ORIGINAL RESEARCH ARTICLE

Covariates of Multiple Sexual Partnerships among Sexually Active Men in Lesotho

Karabo E. Mhele

North-West University, Mafikeng Campus, South Africa

***For Correspondence**: E-mail: *Karabo.mhele@nwu.ac.za;* Phone: (+27) 18-3892166

Abstract

Multiple sexual partnerships (MSP) have been identified as the main reason for the high rate of HIV prevalence in sub-Saharan Africa, including Lesotho. The aim of this paper is to identify the social and economic variables associated with MSP among men in Lesotho. The study used data from 2009 Lesotho Demographic and Health Survey. A sample of 2335 males in the age group 15–44 was used. Participants qualified if they were sexually active during the past year before the survey. Binary logistic regression was used to analyse the data. Results indicated that 29% of the respondents had engaged in sexual intercourse with multiple partners in the past year. Lower age at sexual debut, employment; having ever moved from home in the past year; believing that men have the right to have sex with other women; believing that beating a woman is justified if she argues with husband and having sex with casual partner were associated with an increased likelihood of MSP. On the other hand, coming from household led by a woman reduced the odds ratio. The study recommends that promotion of awareness programmes on MSP coupled with economic empowerment of women should be intensified in Lesotho. *(Afr J Reprod Health 2017; 21[1]: 73-81).*

Key Words: Sexual Behaviour, men, HIV/AIDS, Southern Africa

Résumé

Les partenariats sexuels multiples (PSM) ont été identifiés comme la cause principale du taux élevé de la prévalence du VIH en Afrique subsaharienne, y compris au Lesotho. Le but de cet article est d'identifier les variables sociales et économiques associées au PSM chez les hommes au Lesotho. L'étude a utilisé les données de l'Enquête démographique et de santé de Lesotho 2009. Un échantillon de 2335 hommes dans le groupe d'âge 15 - 44 a été utilisé. Les participants se sont qualifiés s'ils étaient sexuellement actifs au cours de l'année écoulée avant l'enquête. La régression logistique binaire a été utilisée pour analyser les données. Les résultats ont indiqué que 29% des interviewés avaient eu des rapports sexuels avec de multiples partenaires au cours de la dernière année. Ayant l'âge plus jeune à des débuts sexuels, ayant un emploi; ayant déjà déménagé de la maison l'année dernière; croyant que les hommes ont le droit d'avoir des relations sexuelles avec d'autres femmes; la croyance que le fait de battre une femme est justifié si elle se dispute avec le mari et qui a eu des relations sexuelles avec une partenaire occasionnelle, était associée à une probabilité accrue de PSM. En revanche, le fait d'être issu d'un ménage dirigé par une femme a réduit le rapport de cote. L'étude recommande que la promotion des programmes de sensibilisation sur PSM et l'autonomisation économique des femmes soient intensifiées au Lesotho. *(Afr J Reprod Health 2017; 21[1]: 73-81).*

Mots clés: Comportement sexuel, hommes, VIH / SIDA, Afrique du Sud

Introduction

Multiple sexual partnerships (MSP) are common in countries in the sub-Saharan region[1-4]. However, this behaviour is a public health concern in many countries because of the negative outcomes associated with it. Engaging in sex with different partners can expose one to an increasing risk of contracting sexually transmitted infections (STIs), which may in turn, lead to infertility and miscarriage[5]. Furthermore, a partner infected with STI can transmit the infection to the next sexual partners, especially when such intercourse takes place without the use of a condom. Moreover, MSP is one of the main factors driving the high rate of AIDS pandemic in sub-Saharan Africa, since people having MSP are more likely to be HIV positive[3], less likely to use a condom during sexual intercourse and to disclose their HIV status to their sexual partners[6], thus exposing partners to the risk of infection. In addition, MSP has been associated with an increase in later substance-

dependence disorder[7], which might in turn, lead to an increase in risky sexual behaviour because people with such disorder are more likely to engage in unprotected sex after using drugs.

In spite of the negative outcomes associated with MSP, Bingenheimer[8] found that MSP rates ranged from 8.6% to 28% in at least 10 countries from the 15 that were in the study. Studies have also found that Lesotho has one of the highest rates of MSP in the region. One study indicated that 21.1% of males in Lesotho had engaged in MSP in the past year while the other found that 29.8% of unmarried men had done so; the other estimated that more than four in every ten men had engaged in MSP in the past year[8-10].

The high rates of MSP in Lesotho underscore the importance of identifying the correlates of this high-risk sexual behaviour in order to design effective preventative programmes. Yet, socio-economic factors influencing its prevalence are not clear in different countries, including Lesotho. Most studies looking into this behaviour in sub-Saharan Africa used a combined data from different countries in the analysis. While such exercise may generally provide reliable results, it also makes it difficult to identify critical factors at a country level. For example, one study found that this behaviour does not only vary across countries but also the patterns of those partnerships are not the same in these countries[8]. Generalising the results can, therefore, hamper the development of effective policies within individual countries. The purpose of this study was, therefore, to determine the predictors of MSP in Lesotho among men who were sexually active in the past year. Research in this area can benefit communities through evidence-based policies, which address the spread of HIV through engagement in MSP. The main research questions guiding this study were:

What is the prevalence rate of MSP among men in Lesotho?

What are the main socioeconomic and behavioural factors driving the MSP in this population?

While both men and women engage in MSP, studies have indicated that men are more likely than women to have more than one sexual partner[2,3,11,12]. Other studies indicated that HIV/AIDS infection rate is higher among women compared to men[13,14], a sign that, on average, one man may be infecting two or more women.

Different reasons have been advanced to explain the unbalanced HIV infection rate between men and women. Studies showed that men normally prefer younger women as sexual partners[15]. This behaviour can increase the risk of HIV/AIDS infection among younger women because condom use is low when the age gap between sexual partners increases [16]. Also, older men are more likely to have had sexual relationships with different women in the past, a factor that can further heighten the risk of HIV infection. Reducing MSP among men is, therefore, fundamental for curbing HIV/AIDS infection rate, irrespective of whether such relationships are concurrent or serial monogamous in nature[13].

The theory of social exchange provides a theoretical setting in which MSP is likely to occur. It postulates that individuals enter into MSP relationships because of the benefits that accrue as a result of engaging in this type of relationship. Thornton[4], for example, argued that the many sexual networks observed in the southern African region are driven usually by the social and material benefits that would not have been otherwise realised.

Generally, the motivation for engaging in MSP would differ between men and women. Men are ordinarily motivated by the desire to fulfil their sexual urge[17], to enhance their social status and self-worth[1,3], as well as the reproduction of the offspring[18]. Men will, therefore, have to identify women who are not only sexually accessible, but who are also fertile[1,17-18], and in the process, a man will move from one potential partner to another until he finds a partner who meets all these characteristics.

One study in South Africa found that girls would sometimes share sexual partners among themselves depending on their economic needs and what the partner is able to offer[19]. This implies that some women will satisfy their material needs by knowingly engaging in sex with men who have other sexual partners. This may be an indication that material resources, among other things, are

crucial for women to enter these sexual networks[1, 3].

The social exchange theory further states that the degree to which people will engage in MSP will depend on the social and legal control mechanism prevailing in the community. Affiliation to religious groups is a possible barrier that is likely to restrain men from that behaviour. Studies indicated that people in religious circles are less inclined to embrace sexual behaviour such as premarital sex and MSP[2,17]. Christianity, for example, considers MSP as offensive to the teaching of the church.

On the other hand, permissive attitude toward MSP, as measured by a belief that men have the right to have sex with other women, can inspire the occurrence of this behaviour. Studies have indicated that people who are tolerant to this behaviour, also indicated by initiating sex at younger age, will be more predisposed to MSP[21,22]. There is evidence that men who endorsed traditional sexual roles were more inclined to have had MSP than otherwise[12]. To test this hypothesis, this study took advantage of the question in the Demographic and Health Survey in which respondents were asked whether they agree with the statement that, "beating a woman is justified if she argues with her husband." Men who responded affirmatively to this statement were expected to have a higher probability of having MSP.

In addition, these types of sexual partnerships occur normally in situations where someone has been involved in some form of migration[22]. This is because migration removes individuals away from their social environment where there is direct monitoring by immediate family members and other people in the community. For example, Mutinta[2], found that adolescents who were staying alone or with peers were more inclined to engage in MSP than those who were staying with family members.

Methods

This study used Demographic and Health Survey (DHS) data collected in Lesotho in 2009. DHS is a nationally representative survey collected in different developing countries. The survey collects data from women and men pertaining to different socioeconomic factors, including sexual behaviour. Questions dealing with the individual's sexual behaviour provided vital information about MSP. Individuals who had sexual intercourse in the past year were asked to state the number of sexual partners they had sex with in that period. A sample of 2235 respondents from the age of 15 to 44 was eligible for inclusion in the study. To account for the complex sampling design and weighting of the data, the "svy" method in STATA software was used.

The data was analysed using STATA statistical software, Version 11, using the binary logistic regression method to identify explanatory variables associated with the relative risk of experiencing MSP while controlling for the effect of other socioeconomic variables. The 5% significance level was applied.

Measurement of variables

Dependent variable

MSP was defined as having two or more sexual partners in a year before the study. The variable was coded "1" when the respondent reported two or more sexual partners and "0" when there was one sexual partner.

Independent variables

These variables included age categories 15–19, 20–24, 30–34, 35–39, and 40–44; respondent's educational attainment categorized as: no education, primary, secondary and tertiary level of education while partner type was categorized as spouse, girlfriend/live-in-partner and casual. The dummy for de facto place of residence was "larger city" "smaller city," "town" and "countryside." Employment status in the previous year was categorized as "not worked in the past 12 months," "worked in the past 12 months" and "currently working."

The age at sexual debut included ages below 15, 15–16, 17–18, 19–20 and ages above 20. Furthermore, the variable for the head of the household was coded "1" for male-headed households and "0" for female-headed ones. The

variable on whether one agrees with the statement that, "husband has the right to have sex with other women" was coded "1" when the response was affirmative and "0" otherwise. Similarly, the response of those who agreed that, " it is justifiable to beat a woman if she argues with her husband," was coded "1" when respondent agreed with the statement, "0" when he disagrees, and "8" for neutral. The number of times the individual was away from home in the past year was coded "0" for those who never moved, 1–4, 5–9, and 10 and more for those who have ever moved. Religion was categorized as "no religion," "Roman Catholic," "Lesotho Evangelical" "Anglican" "Pentecostal" and "Other."

Results

Table 1 presents the distribution of the respondents by different socioeconomic variables in the study. It showed that 29% of respondents had two or more sexual partners in the year preceding the study. Less than a quarter (22%) of the total respondents was in the age group 20–24, while age groups 15–19 and 25–29 contributed nearly 18% each. Likewise, age groups 35–39 and 40–44 contributed nearly 12% and 14% respectively. Also, a significant majority (60%) were staying in the larger city and 21% in town. Slightly more than half (51%) indicated that the last partner they had sexual relationship with was a spouse while 43% and 5% had sex with a girlfriend/fiancée and casual partners respectively. The results further showed that sexual initiation starts earlier in Lesotho with more than 40% having initiated sex at ages below 17. Nearly 16% of the respondents were under the age of 15 at a time of sexual debut compared to 28% in age group 15–16. Moreover, more than three-quarter (76%) came from the male-headed households compared to 24% in the female-headed households. Also, more than half (57%) had been away from home at least once in the past year and one-third had moved 1–4 times, while 11.6% and 12% had respectively moved 5–9 and 10 or more times. Whereas only 12.5% did not have any formal education nearly half (49%) had attained a primary level, while nearly 32% and 7%

Table 1: Distribution of Study Respondents by Different Socio-Economic Variables.

Variable	Frequency (%)
No. of sexual partners	
1	1582 (70.8)
2 or more	653 (29.2)
Age groups	
15-19	393 (17.5)
20-24	498 (22.3)
25-29	407 (18.2)
30-34	348 (15.5)
35-39	267 (11.9)
40-44	323 (14.4)
Place of residence	
Larger city	1358 (60.7)
Smaller city	250 (11.2)
Town	473 (21.2)
Countryside	153 (06.8)
Partner type	
Spouse	979 (43.3)
Girlfriend/Live-in-partner	1134(50.7)
Casual	115 (05.2)
Age of sexual debut	
21+	293 (13.1)
19-20	324 (14.5)
17-18	527 (23.6)
15-16	638 (28.6)
Below 15	354 (15.8)
Don't know	99 (04.4)
Sex of household head	
Male	1775 (76.0)
Female	560 (24.0)
No. of moves in the past year	
0	953 (42.6)
1-4	755 (33.8)
5-9	259 (11.6)
10+	268 (12.0)
Employment status	
No working	558 (23.9)
Yes - past 12 months	189 (8.1)
Yes - Currently working	1587(68.0)
Educational attainment	
No education	280 (12.5)
Primary	1091(48.8)
Secondary	708 (31.7)
Tertiary	157 (07.0)
Religion/denominations	
None	112 (05.0)
Roman Catholic	949 (42.5)
Lesotho Evangelical	454 (20.3)
Pentecostal	438 (19.6)
Other	282 (12.6)
Right to have sex with other women	
No	1565 (67.0)
Yes	707 (30.3)
Depends	63 (02.7)
Wife beating justified	
No	1540 (66.0)
Yes	795 (34.0)
Total	**2335 (100)**

had secondary and tertiary levels respectively.

With regard to religion, close to 5% did not belong to any religion while a 42% were members of Roman Catholic Church. Meanwhile, 23.9% were not employed while 8% were only employed in the past year and 68% were currently employed. With regard to attitudes towards MSP, more than two-thirds (67%) did not agree that men have the right to have sex with other women, while 30% support this behaviour. Likewise, two-thirds did not believe that beating a wife is justified if she argues with the husband, while slightly more than a third (34%) approved it.

Covariates of multiple sexual partnerships

Table 2 present crude and adjusted odds ratios by different socioeconomic and behavioural variables showing the likelihood that an individual would have had MSP in the past year. Age group 20–24 was significantly associated with MSP with the odds ratio increasing by 54% ($p<0.01$) and further by 78% ($p<0.005$) after adjustment. Age group 30–34 was significant ($p<0.01$) but only after adjusting for the effects of other covariates. Staying in a smaller city significantly reduced the risk by 34% and by 35% ($p<0.05$) after adjusting for other variables. Similarly, when the last sexual partner was a girlfriend/fiancée or a casual partner the odds ratio increased significantly ($p<0.005$) even after adjustment. Age at sexual debut was the strongest predictor of MSP. Having sexual initiation at ages below 19 increased the odds ratio by twice as much in almost all the cases ($p<0.005$) compared to those who postponed the act to ages above 20.

Education was significant, but only from secondary level and above, however, only tertiary level remained significant after adjusting for effects of other variables ($p<0.05$). Coming from female-headed households was associated with decreased odds ratio of having had MSP in the past year ($P<0.005$), but the variable became significant only after adjustment. Likewise, being in employment significantly increased the likelihood of engaging in MSP. Current employment status strongly predicted the likelihood of having had MSP ($p<0.01$) than those who were in employment in a year before the interview. Religion was only significant for members of Pentecostal church ($p<0.05$) and those coming from "other" religions groups ($p<0.01$). An increase in the number of times one has been away from home in the past year increased the odds ratio ($p<0.005$).

Moreover, those who agreed that husbands were justified to have sex with other women were significantly ($p<0.005$) more likely to have done so, suggesting that attitudes are critical for the prevalence of this behaviour. Similarly, men who were of the opinion that a husband is justified in beating the wife if she argues with him were significantly ($p<0.005$) more likely to have had an encounter with more than one sexual partner.

The study has identified a number of socioeconomic factors that were likely to influence MSP among study respondents. Key among these factors was employment status, initiating sex at younger ages, partner type, negative attitude towards the status of women and positive attitude towards MSP.

Discussion

This study found that less than one-third (29%) of men in Lesotho had engaged in MSP in a year prior to this study. Previous studies confirmed that this country has a high level of MSP compared to other countries in the region[8,10]. MSP has been identified as one of the main factors facilitating transmission of HIV/AIDS pandemic in sub-Saharan Africa, especially in Southern Africa, which accounts for 32% of new cases of HIV infection in the world[23]. Given that Lesotho has one of the highest HIV/AIDS prevalence rates with 23% of the population infected with the virus[24], more attention should be given to reducing multiple partnerships. The study has identified a number of social and economic factors that were associated with MSP among men in Lesotho.

While previous studies have found that non-married men were more likely to engage in MSP than their married counterparts, this study expanded on this aspect to establish whether non-married respondents acted the same with regard to MSP. The findings indicated that the level of MSP

Table 2: Crude and Adjusted Odds Ratios for Having Multiple Sexual Partners

Variable	Crude OR	95% CI	Adjusted OR	95% CI
Age groups				
15 – 19	**1.00**	-	**1.00**	-
20 – 24	1.5**	1.1 – 2.1	1.7***	1.2 – 2.5
25 – 29	1.0	0.7 – 1.5	1.3	0.9 – 2.1
30 – 34	1.0	0.7 – 1.4	1.5	0.9 – 2.4
35 – 39	0.8	0.5 – 1.2	1.2	0.7 – 2.1
40 – 44	0.6	0.4 – 1.0	0.9	0.5 – 1.5
De facto place of residence				
Large city	**1.00**	-	**1.00**	-
Smaller city	0.6*	0.4 – 0.9	0.6*	0.4 – 0.9
Town	1.1	0.8 – 1.4	1.3*	1.0 – 1.8
Countryside	0.8	0.6 – 1.0	0.8	0.5 – 1.1
Partner type				
Spouse	**1.00**	-	**1.00**	-
Girlfriend/live-in-partner	1.9***	1.5 – 2.3	2.1***	1.5 – 2.9
Casual	2.2***	1.3 – 3.6	2.4***	1.4 – 4.3
Age of sexual debut				
21 and above	**1.00**	-	**1.00**	-
19-20	1.3	0.8 – 1.9	0.9	0.6 – 1.5
17-18	2.5***	1.7 – 3.7	1.8***	1.2 – 2.7
15-16	2.4***	1.6 – 3.5	1.9***	1.3 – 2.9
Below 15	2.7***	1.8 – 4.2	2.1***	1.3 – 3.4
Don't know	1.3	0.7 – 2.3	1.1	0.6 – 2.1
Educational attainment				
No education	**1.00**	-	**1.00**	-
Primary	1.4	1.0 – 1.9	1.4	0.9 – 2.1
Secondary	1.6***	1.1 – 2.3	1.5	1.0 – 2.4
Tertiary	1.8*	1.1 – 2.9	1.9*	1.1 – 3.4
Sex of head of the household				
Male	**1.00**		**1.00**	-
Female	0.9	0.7 – 1.1	0.7***	0.5 – 0.9
Religion/denominations				
None	**1.00**	-	**1.00**	-
Roman Catholic	0.7	0.5 – 1.1	0.9	0.7 – 1.2
Lesotho Evangelical	0.6	0.4 – 1.0	0.7	0.4 – 1.2
Pentecostal	0.5***	0.3 – 0.7	0.7*	0.5 – 0.9
Other Christian churches	0.7	0.4 – 1.2	0.8	0.5 – 1.4
Other	0.2***	0.1 – 0.5	0.2***	0.0 – 0.5
Employment status				
No	**1.00**	-	**1.00**	-
Yes - past 12 months	1.5	0.9 – 2.4	1.6*	1.0 – 2.5
Yes - Currently working	1.3*	1.0 – 1.9	1.4**	1.1 – 1.9
No. of moves - past year				
0	**1.00**	-	**1.00**	
1-4	1.4*	1.1 – 1.7	1.4	0.9 – 1.6
5-9	1.7***	1.2 – 2.4	1.8***	1.2 – 2.6
10+	1.9***	1.3 – 2.5	1.7***	1.2 – 2.6
Men have right to have sex with other women				
No	**1.00**	-	**1.00**	-1.2 –1.9
Yes	1.6***	1.3 – 2.0	1.5***	0.6 – 2.1
Depends	0.8	0.4 – 1.7	1.1	
Wife beating justified if argues with husband				
No	**1.00**	-	**1.00**	
Yes	1.4**	1.1–1.7	1.4***	1.1 – 1.8

Significance level ***p<0.005 **p< 0.01 *p<0.05

among the non-married men is contingent on the type of the partner the individual have had sex with in the last sexual encounter. For example, when the partner was a 'casual' partner, the odds of engaging in MSP increased considerably compared to when the sexual partner was girlfriend or fiancée.

Younger men in age group 20–24 were more likely to engage in MSP and therefore at risk of being infected with STIs, including HIV/AIDS. People in younger age groups are likely to experiment with different sexual partners until such time that they have found partners with whom they want to settle in marriage. This is a cause for concern because some of these relationships may be concurrent, where relationships with different sexual partners overlap with time. Individuals in such relationships who have been infected with HIV virus in the past three months pose a higher risk to sexual partners in the sexual network because of the high viral load immediately after infection[25].

Consistent with other findings[23], the study found that sexual initiation in Lesotho starts at younger ages with nearly 16% of the respondents having had sexual intercourse before the age of 15. Initiating sex at younger ages increases the chance of HIV infection because the individual will have a comparatively longer period of exposure to this risk. Besides, the results showed that sexual début at younger ages increases the risk of having multiple partners in the future, which in turn, can predispose one to HIV/AIDS.

Previous studies have indicated that HIV/AIDS prevalence rates tend to be higher among people with higher education. The findings in this study point to a possible association where higher rates of this pandemic can be linked to the increased rates of MSP among people with higher education. In addition, being in employment was associated with an increased likelihood of having engaged in MSP thus confirming that the ability to possess wealth increases the chances of MSP among men[14]. Given that more than half (57.1%) of the population of Lesotho is living in poverty[24], MSP is likely to continue thriving as women who are exposed to poverty resort to sex with different men as a means of survival[19]. Also, men in positions of authority may use the imbalanced power relations between men and women to coerce different women into sexual relationships[26].

Previous study looked at men's endorsement of traditional beliefs with regard to men's and women's roles in heterosexual encounters as the main driver of the MSP[12]. This study expanded on this factor by looking at how men's attitudes towards the status of women affect the level of MSP. The results revealed that attitudes that negate status of women are significantly associated with higher MSP prevalence rate. Men who believed that a woman is not supposed to argue with a man and also think violence against a woman is justifiable when the latter argues with a man were more likely to engage in MSP. Furthermore, the results indicate that men who come from female-headed households were significantly less likely to engage in MSP. This perhaps suggests that when women are in position of power, they are likely to impart on men's behaviour that are consistent with respect for women which in turn reduce the number of sexual partners they have.

As expected, an increase in the number of times the respondent has been away from home significantly increased the risk of MSP. While the destination for these migrants could not be determined in the study, it seems that a considerable number of migrants in Lesotho are working in South Africa, especially in the mining sector[27]. Workers in this sector usually stay in single-sex accommodation, and therefore cannot bring their partners to stay with them. A study in Lesotho found that migrant workers in the mines were likely to have other sexual partners while away from home and less likely to use a condom during sex with these partners[28]. Commercial sex around mining industries and other areas where migrants are likely to visit create an environment where MSP thrives for many of these migrants.

Recommendations

Based on the findings on this study, a number of areas have been identified where policy intervention is needed.

Given the high rate of MSP among men in Lesotho, the study recommends that programmes aiming at changing the attitudes of men towards MSP be intensified, and more specifically, these

programmes should address attitudes that demean women and degrade them to lower status in the society. The above programs should also target boys at younger ages so that they grow up with attitudes that are consistent with respect for women. Also, places which accommodate migrants should be targeted for awareness purposes. The study further recommends that programmes for empowerment of women be increased in Lesotho to reduce women's reliance on men for material benefits in order to reduce MSP.

Acknowledgements

The author would like to express sincere gratitude to Macro International for allowing him to use the DHS data. Without this assistance this study would not have been possible.

Competing Interest

The author declares that he has no competing interest.

Contribution of Author

The author has done all the work in the study.

References

1. Cox CM, Babalola S, Kennedy CE, Mbwambo J, Likindikoki S and Kerrigan D. Determinants of concurrent sexual partnerships within stable relationships: a qualitative study in TanzaniaBMJ Open. 2014 ;4(2).
2. Mutinta G. Multiple Sexual Partnerships and their Underlying Risk Influences at the University of KwaZulu-Natal. J Hum Ecol, 2014; 46(2): 147-155.
3. Onoya D, Zuma K, Zungu N, Shisana O and Mehlomakhulu V. Determinants of multiple sexual partnerships in South Africa. J Public Health (Oxf). 2015; 37(1):97-106.
4. Thornton R. Sexual networks and social capital: multiple and concurrent sexual partnerships as a rational response to unstable social networks. African Journal of AIDS Research, 2009; 8(4):413-421.
5. Apari P, de Sousa JD and Müller V. Why Sexually Transmitted Infections Tend to Cause Infertility: An Evolutionary Hypothesis. PLoS Pathog 2014; 10(8). e1004111. doi:10.1371/journal.ppat.1004111
6. Kalichman S, Ntseane D, Nthomang K, Segwabe M, Pharano O and Simbayi C.. Recent multiple sexual partners and HIV transmission risks among people living with HIV/AIDS in Botswana. Sex Transm Infect. 2007; 83:371-375.
7. Ramrakha PC, Bell M, Dickson N, Moffitt TE and fc Avshalom CA. The Relationship between Multiple Sex Partners and Anxiety, Depression, and Substance Dependence Disorders: A Cohort Study. Arch Sex Behav. 2013; 42(5):863-872.
8. Bingenheimer J. Men's Multiple Sexual Partnerships in 15 Sub-Saharan Countries: Sociodemographic Patterns and Implications. Stud Fam. Plann. 2010; 41(1):1-17.
9. Uchudi J, Magadi M and Mostazir M. A multilevel analysis of the determinants of high-risk sexual behaviour in sub- Saharan Africa. J Biosoc Sci. 2012; 44(3):289-311.
10. Volle J, Foreit J, Letsatsi T and Tan A. A baseline survey of multiple and concurrent sexual partnerships among Basotho men in Lesotho. Washington DC: C-Change/AED. July 2009. Cited August 16, 2016. Available from: https://www.c-changeprogram.org/sites/default/files/Lesotho%20Baseline%20Report%20FINAL.pdf
11. Negeri E. Determinants of Risky Sexual Behaviour, Relation between HIV Risk Perception and Condom Utilization among Wollega University Students in Nekemte Town, Western Ethopia. Science, Technology and Arts Research Journal. 2014; 3(3):75-86.
12. O'Sullivan LF, Hoffman S, Harrison A and Dolezal C. 2006. Men, Multiple Sexual Partners, and Young Adults' Sexual Relationships: Understanding the Role of Gender in the Study of Risk. Journal of Urban Health: Bulletin of New York Academy of Medicine, 2014; Vol. 83, No.4.
13. Tanser F, Bärnighausen T, Hund L, Garnett G, McGrath N and Newell ML. Effect of concurrent sexual partnerships on rate of new HIV infections in a high-prevalence, rural South African population: a cohort study. Lancet 2011; 378:247-55.
14. Hargreaves J, Morison L, Kim L, Busza J, Phetla G, Porter J, Watts C and Pronyk P. Characteristics of sexual partnerships, not just of individuals, are associated with condom use and recent HIV infection in rural South Africa. AIDS Care, Taylor & Francis (Routledge), 2009; 21 (08), pp.1058-1070.
15. Silverthorne ZA and Quinsey VL. Sexual Partner Age Preferences of Homosexual and Heterosexual Men and Women. Archives of Sexual Behavior, 2000; 29(1), 67-76.
16. Chimbindi NZ, McGrath N, Herbst K, Tint K and Newell M. Socio-Demographic Determinants of Condom Use Among Sexually Active Young Adults in Rural KwaZulu-Natal, South Africa. The Open AIDS Journal, 2010; 4, 88-95.

17. Van der Geugten J, Van Meijel B, den Uyl M and de Vrie N. Virginity, Sex, Money and Desire: Premarital Sexual Behaviour of Youths in Bolgatanga Municipality, Ghana. African Journal of Reproductive Health, 2013; 17(4):93-106.
18. Buss D.M and Schmitt D. Sexual Strategies Theory: An Evolution Perspective on Human Mating. Psychological Review. 1993; 100, (2) 204-232.
19. Kaufman C. and Stavrou E. 'Bus Fare Please': The Economics of Sex and Gifts among Young People in Urban South Africa. Culture, Health & Sexuality, 2004; 6(5), 377-391.
20. Simons LG, Burt CH and Peterson FP. The Effect of Religion on Risky Sexual Behavior among College Students. Deviant Behavior, 2009; 30:5, 467-485.
21. Santelli JS, Brener ND, Lowry R, Bhatt A, and Zabin L. Multiple Sexual Partners among US adolescents And Young Adults. Family Planning Perspectives, 1988; 30(6): 271- 275
22. Parker W, Makhubele B, Ntlabati P and Connolly C. 2007. Concurrent Sexual Partnerships amongst Young Adults in South Africa. Challenges for HIV prevention communication. 2007. (Cited November, 12, 2015) Available from: http://jhhesa.org/.../CADRE%20MCP%20study%20final%20version_0.pdf.
23. UNAIDS. Sub-Saharan Africa AIDS epidemic update Regional Summary. Joint United Nations Programme on HIV/AID and World Health Organisation, 2008. (cited July 19, 2016.) Available from http://data.unaids.org/pub/Report/2008/JC1526_epibriefs_subsaharanafrica_en.pdf.
24. UNDP. Kingdom of Lesotho, Millennium Development Goals. Ministry of Development Planning and United Nations Development Programme. Lesotho 2013. (Cited July 13, 2016.) Available from: (http://www.undp.org/content/dam/undp/library/ MDG/english/MDG%20Country%20Reports/Lesotho/LESOTHO%20MDGR)
25. Miller WC, Rosenberg NE, Rutstein SE and Powers KA. The Role of Acute and Early HIV Infection in the Sexual Transmission of HIV. Curr Opin HIV AIDS. 2010; 5(4):277-282.
26. World Health Organization**.** 2012. Understanding and addressing violence against women. World Health Organisation and Pan American Health Organisation. (cited July 28, 2016) Available from: http://apps.who.int/iris/bitstream/10665/77434/1/WHO_RHR_12.37_eng.pdf.
27. Bureau of Statistics [Lesotho]. Lesotho Demographic Survey, 2011, Vol I. Maseru. March 2013. (cited Aug. 16, 2016) Available from http://www.bos.gov.ls/nada/index.php/catalog/6/download/20
28. Cornoa L and de Walqueb D. Mines, Migration and HIV/AIDS in Southern Africa. Journal of African Economies, 2012; 21(3):465-498.