOR 1.05 CI 1.02-1.08). Educated older men were more likely to report condom use at last sexual encounter compared to uneducated older men (primary AOR 4.47 CI 2.27-8.80; secondary AOR 2.94-12.05). Having multiple sexual partners increased the chances of condom use among older men (AOR 4.33 CI 3.11-6.03). Those older men who had taken an HIV test at one point in their lifetime were 2.01 times more likely to use a condom during sexual intercourse compared to those who had never taken an HIV test (CI 1.51-2.70).

The multivariate model for having multiple sexual partners in Table 3 showed that religion, marriage type and condom use with another sexual partner (women 1) were significant predictors of having multiple sexual partners. The likelihood of having multiple sexual partners among Muslim older men was 76% lower than that of Catholics (AOR 0.24 CI 0.11-0.50). Polygamists were less likely to have multiple sexual partners compared to monogamist (AOR 0.02 CI 0.01-0.03). Older men who reported the they had used a condom during sexual intercourse with the other woman were two times more likely to be having multiple sexual partners compared to those who did not use a condom during their sexual encounter with another woman (AOR 2.52 CI 1.00-6.33).

Discussion

This study has clearly demonstrated that a larger percentage of older men in sub-Saharan region are sexually active. This result is consistent with similar studies in America (V. Call et al., 1995; Cooperman et al., 2007), in Thailand (Knodel & Chayovan, 2001) and in Africa (Peltzer et al., 2010; Todd et al., 2009).The study also revealed that a considerably small proportion of older men in this region engage in risky sexual behavior such as having multiple sexual partners. This finding is consistent with what has been found in other studies in America (Cooperman et al., 2007), in Nigeria (Kinga et al., 2010) and in Zambia (Kimuna & Djamba, 2005) .

The level of accurate knowledge about HIV/AIDS prevention and transmission is fairly high among older men in this region. However despite the high levels of HIV prevention and transmission knowledge the percentage of those who have ever tested for HIV at one point in time still remains low (34%) as well as condom use with another woman among those who

reported having multiple sexual partners. In Thailand, Ford and Chamratrithirong (2009) found that older men and women were highly knowledgeable about how HIV is transmitted but less than half of the study population had taken an HIV test. Lawoyin (2004) and Messersmith, Kane, Odebiyi, and Adewuyi (2000) in Nigeria found low condom use among men even though they were highly knowledgeable about HIV.

One disturbing aspect of our findings because of its sexual and reproductive health consequences, is that despite high knowledge of HIV/AIDS, a larger proportion of men aged 50+ who reported that they had sexual intercourse with a non-spouse/cohabiting partner in the past 12 months did not use condom in their last sexual encounter with that partner. This gives indication that older men tend to engage in risky sexual behavior. This finding is consistent with those reported elsewhere (Ford & Chamratrithirong, 2009; Kinga et al., 2010; Todd et al., 2009).

The first model examines the factors associated with the practice of safe sex, defined by the use of condom in the last sexual act. Those older who had multiple sexual partners were more likely to use condoms compared those who did not have. This is consistent with other studies (Oyediran, Isiugo-Abanihe, Feyisetan, & Ishola, 2010). Education was also found to be a significant predictor condom use in sub-Saharan region among older men, where men with primary or secondary plus education were more likely to use condoms compare to their counterparts. This is consistent with what has been found in other studies (Ahmed et al., 2001; Lagarde et al., 2001). Lagarde et al. (2001) study showed that educated men tend to practice protective sex as educational level was found to be a predictor of condom use with non-spousal in the selected cities in sub-Saharan Africa. Shibusawa (2007) study showed that low educational level was found to be associated with high risky sexual behaviour among the

elderly population. In some studies findings on the effect of education on sexual behavior is inconclusive (Hill, Cleland, & Ali, 2004; Kongnyuy, Wiysonge, Mbu, Nana, & L, 2006).

Ever been tested for HIV is also a predictor of condom use in this region. The explanation for practice of safe sex among those older men who had taken an HIV test at one point in their lifetime could that those older men knew their HIV status and their use of condom during sexual intercourse was a protective measure to prevent being infected of infecting others. It could also be a sign that they were knowledgeable about the importance of practicing safe sex which is usually emphasized during pre and post HIV test counseling. However a study by Cooperman et al. (2007) found that both older men who are HIV positive and those who are HIV negative tend to engage in high risky sexual behaviour. High risky sexual behaviour was found to be common among those older men who were HIV negative compared to those who were positive. Our study however only looked at the effect of ever taking an HIV test only on condom use not HIV status. Initiating sexual intercourse at an older age was also found to be significantly associated with condom use. This is consistent with several studies were risky sexual behaviours have been found to common among those who initiated sex at an early age compared to those who started having sex at an older age.

Our second multivariate model examined the possible correlates of multiple sexual partners among men aged 50 years and above. This study identified religion, marriage type and condom use during sexual intercourse with a casual partner as key predictors of having multiple sexual partners. Muslim older men were less likely to have multiple sexual partners compared to Catholics. This result is consistent with what Adamczyka (2012) found in their study of religion and sexual behaviour. They showed that ever married Muslim men were 0.55 times less likely to report extramarital relationships compared to Christians (Adamczyk & Hayes, 2012).

The relationship between marriage type and multiple sexual partners was also found in a study that was done in Nigeria (Isiugo-Abanihe, 1994). It can be argued that since polygamist tend to have many wives they are less like to engage in extramarital relationships compared to monogamist who have one wife. The explanation between the multiple sexual partners among those who reported condom use with the other woman could be a reflection of practice of safe sex among older men however this requires further investigation as the proportion of those whose response was no to condom use with another woman was higher compared to those whose response was yes.

Limitation of the Study

The major limitation of the study was that the study is a cross sectional so causality cannot be determined.

Conclusion

This study has debunked the perception that older men are asexual, especially in sub-Saharan Africa. A larger portion of older men is sexually active in this region. Also a smaller and significant proportion of older men tend to engage in high risky sexual behaviours such as having multiple sexual partners and not using condom during sexual intercourse with non-spousal partners as shown by the low percentage of condom use at last sex among those who had intercourse with casual partners in the last 12 months prior to the survey. The study also found that despite high level of HIV/AIDS transmission and prevention knowledge, a larger proportion of elderly men reported that they had never been tested for HIV/AIDS

The correlates of condom use emerged as age at first sex, educational level, multiple sexual partners and ever testing for HIV, while the predictors of having multiple sexual partners were marriage type, religion and condom use at last sexual encounter with a casual partner in this region.

The patterns and correlates of sexual behavior of men aged 50 years and above should inform the design of region-specific programmes to address specific issues in sub-Saharan Africa region. One size-fits-all approach will not give the expected result. There is also a need for more research on local norms that affect individual and group attitudes and behaviors in relation to sexual activity. To promote safe and health sexuality, effective HIV/AIDS prevention efforts must take these local norms seriously (Kimuna and Djamba 2005).

We conclude that over emphasis on adolescents' sexuality without focusing on the sexual behaviour of older men is counterproductive to efforts of reducing HIV/AIDS infection, unplanned pregnancies and other adverse health consequences.Thus sexual and reproductive health programmes must be designed to include all who are sexually active irrespective of their age and marital status.

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Tables

Table 1: Description of ever married men aged 50+ in sub-Saharan Africa by sexual behaviour, demographic, socio-economic & variables; Sample size 5 394

Variables	Frequency	%
Current sexual activity		
Active	3 949	74.2
Extramarital Partners		
Yes	492	9.3
Condom Use during last sex		
Yes	318	6.5
Condom use with other woman (1)		
No	828	88.0
yes	112	12.0
HIV Prevention/transmission knowledge		
Poor	525	9.7
Average	2 214	41.1
High	2 654	49.2
Ever been tested for HIV		
No	3 442	65.7
Yes	1 793	34.3
Age	Mean 54 years	
Place of residence		
Urban	1 693	31.4

Rural	3 701	68.6
Religion		
Catholics	1 356	25.1
Other Christians	1 868	34.6
Muslim	1 647	30.5
Other	523	9.7
Age at 1st Intercourse	Mean = 20 years	
Marriage Type		
Monogyny	3 872	77.6
Polygyny	1 115	22.4
Education Level		
No Education		
Primary	1 680	31.1
Secondary+	2 448	45.4
Wealth Index		
Poor	2 022	37.5
Middle	1 112	20.6
Rich	2 260	41.9

Table 2: Bivariate logistic regression analysis of selected background and socio-economic characteristics of ever married men aged 50 years and above by their Sexual Behaviour

	Condom Use		Multiple Sexual Partners	
Variables	**UOR**	**CI**	**UOR**	**CI**
Multiple Sexual Partners				
No	RC	-	n/a	-
Yes	6.29***	4.89 - 8.09	-	-
HIV Prevention/transmission knowledge				
Poor	RC	-	RC	-
Average	3.45**	1.72 - 6.94	1.51*	1.03 - 2.21
High	4.33***	2.17 - 8.65	1.56*	1.07 - 2.28
Ever been tested for HIV				
No	RC	-	RC	-
Yes	3.26***	2.57 - 4.12	1.82***	1.51 - 2.20
Age				
Place of residence				
Urban	RC	-	RC	-
Rural	0.50***	0.40 - 0.63	0.66***	0.54 - 0.79
Religion				
Catholics	RC	-	RC	-
Other Christians	1.04	0.79 - 1.37	0.77*	0.62 - 0.96
Muslim	0.41***	0.29 - 0.58	0.29***	0.22 - 0.39

Other	1.23	0.84 - 1.79	0.81	0.59 - 1.11
Age at 1st Intercourse	1.01	0.99 - 1.04	0.95***	0.93 - 0.98
Marriage Type				
Monogyny	RC	-	RC	-
Polygyny	0.45***	0.31 - 0.65	0.95	0.73 - 1.24
Education Level				
No Education	RC	-	RC	-
Primary	3.98	2.67 - 5.92	2.23***	1.72 - 2.90
Secondary+	6.54***	4.35 - 9.83	3.17***	2.40 - 4.19
Wealth Index				
Poor	RC	-	RC	-
Middle	1.81**	1.27 - 2.59	1.22	0.94 - 1.59
Rich	2.77***	2.07 - 3.69	1.53**	0.07 – 0.09

*significant ***P>0.001 **p>0.01 *p>0.05 n/a not applicable, UOR -unadjusted odds rations CI confidence interval

Table 3: Multivariate Logistic Regression Analyses Assessing the Relationship between all the Selected Characteristics and Sexual Behaviour among older men in Sub-Saharan Africa

	Condom Use		Multiple Sexual Partners	
Variables	**AOR**	**CI**	**AOR**	**CI**
Multiple Sexual Partners				
No	RC	-	n/a	-
Yes	4.33	3.11 - 6.03	-	-
Condom use with other woman (1)				
No	n/a	n/a	RC	-
Yes	-	-	2.52*	1.00 - 6.33
HIV prevention/transmission knowledge				
Poor	RC	-	RC	-
Average	2.02	0.77 - 5.27	0.64	0.23 - 1.74
High	1.85	0.71 - 4.83	0.78	0.29 - 2.14
Ever been tested for HIV				
No	RC	-	RC	-
Yes	2.02***	1.51 - 2.70	0.91	0.51 - 1.61
Age	0.97	0.92 - 1.02	1.03	0.95 - 1.12
Place of residence				
Urban	RC	-	RC	-
Rural	0.89	0.64 - 1.25	0.96	0.49 - 1.87
Religion				

Catholics	RC	-	RC	-
Other Christians	1.07	0.67 - 1.73	0.95	0.48 - 1.88
Muslim	1.54	0.98 - 2.48	0.24***	0.11 - 0.50
Other	1.56	0.98 - 2.48	0.45	0.19 - 1.07
Age at 1st Intercourse	1.05**	1.02 - 1.08	0.95	0.89 - 1.02
Marriage Type				
Monogyny	RC	-	RC	-
Polygyny	0.68	0.45 - 1.04	0.02***	0.01 - 0.03
Education Level				
No Education	RC	-	RC	-
Primary	4.48***	2.28 - 8.81	1.27	0.63 - 2.54
Secondary+	5.95***	2.94 - 12.05	1.42	0.62 - 3.26
Wealth Index				
Poor	RC	-	RC	-
Middle	1.31	0.84 - 2.04	1.92	0.94 - 3.89
Rich	1.16	0.75 - 1.79	1.38	0.65 - 2.89

*significant ***P>0.001 **p>0.01 *p>0.05 n/a not applicable, AOR -adjusted odds rations CI confidence interval