

Multiple Sexual Partnerships as a Risk Factor for Hiv Infection Among Heterosexual Couples in Kakamega County, Kenya

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Abstract

The principal form of Human Immunodeficiency Virus transmission is through sexual intercourse with an infected person. Globally, 36.9 million people are living with HIV. Sub-Saharan Africa hosts 70% of all people living with HIV. Statistics show that of all HIV infections, heterosexual contact accounts for 80- 90%, 5- 10% are spread from mother-to-child; while a small percentage is spread through injecting drug use, infected blood transfusions, or occupational exposure. Thus programs designed to slow the spread of HIV need to focus on reducing transmission through sexual intercourse. The objective of this study was to establish the state of multiple sexual relationships as a risk factor associated with HIV infection among heterosexual couples in Kakamega County, Kenya. The Pressure and Release Model, was used to drive the study. Mixed method research design was used to address the phenomenon under investigation. The study population comprised of 1180 heterosexual couples and 73 key informants who were randomly and purposively sampled, respectively. Data was collected using structured questionnaire and interview schedule. The data was analysed descriptively using cross- tabulations and inferentially using Chi- square and presented in tables. Triangulation was used to merge the analysed quantitative and qualitative data. Of the respondents who participated in the research 56.2% had had multiple sexual partners in the 12 months preceding the research and 77% had had more than one person they have had sexual intercourse within life thus multiple sexual partnerships are common in marriage. Of all the couple respondents, 54.8% had not used condom in sexual intercourse with other persons. Condom use among heterosexual couples is therefore recommended as a HIV infection prevention strategy given the high rate of multiple sexual partnerships. Additionally, secondary sexual abstinence especially for couples who suspect that a partner has other sexual partners is recommended, as this predisposes them to the risk of being infected with HIV.

Keywords: Multiple sexual partnerships, Risk factor, HIV infection, Heterosexual couples, Kakamega County

1. Introduction

Sexual activity with more than one partner plays a central role in all sexually-driven HIV epidemics. Promiscuity is contributing to the spread of HIV in the developing world. Many people are having more than one sexual partner (Hilary, 2013). A big number of people in marriages are practicing infidelity without caring about its consequences. Studies have shown that more than 60% of new HIV infections occur in married people (Choi *et al.*, 2004). For instance, in Botswana as many as one in three people is infected with HIV (UNAIDS , 2005). Multiple sexual partnerships are among the factors that contribute to the rapid and expansive amplification of HIV in Botswana.

It has been reported that as many as 23% of adults report having had sexually concurrent relationships and as many as 7% at any given time are in concurrent sexual relationships (Carter *et al.*, 2007). Empirical studies show that multiple and concurrent sex partners may be especially important in promoting HIV transmission. Sexual concurrency is associated with clustering of sexual risk behaviours and the synergistic effects of other STIs on HIV transmission (Adimora *et al.*, 2006). Although sexual concurrency is not the only factor propelling the African AIDS crisis (Lagarde *et al.*, 2001), multiple concurrent sex partners clearly have the potential to accelerate the spread of HIV beyond serial monogamous relationships.

Multiple and concurrent sexual partnerships have been studied in relationship to individuals who are not known to be HIV infected and their sexual networks. However, it is now established that as many as one in three people living with HIV/ AIDS continues to practise HIV transmission risk behaviour after testing HIV positive (Kalichman, 2007). Nevertheless, ecological and associational evidence from generalized and concentrated epidemics points to a consistent pattern of significant decline in the proportion of men and women reporting multiple partners, followed by population-level declines in HIV infection (Green *et al.*, 2009, Shelton, 2009).

Behavioural interventions utilizing various communication channels have had a demonstrable impact on reducing numbers of sexual partners in numerous populations including MSM, adult men and women, and young people (Noar, 2008). Thus this research investigates the state of multiple sexual relationships as a risk factor associated with HIV infection among heterosexual couples in order to find out its contribution to new HIV infection in Kakamega County, Kenya.

Research Objective

The objective of the study was to establish the state of multiple sexual relationships as a risk factor associated with HIV infection among heterosexual couples in Kakamega County, Kenya.

2. Research Methodology

2.1 Research Design

The study adopted a mixed method research design where quantitative data was collected using cross-sectional survey research method while qualitative data was collected using interviews (Asenahabi, Busula, & Ronoh, 2019). The questionnaire and interview aimed at obtaining information on the current state of multiple sexual relationships among heterosexual couples in Kakamega County, Kenya. Cross-sectional survey research method provided an accurate profile of situations, people or events (Rahi, 2017) and enabled description of existing status of events at a specific point in time as was the case with this study (Seremet *et al.*, 2013).

2.2 Study Area

The study was carried out in Kakamega County. Kakamega County was purposively selected for the study due to its high HIV prevalence and being with the highest number of adults living with HIV as compared to the neighboring counties. In Kakamega County 48,533 adults are living with HIV compared to Bungoma with 26,093, Busia with 16,065 and Vihiga with only 9,853. Kakamega County also has the highest number of adults with new HIV infection annually (NACC, 2014). Kakamega County had 154 adults newly infected with HIV in 2014, whereas Bungoma County had 83, Busia had 51 and Vihiga had 31 new HIV infections.

Kakamega County is leading among the four Counties in the former Western Province of Kenya that increased their new HIV infections by more than one thousand fold (NACC, 2016). The number of new HIV infections in Kakamega County in 2013 was 154 (0.2%) which increased to 1935 (2.7%) in 2015 (NACC, 2016). Comparatively, Bungoma County had 83 new HIV infections in 2013 that increased to 1,145 and Busia had 51 new HIV infections in 2013 which increased to 1,467 in 2015 (NACC, 2016). These statistics show that the increase in new HIV infections in Kakamega County and its contribution to Kenya's HIV prevalence is alarming.

2.2 Study Population

The study population was heterosexual couples aged between 15 to 64 years from monogamous family set up. Heterosexual couples were targeted because HIV infection is best characterized as a sexually transmitted disease. Globally, more than 90% of new HIV infection among adults is acquired through sexual activity (Gouiwset *al.*, 2006).

2.3 Sampling Techniques

The study used both probability and non- probability sampling techniques. Kakamega County was purposively selected because of its high HIV prevalence and the highest number of adults living with HIV.

2.4 Data Analysis

Quantitative data was analysed using descriptive and inferential data analysis techniques. Descriptive data analysis summarized the demographic data and described the characteristics of the sample using frequency distribution (Asenahabi & Ikoha, 2021). Inferential data analysis was performed using Chi square test of independence. Qualitative data was thematically analyzed and used for triangulation with the quantitatively analysed data.

3. Findings and Discussion

The most important factor that influences transmission of HIV is sexual intercourse. It was therefore necessary to know the extent of multiple sexual partnerships among heterosexual couples in Kakamega County. Consequently, heterosexual couples were asked questions about marriage and their sexual activities. The questions focused on how many partners they have had sexual intercourse with in the 12 months before the survey and in their life time.

3.1. Number of sexual partners other than spouse

Among the risk factors for HIV infection is having just an extra sexual partner in a person's lifetime. In this study the respondents were asked to state how many sexual partners they have had other than their spouse. Table 1 shows their responses.

When respondents were asked whether they had other sexual partners other than spouse, (751) 63.6% said they had no other sexual partner apart from spouse while (429) 36.4% had either one or more than one partner besides their spouse.

Table 1: Number of sexual partners other than spouse

		Sexual Partners other than spouse				Total
		None	One	more than one		
Gender	Male	Count	255	210	72	537
		% within Sexual Partners other than spouse	34.0%	63.4%	73.5%	45.5%
		% of Total	21.6%	17.8%	6.1%	45.5%
	Female	Count	496	121	26	643
		% within Sexual Partners other than spouse	66.0%	36.6%	26.5%	54.5%
		% of Total	42.0%	10.3%	2.2%	54.5%
Total		Count	751	331	98	1180
		% of Total	63.6%	28.1%	8.3%	100.0%

Variation in number of sexual partners other than spouse, $\chi^2=114.261$, $p=0.000$, $df=2$

Chi Square value is statistically significant if $p < 0.05$

Findings in Table 1 reveal a larger proportion of females (496) 66% than males (255) 34% have no other sexual partners besides the spouse. The proportion of males that have one or more than one sexual partner other than the spouse (72) 73.5% is higher as compared to that of the females which is only (26) 26.5%. Having one or more extra sexual partner apart from ones' spouse is an indicator of multiple sexual partnerships.

The findings from the current research confirm that multiple sexual partnerships are practised in marriage in Kenya and therefore heterosexual couples are exposed to HIV infected through sexual intercourse. These results corroborate the report from a research by Sally *et al.*, 2015 where participants who had two to four lifetime sexual partners were very likely to be HIV positive than those who had only one lifetime sexual partner. The findings from the current study are also supported by the report given by a CACC during an interview when he stated that:

Levirate marriage, a case where a widow is inherited by one of her brothers in law, is being practised in some parts of Kakamega County, in spite of the high HIV prevalence. Besides, as a rite of ‘cleansing’ widows must have sexual intercourse with a male relative of the deceased whether she knows his HIV status or not and regardless of the disease that killed her husband. Thus the pressure to perform what the culture requires may overpower what is necessary about prevention of HIV infection(**Field data, 2018**).

Besides, the finding on multiple partnerships in marriage is corroborated with another citation from a chief who reported ‘wife-sharing’ as a common risky sexual activity practiced in Kakamega County. He said that:

Wife sharing has been observed and has been reported especially in the alcohol drinking dens when both the man and woman are under the influence of alcohol. Wives are lured into sexual intercourse by other men due to poverty where ones’ wife is given money or gifts in exchange for sexual intercourse(**Field data, 2018**).

In addition, the interview schedule informed this study that for couples who are separated because of work and husbands or wives stay for long periods without meeting their spouses; their sexual needs are fulfilled by other men or women. There is also a belief that through wife sharing new genes are imported into the family. Therefore, a man or a woman admires a family with favourable characteristics such as intelligence or riches and has sexual intercourse with a partner from such a family purposefully to have gene variation.

Similarly there is ‘secrete inheritance’ where widows have sexual intercourse with several partners at varied times, who are husbands to others. This relationship remains secrete for the purpose of receiving support from many men. In this way if only one of

these partners is HIV infected the rest are likely to get infected. This propagates HIV infection(**Field data, 2018**).

In Kakamega County the CASCO reported that:

Whenever a funeral occurs, except for the Muslim community, a corpse stays in the home for three days. Besides, there comes ‘makumbusho’, after a given period of time. During such occasions, there is feasting and taking of alcohol. At night, there is ‘isukuti’ dancing and alcohol drinking accompanied by free and unprotected sexual intercourse especially by the youth so that they bear children in order to name the deceased. This can increasingly lead to HIV infection(**Field data, 2018**).

The findings from the current research are consistent with an earlier research done by NASCOP in Kenya which confirmed that men are more likely to have four or more lifetime sexual partners than women, with 16.9% of men reporting 10 or more partners outweighing that of women who have 1.1% being more than 15-fold (NASCOP, 2012).

Hilary in 2013 found that many people have more than one sexual partner and a large number of heterosexual couples practice multiple partnerships without caring about the consequences. Yet research has confirmed that the risk of becoming infected with HIV is directly proportional to the number of sexual partners (Mishra *et al.*, 2009). Studies done by Choi and others (2004) have shown that more than 60% of new HIV infections occur among heterosexual couples.

Therefore, these reports corroborate the findings from the current research to confirm that there are multiple sexual partnerships in marriage and these are directly contributing to increase in HIV infection among heterosexual couples in Kakamega County.

3.2. Sexual Intercourse with anyone other than Spouse

To determine multiple sexual partnerships as vulnerability for HIV infection among heterosexual couples, respondents were asked some questions about their sexual activity. Table 2 shows the findings when the respondents were asked whether they have had sexual intercourse with anybody else.

Table 2: Sexual intercourse with anyone other than spouse

			Sexual intercourse with anyone other than spouse		
			Yes	No	Total
Gender	Male	Count	314	223	537
		% within Sexual intercourse with anyone other than spouse	52.8%	38.1%	45.5%
		% of Total	26.6%	18.9%	45.5%
	Female	Count	281	362	643
		% within Sexual intercourse with anyone other than spouse	47.2%	61.9%	54.5%
		% of Total	23.8%	30.7%	54.5%
Total	Count		595	585	1180
	% of Total		50.4%	49.6%	100.0%

Table 2 reveals that (595) 50% of the heterosexual couples have had sexual intercourse with other persons other than spouse. Among whom (314) 53% are males and (281) 47% are females.

3.3. Number of people a respondent has had sexual intercourse with in the last 12 months

Having concurrent multiple sexual partners in one’s life contribute to the spread of HIV (Sally *et al.*, 2015). To further confirm the concurrency of the multiple sexual partnerships occurring in heterosexual couples in Kakamega County, they were asked to state how many people they have had sexual intercourse with within a period of 12 month preceding the survey. Their responses were recorded in Table 3.

Table: 3: Number of people a respondent had sexual intercourse with in the last 12 months

		How many other people you've had sexual intercourse with in the last 12 months				Total	
		1	2	More than 2	None		
Gender	Male	Count	189	172	174	2	537
		% within how many people had sexual intercourse with in the last 12 months	35.2%	32.0%	32.4%	0.4%	100%
		% of Total	16.0%	14.6%	14.7%	.2%	45.5%
	Female	Count	320	183	134	6	643
		% within how many people had sexual intercourse with in the last 12 months	49.8%	28.5%	20.8%	0.9%	100%
		% of Total	27.1%	15.5%	11.4%	0.5%	54.5%
Total		Count	509	355	308	8	1180
		% of Total	43.1%	30.1%	26.1%	0.7%	100.0%

Table 3 shows that (509) 43.1% heterosexual couples had one other sexual partner while (663) 56.2% had two or more sexual partners 12 months preceding the survey. Only (8) 0.7% heterosexual couples had sexual intercourse with none other than their spouses.

Majority, (1172) 99.3%, had sexual intercourse with one or more partners within the twelve months' prior to the survey. Over half of the heterosexual couples (663) 56.2% had two or more sexual partners twelve months' prior the survey as shown in Table 4.3. The figures reporting sexual partners in the 12 months prior to the survey varied by gender, (189) 35.2% of the males

and (320) 49.8% of the females had had sexual intercourse with only one other partner whereas (346) 64.4% of the males and (317) 49.3% of the females had had sexual intercourse with either two or more than two sexual partners within the last 12 months. Very small percentages of the males (2) 0.4% and (6) 0.9% of the females had not had sexual intercourse with any other sexual partner. Thus these findings reveal that more males have sexual intercourse with another partner than females. These Figures though higher are in agreement with those reported by KAIS, 2012 where a higher proportion of men (14.2%) than women (2.2%) reported two or more sexual partners twelve months prior to the survey and still a higher proportion of men 12.7% than women 3.7% reporting multiple sexual partnerships in KDHS, 2014.

A Chi- square test of significance performed on this data produced a chi- square value of 69.878 at 3 degrees of freedom at $p = 0.000$ helps to determine if those observed counts are different enough for the association to be significant. The p value of 0.00 is less than the alpha value 5. So this means the results are statistically significant. It can be observed from these findings that only (8) 0.7% of the respondents were faithful to their partners twelve months before the research indicating concurrent multiple sexual partnerships in marriage.

Concurrent multiple sexual partnerships contribute highly to the spread of HIV as confirmed by Ministry of Health, Zimbabwe, 2002. According to the Modes of Transmission analysis conducted by National AIDS Commission (NAC), UNAIDS and Futures Institute for Malawi, 67.2% of new HIV infections are estimated to occur among married and cohabiting partners with one sexual partner per year. Both men and women have sexual intercourse with other partners who are not their main spouses, such partnerships put these individuals in sexual networks that connect large individuals and put everyone at risk of HIV infection (UNAIDS, 2014). Therefore the high number of new HIV infections in Kenya is as a result of concurrent multiple partnerships depicted by the large percentage of both men and women who have sexual intercourse with partners other than their main partner.

3.4. Number of people a respondent had sexual intercourse with in lifetime

According to Sally *et al.*, 2015, individuals who had more than one sexual partner during their lifetime had higher HIV rates compared to those who did not have. When heterosexual couples were asked the number of different persons one has had sexual intercourse with in lifetime their responses were as shown in Table 4.

Table 4: Number of different people one has had sexual intercourse with in life

		No of different people respondent had sexual int. within your life					Total	
		1	2	3	More than 3	None		
Gender	Male	Count	76	67	80	287	27	537
		% within No of people you've had sexual int. within your life	31.0%	32.5%	37.6%	58.8%	96.4%	45.5%
		% of Total	6.4%	5.7%	6.8%	24.3%	2.3%	45.5%
	Female	Count	169	139	133	201	1	643
		% within No of people you've had sexual int. within your life	69.0%	67.5%	62.4%	41.2%	3.6%	54.5%
		% of Total	14.3%	11.8%	11.3%	17.0%	.1%	54.5%
Total		Count	245	206	213	488	28	1180
		% of Total	20.7%	17.5%	18.1%	41.3%	2.4%	100.0%

Variation in number of people you've had sexual intercourse with in your life by gender, $\chi^2=104.273$, $df=4$, $p=0.000$

Chi Square value is statistically significant if $p < 0.05$

From findings in Table 4, only (28) 2.4% of the respondents had had sexual intercourse with no other person other than the spouse, (245) 20.7% of the respondents had had one other sexual partner, (907) 77% had had two or more than two people they had had sexual intercourse with in their lifetime. Of those respondents who had had one, two or three different people they had had sexual intercourse with in life a larger percentage were females (664) 56.3% yet those who had over three or more sexual partners were males (14.9%). These results concur with those reported

by KAIS, 2012 that more women (38.0%) had reported having only one lifetime sexual partner than men (12.5%).

A higher percentage of men (39.7%) reported four or more lifetime sexual partners than did women (10.3%). The data produced a chi-square value of 104.273 at 4 degrees of freedom at $p = 0.000$ to help determine if those observed counts were different enough for the association to be significant. The p value of 0.000 is less than the alpha value of 0.05. So this means the results are statistically significant.

The findings from the current research show that multiple sexual partnerships are high among the respondents yet the number of sexual partners determines the risk for HIV infection. The findings from the current research concur with the finding given by (Mishra *et al.*, 2009) which confirm that the number of lifetime sexual partners correlates strongly with HIV prevalence. For both men and women, HIV prevalence increases as the number of lifetime partners increases. Mishra and others found that HIV prevalence among men who report having four or more lifetime partners is 4 to 12 times more than those who report only one lifetime partner and HIV prevalence among women who report having four or more lifetime partners is 3 to 5 times higher than among women who report only one lifetime partner.

The findings from the current research are also a reflection of those given by the report from Zimbabwe Young Adult Survey (YAS) in 2001-2002 on multiple sexual partnerships. In Zimbabwe, HIV is primarily spread by heterosexual concurrent multiple sexual partnerships that occur in a person's life (Zimbabwe MOH, 2002). Therefore, the findings from the current research confirm that concurrent multiple sexual partnerships among heterosexual couples is high and this could lead to the large number of new HIV infections in Kenya.

This finding is in agreement with that given by (Kalichman *et al.*, 2007) that HIV infected people who have recent multiple sexual partners use condoms less frequently than individuals with only one recent sexual partner. UNAIDS, 2014 also confirmed that 40% of men and 31.4% of women aged 15-24 years reported having 2 or more sexual partners and not using condom at last sexual intercourse. Unprotected sexual intercourse with a person whose HIV status one does not know is a factor that could lead to increase in HIV infection. Therefore, condom use could be encouraged especially when one has sexual intercourse with another partner or a partner whose HIV status a partner does not know. Nevertheless, it is encouraging that condom use is

increasing in multiple sexual partners as reported by KDHS, 2014. Condom use increased among female users from 32% in 2008 to 40% in 2014 and among males from 37% in 2008 to 44% in 2014 (KDHS, 2014).

4. Conclusion

The study concludes that multiple sexual partnerships are high among heterosexual couples in Kakamega County. Basing on the findings from this study it is advisable that HIV and AIDS prevention programs promote condom use among heterosexual couples as a protection strategy for the prevention of HIV given the high rate of multiple sexual partnerships. It is important for HIV and AIDS prevention programs targeted at heterosexual couples to include promoting secondary sexual abstinence especially where a partner suspects the other of having other sexual partners as this predisposes them to the risk of HIV infection. It is important to design bold and effective HIV infection prevention interventions that address the needs of all heterosexual couples in Kenya, regardless of gender.

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