EFFECT OF RISKY SEX BEHAVIOURS ON HIV PREVALENCE AMONG WOMEN ACCESSING CARE AND TREATMENT IN LEVEL FIVE HOSPITAL COMPREHENSIVE CARE CLINIC IN MURANG'A COUNTY, KENYA

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ABSTRACT
More than half of the people living with Human Immunodeficiency Virus (HIV) around the globe are women. The HIV prevalence among women in Kenya is at 6.6%, twice that of men. Prevalence of HIV infection in Murang'a County is significantly higher among women compared to men, with women having a threefold higher likelihood of being infected (7.8% vs. 2.4%). It is still not known what causes such a high rate of incidence among adult women, particularly in Murang'a County. Numerous studies have been conducted to investigate the incidence of HIV among female populations in different geographical areas, yielding diverse outcomes. The variation in the findings suggests a uniqueness of each population. Consequently, the current study examined the effect of risky sex behaviours on HIV prevalence among women accessing care and treatment in level five hospital comprehensive care clinic in Murang'a County, Kenya. The study respondents were women accessing HIV care in Murang'a County level 5 hospital. A total of 167 respondents were recruited for the study utilizing a systematic random selection procedure. The study finding indicated that risky sexual behaviours such as multiple partners, alcohol or substance abuse increased the chances of HIV prevalence by 6.545 times. The study results are expected help to the County government of Murang'a, where HIV is particularly prevalent. The results will also help to accelerate the realization of Vision 2030 goals by illuminating the social determinants that contribute to HIV prevalence among women in Murang'a County.

Key Words: Risky Sex Behaviors, HIV Prevalence, Women, Care and Treatment, Level Five Hospitals, Murang'a Count

Sub theme: Law, Humanities and Social Sciences

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a major global health issue that has threatened the human race for the last four decades (Fauci & Lane, 2020). Around 6,000 women are dying of HIV and AIDS-related causes every week globally (Marsh et al., 2019). According to the Joint United Nations Programs on HIV and AIDS (UNAIDS, 2019), there has been a significant surge in the population of women living with HIV in recent times. In 2008, the number of women living with HIV above 15 year was recorded at 15.7 million. However, by 2018, this figure had increased to 18.8 million then by 2022 was at 19.6 million (UNAIDS, 2022) According to the World Health Organization (2017), the sub-Saharan African region is home to approximately 80% of young women living with HIV. Based on Amin's (2015) research, it is reported that approximately 52% of the global population living with HIV are women. Numerous scholarly investigations have endeavoured to examine the disparities in HIV prevalence between genders across diverse global contexts. Research conducted by Amin (2015) suggests that women face a higher susceptibility to contracting HIV as a result of gender-based discrimination. The ability of women to engage in sexual activities without experiencing fear of harm is impeded by societal expectations regarding gender roles and the prevalence of violence targeting women (Girum et al., 2018).

There exists a higher likelihood for women residing in low-income strata to experience food insecurity, consequently elevating the potential for individuals living with HIV to engage in "transactional sex" and reduce their adherence to antiretroviral therapy (Worthington & Krentz, 2005). Because of the interconnected problems of hunger and HIV, women are particularly at risk (Anema et al., 2009). The study claims that there is a connection between food insecurity and a rise in risky behaviors that might transmit HIV as well as a lack of access to antiretroviral drugs. In certain contexts, women may encounter socio-economic obstacles that hinder their access to prenatal care, thereby increasing their vulnerability to HIV infection and complications during and after childbirth (Boesten & Poku, 2016). Women and young girls are at a higher risk of contracting HIV due to a number of reasons, including a lack of awareness and training in sexual health (Boesten & Poku, 2016). Women in sub-Saharan Africa also encounter additional obstacles when trying to negotiate safer sex due to economic limitations (Madiba & Ngwenya, 2017). In addition, sexual assault is a leading cause of HIV infection among women and young girls. A research by Okoli et al. (2019),

found that despite progress in HIV/AIDS prevention and treatment throughout the globe over the last 20 years, the conversation has not shifted to include women's experiences. Since 1999, the proportion of women who get HIV for the first time has been more than 65%, as shown in Becker et al. (2018)'s findings. The presented data reinforces the assertion that the HIV pandemic among women is a complex phenomenon, thereby offering additional substantiation for the intricate and ever-changing nature of the HIV incidence rate among women. The primary objective of this study is to elucidate the underlying factors contributing to the elevated incidence of HIV infection among women residing in Murang'a County.

The disproportionate rate of HIV infection among women has drawn international attention. Since the onset of HIV, the mortality rate of women of reproductive age has increased. Despite several studies on HIV prevalence, there are remarkable differences across populations. Studies already conducted have shown significant variations in HIV prevalence across various groups, which are impacted by elements like location, gender, ethnicity, and religion. The county government, national government of Kenya and humanitarian agencies put more effort to hire qualified health workers, establish health facilities and finances them as well as enacting laws and frameworks that govern HIV service provision in order to reduce HIV prevalence in the county. Despite the efforts, still the HIV prevalence is increasing and currently is at 6.0 %. For the last four years the HIV prevalence trend in Murang'a has been increasing according to Murang'a County statistical abstract (2022) report, the HIV prevalence in Murang'a county in 2019 was 4.8; 2020 (5.0); 2021 (5.4) and 2022 (5.8). Consequently, HIV prevalence has been linked to high dependency, greater infection difficulties, higher financial burdens, and perhaps worse mortalities among women. Nevertheless, there are minimal studies investigated this phenomenon in Murang'a County leading to paucity of empirical and conceptual knowledge. This study pinpointed elements responsible for Murang'a County's high prevalence of HIV among women. The study sought to assess the effect of risky sex behaviours on HIV prevalence among women accessing care and treatment in level five hospital comprehensive care clinic in Murang'a County, Kenya.

RESEARCH METHODOLOGY

Research Design

The study used a cross-sectional survey design for the investigation.

Sampling Procedure

The study targeted 284 women accessing HIV care and treatment in Murang'a Level 5 hospital comprehensive care clinic. A sample size of 167 female participants was obtained using the Yamane formula (Yamane, 1967).

Data Collection and Analysis

Questionnaires and key informants schedules to interview key individuals including nurses, clinical officers and social workers. Descriptive and inferential statistics. Descriptive measures of central tendencies and dispersion that included mean, frequency, percentages, and standard deviation were applied. Thematic analysis was used in analysing qualitative data.

RESULTS AND DISCUSSION

The study sought to determine HIV prevalence by high-risk sexual behaviour and its implication on HIV prevention among women in Murang'a County, Kenya. To achieve this, the study examined information on marital ;level, how married and unmarried women contracted HIV, engagement in drugs and alcohol abuse, number of sexual partners, engagement in commercial sex, practice of safe sex, period when one discovered HIV level, and causes of HIV.

How Married People Contracted HIV

The study sought to fight out how married people contracted HIV and the results are as shown in Table 1.

Table 1: How Married People Contracted HIV

	FREQUENCY	PERCENT
Husband	97	65
Extramarital affair	22	15.
Sex trade	18	12
Others	13	8
Total	**150**	**100**

Statistical analysis shows that the vast majority of responses (65%, n=97) were sexually infected by their husbands, 15% were infected through extra marital affairs, and 12 % through sexual trade. Other means of contracting HIV such as rape, mother to child transmission, unscreened blood transfusions etc accounted for 8%. There is a need for the development of strategies for behavioral changes, embracement of faithfulness, and use of safe methods to curb HIV spread among married couples. This finding collaborates with the findings of a study done by Chirwa (2011) who established that married couples were at a significantly higher risk of contracting HIV from their partners. This information was collaborated by the clinical officer within the Comprehensive care clinic who said: '*From my experience, men are less cautious as compared to women. It's a fact of life, and this predisposes them to the HIV infections more than women."*

How Unmarried People Contracted HIV

The study sought to establish how unmarried people contracted HIV and outputs are as indicated in Table 2.

Table 2: How Unmarried People Contracted HIV

	FREQUENCY	PERCENT
From the person I thought would marry me	11	7
Mother-to-child transmission	3	5
Multiple sexual partners	66	44
Unprotected sex	66	44
Total	150	100

Majority of unmarried women in Murang'a county contracted HIV through unprotected sex and multiple sexual partners (66%, n-=44). This finding agrees with the results of a study done in Nigeria by Fagbamigbe (2016) who established that single unmarried people were highly likely to have multiple sexual partners and were therefore at a significantly higher risk of getting infected with the HIV virus.

Engagement in Alcohol and Substance Consumption

This section of the questionnaire sought to ascertain whether or not the participants were partaking in any kind of drug abuse, and the likely implication of this on HIV infection and transmission.

Table 3: Engagement in Alcohol and Substance Consumption

	Frequency	Percent
Yes	17	11.3
No	133	88.7
Total	150	100

Notably, the results showed that 88.7% of those living with HIV were not engaging in alcohol and substance consumption. This may have a multiplier effect in minimizing the odds of spreading HIV since they will rarely engage in irresponsible sexual behaviors that may be attributed to drug abuse. The findings disputed those of Ramjee (2013) that alcohol and substance abuse can contribute to spread of HIV and affect treatment of the people living with HIV. This finding disagrees with the sentiments of the area chief who opined: '*Most people in this area especially the youths are deep into alcoholism, and this exacerbates the problem of HIV in the county. The county and national government must wake up and act fast.".* The study found that 61% of those engaged in alcohol and substance abuse acknowledged that alcohol and substance consumption never contributed to their HIV infection. Thus, there is need for development to curb abuse of alcohol and drug among those infected with HIV. This conformed to Chi-square analysis that found no significant consequence of alcohol and substance consumption on HIV prevalence.

Number of Sexual Partners

The study sought to find out the number of sexual partners the respondents had. The findings are as presented in Table 4.

Table 4: Number of Sexual Partners

Number of Sexual Partners	Frequency	Percent
0	37	24.7
1	95	63.3
2	3	2
3	10	6.7
5	2	1.3
10	3	2
Total	150	100

The analysis showed that majority of women in Murang'a County at 63.7%, had one sexual partner, 24.7% were not actively engaged sexually, and 6.7% had three while 2% had 10 partners. There is need for sensitization of the need to have single sexual partners or abstaining to manage the spread of HIV. These findings are in agreement with the results of a study done by Koblin et al., (2006) who established that the increased awareness and sensitization of how HIV is spread had led to more active control measures. Further, Beyrer et al., (2016) in a study carried out in the US concluded that the sustained campaign against the HIV had borne fruit among the general population with most practising safe sex.

Substance Abuse and HIV Prevalence

Results in Table 5 indicates that there was a statistically significant association between taking alcohol/abusing drugs and HIV prevalence in Murang'a County (χ^2=16.541, d.f = 1 p value = 0.000). The odds ratio which is a measure of exposure to alcohol or substance abuse and having positive or negative effect on HIV prevalence was 7.545, this indicates that the likelihood of having HIV positive prevalence based on been an alcohol or substance abuse was 7.545. Since the odds ratio was greater than 1 it showed that increased chances of been an alcohol or substance abuser positively impacted HIV prevalence in Murang'a County.

Table 5: Substance Abuse and HIV Prevalence

		Effect on HIV Prevalence		
Abuse alcohol/drugs		**Negative**	**Positive**	**Total**
Yes	Count	11	6	17
	%	65%	35%	100%
No	Count	26	107	133
	%	20%	81%	100%
	Count	37	113	150
	%	25%	75%	100%
χ^2=16.541, d.f = 1 p value = 0.000				
	Risk Estimate			
			95% Confidence Interval	

		Value	Lower	Upper
	Odds Ratio for Engage in alcohol/substance abuse (Yes / No)	7.545	2.554	22.286
	For cohort Effect on HIV Prevalence = Negative	3.31	2.024	5.414
	For cohort Effect on HIV Prevalence = Positive	0.439	0.229	0.84

Commercial Sex and HIV Prevalence

Results in Table 6 indicates that there was no statistically significant association between engaging commercial sex and HIV prevalence in Murang'a County (χ^2=1.398, d.f = 1 p value = 0.237). The odds ratio which is a measure of exposure to commercial sex work and having positive or negative effect on HIV prevalence was 1.656, this indicates that the likelihood of having HIV positive prevalence based on been a commercial sex worker was 1.656. Since the odds ratio was greater than 1 it showed that increased chances of been a commercial workers positively impacted HIV prevalence in Murang'a County.

Table 6: Commercial Sex and HIV Prevalence

		Effect on HIV Prevalence		C
commercial sex work		**Negative**	**Positive**	**Total**
Yes	Count	11	23	34
	%	32%	68%	100%
No	Count	26	90	116
	%	22%	78%	100%
Total	Count	37	113	150
	%	25%	75%	100%
χ^2=1.398, d.f = 1 p value = 0.237				

Risk Estimate			
	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Engagement in commercial sex work (Yes / No)	1.656	0.714	3.837
For cohort Effect on HIV Prevalence = Negative	1.443	0.798	2.61
For cohort Effect on HIV Prevalence = Positive	0.872	0.678	1.122

Unprotected Sex and HIV Prevalence

Results in Table 7 indicates that there was no statistically significant association between not practicing safe sex and HIV prevalence in Murang'a County (χ^2=1.751, d.f = 1 p value = 0.186). The odds ratio which is a measure of exposure to not practicing safe sex and having positive or negative effect on HIV prevalence was 1.844, this indicates that the likelihood of having HIV positive prevalence based on not practicing safe sex was 1.844. Since the odds ratio was greater than 1 it showed that increased chances of not practicing positively impacted HIV prevalence in Murang'a County.

Table 7: Unprotected Sex and HIV Prevalence

		Effect on HIV Prevalence		Total
Practice safe sex		**Negative**	**Positive**	
Yes	Count	30	79	109
	%	28%	73%	100%
No	Count	7	34	41
	%	17%	83%	100%
Total	Count	37	113	150
	%	25%	75%	100%
χ^2=1.751 d.f = 1 p value = 0.186				

	Risk Estimate			
		Value	95% Confidence Interval	
			Lower	Upper
	Odds Ratio for Practice safe sex (Yes / No)	1.844	0.738	4.608
	For cohort Effect on HIV Prevalence = Negative	1.612	0.769	3.379
	For cohort Effect on HIV Prevalence = Positive	0.874	0.729	1.047

Multivariate Data Analysis

Binary multivariate logistic regression model was applied to determine the effect of education stage, access to HIV knowledge, form of employment, poverty/ unemployment, marital level, alcohol/ substance abuse, commercial sex practice and engagement in unprotected sex on HIV prevalence in Murang'a County as conceptualized in the conceptual framework was evaluated. Results of the goodness of fit as tested using Omnibus has a chi square of 21.205 and p value <0.05. This indicates that the model goodness of fit was complied with and at least one of the predictors had non-zero effect on HIV prevalence in Murang'a County.

Table 8: Omnibus Tests of Model Coefficients

	Chi-square	**df**	**Sig.**
Step	21.205	8	0.007
Block	21.205	8	0.007
Model	21.205	8	0.007

Results in Table 29 indicates the model explanatory power. Since Nagelkerke R square was 0.462 and Cox and Snell R square of 0.422 showed that 42.2% of changes in HIV prevalence is explained by education stage, access to HIV knowledge, form of employment, poverty/unemployment, marital level, alcohol/substance abuse, commercial sex practice and engagement in unprotected sex while the remaining proportion is associated with other aspects not inclusive in the model.

Table 9: Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
146.388	0.422	0.463

Classification Table 30 showed that predicts the likelihood of positive HIV prevalence has an overall percentage 78.7%. Hence, the model predicts accurately that an individual has HIV prevalence to the tune of 78.7%.

Table 10: Classification Table

		Predicted		
Observed		**Effect on HIV Prevalence**		**Percentage**
		Negative	**Positive**	**Correct**
Effect on HIV Prevalence	Negative	11	26	29.7
	Positive	6	107	94.7
Overall Percentage				78.7

Regression coefficients in Table 11 indicates that Alcohol/substance has positive effect on HIV prevalence in Murang'a county (exp (B) = 4.924). This indicates unit increase in alcohol or substance abuse increases HIV prevalence in Murang'a County by 3.924 units while holding other factors constant. Practicing commercial sex have positive effect on HIV prevalence in Murang'a county (county (exp (B) = 1.103). This indicates unit increase in commercial sex practices increases HIV prevalence in Murang'a County by 0.103 units while holding other factors constant. Engaging in unprotected sex have positive effect on HIV prevalence in Murang'a county (county (exp (B) = 1.025). This indicates unit increase in practicing unprotected sex increases HIV prevalence in Murang'a County by 0.025 units while holding other factors constant.

Table 10: Implications on HIV Determinants on HIV Prevalence

	B	S.E.	Wald	df	Sig.	Exp(B)
Substance abuse	1.594	0.711	5.025	1	0.025	4.924
Commercial sex	0.098	0.571	0.03	1	0.863	1.103
Unprotected sex	0.025	0.578	0.002	1	0.965	1.025
Constant	-0.087	2.22	0.002	1	0.969	0.916

Conclusion and Recommendations

Study finding have demonstrated that HIV prevalence in Murang'a is contingent to risky sex behavior. Consequently, there is need for mitigation strategies especially on HV knowledge, employment type, poverty or unemployment, substance or alcohol abuse, engagement in commercial and having unprotected sex since they increased the odds and relative HIV prevalence in Murang'a County amongst women. Improvement of these aspects to curb the spread of HIV would aid in curbing HIV spread and minimizing stigma associated with HIV. Further, there is need for development of positive behaviour change so as to aid HIV women in developing positive change and gaining positive towards HIV aids.

The management of health facilities ought to continuously engage women accessing HIVcare services in the public facilities. This will be possible through involvement of relevant stakeholders who are directly or indirectly involvement in mitigation of HIV transmission across different ages. At the health facilities health care providers should ensure that there is involvement of sexual partners of the women seeking HIV health care. Through involvement of the sexual partners, it would be easier to attract and retain those under ARV care and foster positive behaviour change more so those who have multiple sexual partners.

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