

Masculinity formulations of Sexuality influencing Viral Load Suppression among Adolescent Boys on ART in Siaya County of Western Kenya

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Abstract:

While masculinity formulations such as the need to be fearless and exhibit sexual prowess as been linked to poor health outcome among men, a dearth of literature however exist on whether the same is associated with non-suppression of VL among adolescent boys. This paper sought to investigate how formulations of sexuality influence viral load suppression among adolescent boys on ART in Siaya County, Kenya. This cross-sectional study collected data from 263 adolescent boys on ART and healthcare practitioners. The findings showed that adolescent boys who are sexually active engage in multiple sexual partnerships and do not fear engaging sexual activities with elderly women. Masculinity formulation of sexuality is found to have significant influence ($B=.009$; $p=0.004$) with viral load suppression in the area. The study concludes that engagement in multiple sexual partnerships is masculinity-related formulations that impede VL suppression. Sensitization for changing conceptions of sexuality should be directed at the boys.

Keywords: Adolescent Boys; Behaviour expectations; formulation of sexuality; Masculinity; Multiple sexual partners; Sexual Behaviour; Sexual prowess; VL Suppression

Introduction

Growing attention on men often converge with studies on male power and practices of masculinity, characterized by sexuality and sexual- and gender-based violence (see Connell, 2005; Gough, Milnes & Turner-Moore, 2021; Maclean, 2016). The concept of masculinity postulates that gender is socially constructed; whereby men are expected to adopt particular behavior that are culturally imposed rather than by biological attributes (John, et al 2017).

Main elements of the dominant mode of masculinity are heterosexuality and fearlessness or risk-taking: to wit, a real male is not a sissy; a man is defined by having sex with women; and a man is afraid of nothing (Shefer, 2007). However, despite adolescents constituting majority of the world population, little focus has been directed at understanding how masculinity formulation of sexuality affects adolescent boys across different contexts especially in the wake of HIV/AIDS pandemic.

This insight is critical given that adolescence is a phase involving physical development shifts from puberty to sexual and reproductive maturity, identity formation to identity development, and economic dependency to independence (Dara & Arora, 2023; Kågesten et al, 2021)

Extant literature on masculinities demonstrates that there are undeniable pressures on adolescent boys, in a wide variety of contexts, to be like other, older males (Amin, Kågesten, Adebayo & Chandra-Mouli, 2018; Bell, Rosenberger & Ott, 2015; Connell, 2005). While there is pressure on all males to conform to the prevailing dominant mode of masculinity, expectations of adolescent boys have traditionally tended to demand that they take all manner of risks including sexual risks, risks related to drug use, and engaging in sexual violence and other violent behaviours (Bhana & Chen, 2020; Klingemann, & Klingemann, 2023; Messerschmidt, 2017). Similarly, while enactment of masculinity has been highlighted as a set-back in men's HIV-care continuum (Brown, Sorrell & Raffaelli, 2005; Lindegger & Quayle, 2009; Wyrod, 2011), its influence on viral load suppression among adolescent boys on Ante-Retroviral Therapy (ART) has received limited attention.

Viral load suppression is a critical indicator of success in HIV treatment (UNAIDS, 2022). Suppression of viral load among patients on ART is noted on improved prognosis evident in reduced rate of disease occurrence and decreasing VL counts, progression and mortality (Waju, Dube, Ahmed & Assefa, 2021). A patient attains viral suppression when his or her viral load falls below the detectable threshold of <1,000 copies/mL of HIV (Waju et al, 2021). Unsuppressed VL, on the other and, pose the risk of increased vulnerability to opportunistic infections, HIV morbidity and mortality, thereby hampering achieving UNAIDS agenda of suppressing viral load to 95% among all HIV patients on ART by 2030 (Chowdhury et al, 2023; Cuadros et al, 2023; UNAIDS, 2022). Viral load suppression amongst adolescents is a serious concern for practitioners and policy makers since AIDS-related deaths of this population continue to rise globally, despite reduction being observed in other age groups (Cuadros et al, 2023; UNAIDS, 2023). The UNAIDS (2021) statistics demonstrate that mortality among adolescent rose from 18,000 deaths per annum in 2010 to 41,000 deaths in 2020, with adolescent boys constituting 69% of the deaths. Understanding causes to non-viral load suppression among adolescents especially boys will therefore be an essential step towards finding a solution to barriers to VL suppression amongst members of this cohort.

Drug resistance, non-adherence to ART, non-honoring of clinic appointments, and reduced access to medical services probably due to social, economic, and cultural problems, are some of the barriers listed by UNAIDS (2020) to VL suppression attainment. Similarly, age and gender of the patient as well as mode of delivery of ART drugs are also some of the social factors noted as compromising VL suppression, with males, aged 15 – 19, being at the highest risk (Tomescu et al, 2022). Significant attention has lately been directed at adolescents with regards to VL suppression due to the fact that globally, approximately 150 of this population die daily due to AIDS-related ailments (Bulage et al, 2017; Oryokot et al, 2020). According to Mushy et al (2024), the transitional phase of development from puberty to legal adulthood among adolescents is accompanied by different risks associated with behavioural changes capable of interrupting ART adherence and delaying the

achievement of the “Third 95” target. However, whereas conformity to masculinity has been associated with negative health outcomes among adult men (Etienne, 2018; McGraw, White & Russell-Bennett, 2021; Olanrewaju et al, 2019; Wong, Ho, Wang & Miller, 2017), dearth of information exist regarding how sexuality formulation based on masculinities also influence VL suppression among adolescent boys. This information is vital for tailored response in HIV high prevalence areas such as Siaya County in Western Kenya.

A large volume of literature on adolescents demonstrates that boys and girls are often socialised to endorse certain sexual behaviour so as to conform to social and cultural expectations. For instance, boys are expected to prove their toughness and sexual prowess by seducing as many girls as possible at the on-set of puberty, besides shunning emotions associated with femininity (Blum, Mmari & Moreau, 2017). Adolescent boys residing in slum settings often engage in premarital sex at earlier ages than those living in formal settlements (Maina, Nyakangi, Mbutia & Bangha, 2020). In the Luo community context where the current research was done, Ocholla-Ayayo (1976) documents that boys were culturally socialised to be brave (*Thuon*), and not to be fond of telling people about whatever situations that they were going through: boys were expected to be able to solve their challenges without seeking for help from anywhere. In Siaya County, the location of the current research, *disco matanga* (Disco music at funerals) is a common practice where youths get involved in multiple sexual intercourse in the grass under the influence of chang'aa (local brew) and bhang (cannabis sativa) (Blommaert, 2014). In one of the sub counties forming Siaya County, Ombere, Nyambedha and Bukachi (2018) revealed in a study that adolescent boys and young men have the habit of performing hurried sexual intercourse in the grass without protection along the beaches of Bondo Division. These studies provide evidence that adolescent boys in Kenya have been socialised to adopt particular sexual behaviour by the society. However, the aforementioned studies have not highlighted how enactment (or non-enactment) of masculinity has influenced sexuality and, consequently, viral load suppression among adolescent boys.

In a region that is witnessing higher HIV-related deaths among adolescent boys on ART, probably due non-viral load suppression, such as Siaya County in Kenya, understanding the role played by adoption of particular sexual behaviour desired or articulated by existing traditional culture remains critical. The Kenya Population-based HIV impact Assessment (KENAPHIA, 2022), the body responsible for monitoring HIV and AIDS-related cases including VL status among patients, Siaya County was one of the areas with the very high HIV prevalence in the country at 15.3% by end of 2022. This is substantially higher than the national estimate of 4.9% (Awuoche et al, 2024). The statistics (KENAPHIA, 2022) further shows that the gender differences between youths who succumb to HIV and AIDS complications despite being on ART is higher in Siaya in favour of females as compared to other counties with reported high HIV and AIDS prevalence. The report additionally highlights that as at December 2020, under 14 – 19 HIV positive cases were 1641 (Females=846; Males=795) and 248 HIV related deaths. This article aims at providing additional insights on unique factors which hinder the achievement of the global goals in the HIV treatment continuum especially among key populations such as adolescent boys.

Methods and Materials

Research Design

The study used cross-sectional survey design with mixed-methods involving collection and analyses of both quantitative and qualitative data. This design enabled the researchers to use quantitative approach to measure particular aspects of the phenomenon under study and qualitative methods for others, as proposed by Dawadi, Shrestha and Giri (2021). This, according to Shorten and Smith (2017), has the advantage of providing complementarity in data collection, analysis and interpretation (Shorten & Smith, 2017).

Study Setting

The study was done in Siaya County, located in the Lake region of Kenya. The study was carried out in six Sub-County health facilities: Ambira, Bondo, Yala, Madiany, Ukwala, Got-Agulu, and Siaya County. This area is dominated by the Luo ethnic community with cultural practices that are widely regarded as health-undermining especially in the wake of HIV and AIDS pandemic such as wife inheritance and disco Matanga (night music parties in funerals) (Oluoch & Wesonga, 2013; Perry et al, 2014). The culture guiding sleeping arrangements as practiced by the community, where adolescents are socialised to sleep at a house separate from their parents, either within or outside the immediate family homestead, has also been described as predisposing the adolescents to HIV and AIDS (Kayongo-Male & Onyango, 1984; Juma et al, 2013). The culture also socialises the adolescent boys

Table 1: Distribution of Sample Size

Sub County	Population	Sample Size	Percent
Alego -Usonga	118	40	15
Bondo	188	63	23.8
Gem	92	31	11.7
Rarieda	227	76	28.7
Ugenya	92	31	11.7
Ugunja	78	27	10.1
Total	795	265	100

Instrumentation, Validity and Reliability

Structured questionnaire was used to collect data from the sampled adolescent boys. The questionnaire consisted of both closed ended and open ended questionnaire to enable collection of both qualitative and quantitative data. Questionnaire method was chosen because it enabled the researcher to gather rue amount of data within a short duration of time. Similarly, in-depth interviews and Focused Group Discussions (FGDs) guide were also used to obtain qualitative information from randomly selected adolescent boys. In addition, interview schedule as well as FGD guide was also used for gathering information from care-givers, being comprehensive care-in charge (CCC) and Public Benefit Organizations (PBO) officials, as well as government officials in charge of HIV and AIDS treatment in the County: the County AIDS/HIV and STI Coordinator (CASCO), Sub County AIDS Coordinators (SCACOs)

This study used content validity index (CVI) to enhance the validity of the study instruments. In this regard, ratings of four experts based on item relevance were used to measure constructs of the study variables (Dawadi et al, 2021). The ratings adopted a 4-point ordinal scale of 1 – 4 for not relevant to highly relevant

to be tough, strong, and not to fear challenging situations such as venturing unknown places even at night (Ocholla-Ayayo, 1976).

Study population and sampling strategy

Target population comprised of 795 adolescent boys with high viral load aged 14 – 19 years, alongside seven comprehensive care-in-charge (CCC), the County AIDS/HIV and STI Coordinator (CASCO), 6 Sub County AIDS Coordinators (SCACOs), and fourteen Public Benefit Organizations (PBO) officials. To obtain the sample size of adolescent boys, this study adopted Yamane's (1967) formula as:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = the sample size,

N = the population size, and

e is the level of precision (0.05).

The calculated sample size for adolescent boys with high viral load on ART was 265. Using stratified proportional technique, the adolescent boys were distributed in each of the six sub-counties based on each administrative unit's population (of the adolescent boys under ART) as illustrated in Table 1. Similarly, the study purposively selected healthcare practitioners and government officials for interviews and Focus Group Discussions until saturation was attained.

using the formula of Item Content Validity Index (I-CVI) stipulated by Davis (1992):

$$I-CVI = (\text{agreed item}) / (\text{number of expert})$$

The calculated rating of the four experts generated a CVI of 0.88. This was considered to be highly relevant by the researchers.

On the other hand, the study used data collected from a pilot study involving randomly selected 79 adolescent boys on ART who were thereafter excluded from the main study to check reliability of the study instrument. With the aid of Statistical Package for the Social Sciences (SPSS) version 21 tool, Split-half method was used to calculate correlation coefficients of 0.83 and 0.84 for stigma in HIV status disclosure and multiple sexual partners respectively. The instrument was therefore considered as reliable in collecting the required data since the reliability coefficient surpassed the threshold of 0.70 (Nunnally, 1978).

Data Analysis and Presentation

Data obtained using questionnaire was analyzed via descriptive and inferential statistics with the aid of SPSS version 25. Descriptive statistics enabled generation of frequencies and percentages which was essential for interpretation of quantitative results. On the other hand, Pearson correlation was used to analyse the relationships

between HIV status disclosure, multiple sexual partners, and VL suppression. Similarly, thematic analysis was used to analyze qualitative data obtained from open ended questions in the questionnaire, interviews and Focus Group Discussions.

Ethical Considerations

For ethical considerations, the researchers obtained clearance to conduct the field study from Maseno University Scientific and Ethics Review Committee (MUSERC) and the National Commission for Science, Technology and Innovation (NACOSTI). An assent form was designed and signed by the adolescent boys who were under 18 years old while their parent/guardian signed

consent forms. For purposes of confidentiality, participants were asked not to exclude their identities from the research instruments.

Results

Socio-demographic Characteristics of the respondents

The researchers were able to process 263 completely filled in out of expected 265 questionnaires from the sampled adolescent boys. Out of this, 23.1% of the boys were 14 years old; 18.9% were 15 years old; 18.6% were 16 years old, and 14.4% were 17 years old. The remaining 25% were aged between 18 and 19 years old. Table 1 presents the demographic information of the sampled adolescent boys.

Table 1: Demographic Information of Respondents

Demographic Characteristics	Frequency	Percent	
Age	14 - 15	111	42.2
	16 - 17	87	33
	18 - 19	65	14.7
	Total	263	100
Mode of HIV Infection	Perinatally Infected Adolescent	227	86.3
	Behaviourally Infected Adolescent	11	4.2
	Don't Know	25	9.5
	Total	263	100
How long on ART	For the last 3 months	1	0.4
	Last 1 year	32	12.2
	More than 1 year	230	87.5
	Total	263	100
Parents present	Both parents	122	46.4
	One parent (mother)	69	26.2
	One parent (father)	24	9.1
	Total orphan	48	18.3
	Total	263	100
Whom do you live with	Both parents	112	42.6
	One parent (Mother)	70	26.6
	One parent (Father)	17	6.5
	Grand Mother	40	15.2
	Others	24	9.1
	Total	324	100.0

Results presented in Table 4.1 illustrate that of the boys who participated in the study, most

Similarly, results on the socio-demographic information also illustrate that 86.3% of the adolescent boys were perinatally infected, while 4.2% were behaviourally infected. The remaining 9.5% of them did not know how they were infected with HIV. It is also indicated that majority of the adolescent boys (87.5%) have been on ART for more than one year, whereas 12.5% of them have been on treatment for one year and below. Findings further showed that majority 53.6% (n=141) of the sampled adolescent boys have lost either one parent or both parents. Of these, 26.2% (n=69) have lost their fathers and are remaining with mothers only while 18.3%

(n=48) have lost both parents. The Table additionally shows that majority (57.4%; n=151) of the adolescent boys do not live with both parents, having lost either the mother or the father. Among them, 26.6% (n=70) live with their mothers while 15.2% (n=40) live with their grandmothers.

Masculinity Formulations

To establish the masculinity formulations ratified by the primary respondents, the study enquired from the sampled adolescent boys whether they have ever been called upon to behave in certain ways to be viewed as real men in the society. Table 2 summarizes the computed results.

Table 2: Behaviour expectation

Behaviour Expectation	N	Yes (%)	No (%)	Mean
Being told to be tough	263	208 (79.1)	55 (20.9)	1.21
Being told to be fearless	263	206 (78.3)	57 (21.7)	1.22
Being told to avoid expressing pain or emotions	263	154 (58.6)	109 (41.4)	1.41
Being told to be others (e.g. rough, strong, etc.)	263	61 (23.2)	202 (76.8)	1.77

Table 2 illustrates that being tough as well as fearless are behaviour that the young males are often being encouraged to adopt. Similarly, the boys are also being encouraged to avoid expressing pain or emotions.

Additional enquiry by means of the open-ended questionnaire revealed that those with whom the adolescent boys closely interact with almost on a daily basis formed the bulk of them including:

My grandmother, my mother, my uncle, my father, my care-giver, and the person delivering ARVs to me

The family, especially parents, is responsible for conveying masculine messages to the adolescent boys. Moreover, the role of women in inculcating masculinity values among children and young adolescents was also highlighted in an FGD done with selected boys, where a 15-year-old boy said:

It is my mother who informed me of my status. She told me that I was born with the disease and that if I continue taking these drugs without skipping, I will soon heal. My mother and grandmother often encourage me to be fearless and remain strong as a man. My mother has been telling me that men should be tough and fearless. In most cases, my mother reminds me

Table 3: Masculinity influences on sexual Behaviour

Masculinity influences on sexual behaviour	N	Yes	N/A	No	M	SD
Multiple Sexual Partners Behaviour						
I always restrict myself to one sexual partner since my ART initiation	73	27	8	38	2.97	.978
I know of reactive adolescent boys on ART who have multiple sexual partners	73	16	5	51	2.05	1.26
I always easily get a new sexual partner in replacement of a departing one since my ART initiation	73	18	15	38	2.81	.937
I often use a condom for protection during sexual intercourse	73	37	7	29	3.11	.965
Overall Mean & Standard Deviation	N=73			M=2.72	SD=0.996	

Table 3 illustrates that the sampled adolescent boys disagree that they always restrict themselves to one sexual partner since their initiation to ART (F=38; 52.1%), and that they do not know of reactive adolescent boys on ART who have multiple sexual partners (F=51; 69.9%). the respondents also indicated that do not always easily get a new sexual partner in replacement of a departing one since my ART initiation (F=38; 52.1), while 29

Table 4: Cross-tabulation of Age and Multiple Sexual Partners

Age	Count	Multiple Sexual partners			Total
		Yes	No	N/A	
14 Years	Count	2	7	52	61
	% Having multiple sexual partners	0.8%	2.7%	19.8%	23.2%
15 Years	Count	2	7	41	50
	% Having multiple sexual partners	0.8%	2.7%	15.6%	19.0%
16 Years	Count	9	6	34	49
	% Having multiple sexual partners	3.4%	2.3%	12.9%	18.6%
17 Years	Count	9	1	28	38
	% Having multiple sexual partners	3.5%	0.4%	10.6%	14.4%
18 Years	Count	8	5	15	28
	% Having multiple sexual partners	3.1%	1.9%	5.7%	10.6%

of the time required for taking up the drugs and when to honour medical appointment at the facility (15-year-old boy FGD discussant).

These findings demonstrate critical features of masculinity formulations in the light of expression of emotions and deep feelings towards a pertinent issue in the family, being that there is a sick child (HIV positive boy) in need of critical help and the person who takes the responsibility to seek for healthcare. The study thereafter proceeded to explore masculinity formulation of sexuality relates wit viral load suppression amongst the adolescent boys.

Masculinity and Sexuality

The study further analysed how masculinity formulation of sexuality influence VL suppression. This was achieved by requesting the sampled adolescent boys to state the extent of their agreement with how their sexual behaviour has been influenced by particular masculinity conceptions presented by the researcher. Table 3 presents the findings on masculinity influences on sexual behaviour.

(39.7%) of the boys indicated that they do not often use a condom for protection during sexual intercourse. This finding demonstrates that while a number of these boys are involved in multiple partnerships, many of them do not use condoms during sexual intercourse. A cross tabulation was therefore conducted between ages of the respondents and sexual partnership behaviour. Table 4 presents the results.

19	Count	11	10	16	37
Years	% Having multiple sexual partners	4.2%	3.8%	6.1%	14.1%
Total	Count	41	32	190	263
	% within Age	15.6%	12.2%	72.2%	100.0%

It is highlighted in Table 4 that as the ages of the boys increase, engagement in multiple sexual behaviour increases too. This observation also arose during IDIs with part of the adolescent boys under the study. Most of the boys agreed that in their incessant evening searches for girls, the boys continue to conquer one girl after the other with the belief that the next “catch” is better than the previous one. This is a statement obtained from a 17 years old boy in one of the IDIs:

Most adolescents who are sexually active have multiple sexual partners. Others, however, do not have. You find that a person meets a girl today, after a few days, he finds yet another one who he feels is better than the first one and the behavior develops like that. They do not stay indoors when evening approaches; they are looking for girls, while it is mostly not easy to get the girls. This is because girls are often placed under intense restriction by guardians and parents (17year old IDI participant).

Peer pressure and prescribed societal norms which do not inhibit excesses in sexuality of males appear to be extended to adolescent boys in this area..

In some of the FGDs held with the adolescent boys, it emerged that the “roaming” boys sometimes come across “sugar mummies”, elderly women who are still stuck with youth-like sexual desires. These elderly women entice the boys with various gifts to make them (the boys) to remain “theirs” sexually. Depicting this was a statement made by an 18-year old boy as:

Sugar mummies often look for young boys like us to meet certain sexual objectives which do not usually seem to be in good faith. You know, these women have money: real money. As a young man you find that sometimes there is nothing at home and you need a good cloth for Christmas, you end up getting caught up

in these relationships risking your life just for money. However, our parents perceive them as sluts. An old woman who does not respect herself and does not have good morals is a prostitute (18 year old FGD participant)

The predators, whom the society including their parents have allowed to roam the vicinities and conquer as many sexual preys as possible, seem to become the preys themselves based on the statement made by the 18-year old boy in the preceding paragraph. During KII with some of the clinical partners and PBO officers, it also emerged that a lot of efforts made by people close to the adolescents, such as teachers, parents, and caregivers, with regard to healthy behavior have been skewed towards girls more than boys. One female PBO officer put this narrative into the following perspective:

Girls are seen as vulnerable and in need of protection. Therefore, concerns regarding safety of female sexuality and “reputational” risks compel most parents to tightly control their daughters’ behaviour and freedom of movement (a female PBO interviewee).

The safety of the boys’ sexuality appears to be overlooked, based on the statement attributed by the female PBO officer.

Relationship between Masculinity Formulation of Sexuality and Viral Load Suppression

The researcher used stepwise multiple regression analysis to ascertain the type and direction of the relationship between masculinity formulation of sexuality variables and VL suppression among the adolescent boys in the sample. In order to determine how effectively the model ($Y = \beta_0 + \beta_1 X_1 + \epsilon$) could predict the influence of masculinity formulation of sexuality variables on VL suppression among the adolescent boys, an analysis of variance (ANOVA) was first computed. Table 5 presents the ANOVA.

Table 5: The Analysis of Variance Result

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.983	1	27.983	96.493	0.000 ^b
	Residual	74.982	259	0.290		
	Total	102.965	260			

a. Dependent Variable: VL suppression levels

b. Predictors: (Constant); Masculinity Formulations of Sexuality

Table 5 illustrates that masculinity formulation of sexuality variables under study are significant predictors of VL suppression among the sampled adolescent boys on ART { $F_{(1, 260)} = 96.493$,

$P < 0.05$ }. The significance value of F in this case is 0.000, which is less than 0.05 ($P < 0.05$). The importance of masculinity formulation of sexuality variables in predicting VL suppression is presented in Table 6.

Table 6: Beta Coefficients for masculinity formulation of sexuality and VL Suppression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.170	.286		11.075	.000
	Masculinity formulations of sexuality behaviour	.009	.055	.009	.159	.004

a. Dependent Variable: VL suppression

Table 6 shows the actual impact of the independent variable's coefficients (masculinity formulations of sexuality) on the dependent variable (VL suppression) among the sampled teenage boys. The unstandardized beta for masculinity conception of sexual behaviour is .009, with a p value of .004. This implies that masculinity formulations of sexuality cause .009 unit changes in VL suppression among the adolescent boys. The changes are significant ($p=0.004$) implying that the changes caused by masculinity formulations of sexuality have important influence on VL suppression among the boys.

The regression equation $Y = \beta_0 + \beta_1 X_1 + \varepsilon$, with the constant (β_0) being 3.170, the coefficient can be plugged into the formula to predict VL suppression among the sampled adolescent boys on ART as:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon,$$

$$Y = 3.170 + (.009) X_1 + \varepsilon$$

Discussion

This implies that over 60% of the boys who were sampled for this study were of between 14 and 16 years of age. Similarly, 79.5% of the boys were in day schools while 53.8% had lost either one parent or both, meaning that they are orphans in one way or the other. Socio-demographic results further shows that majority of the boys were infected through their parents. This finding implies that during the period when these boys were being born (around 2010), there was a high prevalence of HIV infection among females especially child-bearing women.

Majority of the adolescent boys are also found to have been on ART for more than one year. This suggests that there is high prevalence of viral non-suppression among adolescent boys in the study area. This is because a patient initiated to ART should attain viral suppression within six months after initiation (Oryokot et al, 2020). Indeed, similar findings have been obtained in an earlier study done in Kenya by Mburu (2020) which revealed that early adolescence is associated with ART non-adherence.

Socio-demographic information of the respondents additionally showed that majority of the boys has lost either a parent or both. This illustrates high prevalence of orphaned adolescents in the study area. Previous studies (Adino, 2016; Ayielo, 2003; Muga & Onyango-Ouma, 2009; Nyambedha, Wandibba & Aagaard-Hansen, 2003; Olang'o, Nyamongo & Nyambedha, 2012) done in Siaya County have also highlighted very high prevalence of orphanhood among children due to HIV-related deaths. Understanding the living situation of these orphaned teenagers especially adolescent boys and other related social factors that predispose them to non-suppression of their VL was one of the goals of this study.

Masculinity Formulations

These findings highlight the fact that the adolescent boys are urged to enact particular behaviour which is acceptable norms in the society. For the Luo community, Ocholla-Ayayo (1976) documents that adolescent boys were traditionally encouraged to be *Jachir* (courageous) and *Thuon* (brave), as characteristics of a 'true man'. Findings presented in Table 4.4 therefore confirm that the adolescent boys in the study area are being socialised to abide by the customs and culture of the Luo community associated with masculinity.

The family, especially parents, is responsible for conveying masculine messages to the adolescent boys. These include parents, guardians, or caregivers who are interacting with the boys almost

daily. Family and kinship have been noted as vital institutions through which culture and traditional practices of the Luo community are implanted into children and young people under a system of *duol* for boys and *siwindhe* for girls (Nyambedha & Aagaard-Hansen, 2007). Ocholla-Ayayo (1976), on his part, avers that the Luo ideology of education confers most tasks related to education concerning customs and traditions on women and grandmothers since they (the Luo women) were considered to be politer than their menfolk (p. 62). Previous studies such as Mesman and Groeneveld (2018) in the Netherlands highlight that parental behaviour changes towards a baby as soon as their sex is known and as the child grows, they grip refined and explicit messages regarding roles, duties, expectations to fulfill and how to behave in the society. Blum et al (2017) also found that parents are the ones responsible for policing the messages about how a boy should behave in a study done across 15 countries in Africa. The findings in the current study, also shows that parents and guardians remain a continuing messaging avenues for adolescent boys under ART. In such messaging, masculinity values are endorsed.

Influence of Masculinity Formulations of sexuality

The sampled adolescent boys disagreed that they always restrict themselves to one sexual partner since their initiation to ART ($F=38$; 52.1%) (see Table 3). This finding illustrate that the boys under study are endorsing some health risk behaviour by engaging in multiple sexual partnership without letting their partners to know of their (the boys) HIV status, under the belief that they are under the protection of condoms during sexual activities. The adolescents who participated in the study are endorsing masculinity constructions of sexual prowess by engaging in multiple sexual partners. On the other hand, by having multiple sexual partners, adolescent boys who are sexually active in this study are fulfilling the masculinity traits of being able to conquer and maintain as many women as possible.

The study further reveals that at 14-15 years of age, as few as 0.8% of the boys engage in multiple sexual behaviours. But this rises at age 16, and peaks at age 17, where nearly all the boys in this category are reported to be engaging in multiple sexual behaviours. It appears that the adolescent boys at age 17 are able to initiate the act of sexual intercourse than their 14-year-old counterparts, as espoused by Pulerwitz et al (2010). As was emphasized in an earlier ethnographic study in western Kenya by Blommaert (2014), Pulerwitz and colleagues argue that adolescents at such age groups (17 years old) practice such norms including early sexual activity initiation, several sexual partners, and falsely portraying oneself as educated about sexual problems and disease prevention.

The adolescent boys in this study are ever outdoors in search of females to prove their sexual prowess as a sign of being 'real men'. On the other hand, the girls are not easy to get since the societal norms demand sexual propriety on their (girls) side hence those who go against the local norms are shamed and severely sanctioned. These findings coincide with the hegemonic myth described in Blum et al (2017) in a study done among 15 countries, including Kenya that girls are weak and boys are robust and self-sufficient, and that parents will prioritize protecting their daughters even if they are aware of their sons' shortcomings. In fact, Blum and colleagues succinctly narrate in their study findings that "around the world pubertal boys are viewed as predators and girls as potential targets and victims". These themes were also highlighted a study in South Africa by Khuzwayo et al (2020) that

the rise in negative, risky, and unhealthy behaviour such as teenage pregnancy, multiple partners, sexual coercion, and sexually transmitted infections are closely attributed to masculinity traits endorsed by the adolescent boys. It can therefore be inferred that the habit of predating on girls for attainment of multiple sexual partners even while on ART could be one of the factors which have contributed to delay in achievement of VL suppression among the boys under study

It has also been revealed that while the adolescent boys have been freed to “catch” as many sexual partners as possible so as to fulfill masculinity traits, they also fall prey to elderly women. In such situations, it becomes difficult for the adolescent boys to negotiate for safer sexual intercourse with such elderly women, while they are also expected to be ‘fearless’ as ‘real men’. This in turn exposes the boys to further health risks. In this scenario, the boys are often faced with multiple jeopardies via intersections of being HIV positive, endorsement of masculine identities of being fearless as a real man, and risky sexual behaviors such as engaging in sexual intercourse with elderly women as described by Khumalo et al (2021). The culture of the Luo people, adolescent boys were called upon to be strong and tough and to shun any behavior associated with females (Ocholla-Ayayo, 1976). Providing protection to adolescent boys likewise to their female counterparts would therefore contravene the requirements of masculinity trajectories expected of male youths in the society.

Conclusion

The study concludes that due to their young age, majority of the study participants do not actively engage in sex. This study additionally concludes that older adolescents form the majority of those who are sexually active. It is however concluded that nearly all the study participants who are sexually active have multiple sexual partners. Equally, a number of these boys also seldom use condoms during sexual intercourse. In this vein, it is concluded that study participants endorse masculinity traits of proving their sexual prowess.

Recommendation

This study recommends that robust sensitization on risky sexual behaviour related to masculinity formulations of sexuality should be conducted with the boys at age 14-15, given that this is the period when significant social constructions including sexuality are absorbed. This study has additionally revealed that the study participants who are sexually active have multiple sexual partners, endorsing masculinity trait of sexual prowess. Adequate education should therefore be done on the need to restrict one’s self to one sexual partner as a measure to minimise the spread of HIV and to control incidences of viral non-suppression among the adolescent boys.

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