

Original Research Article

Be tough: masculine identities and viral load suppression among adolescent boys on antiretroviral therapy in Siaya County, Kenya

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ABSTRACT

Background: Viral load suppression among adolescent boys is critical in the fight against HIV and AIDS globally. Contrary to the reduction noted in other age groups, mortality among adolescents aged 14-19 related to AIDS has continued to rise worldwide. This age group recorded 41,000 deaths in 2020 up from 18,000 in 2010, with boys constituting 69%. In Siaya County, 68% of AIDS-related deaths occurring among 14-19 adolescents in 2020 were boys. Although men's poor health outcomes have been linked to masculinities, a paucity of literature exists on how this extends to adolescent boys. This paper sought to investigate how endorsement of masculine identities has influenced VL suppression among adolescent boys on ART in Siaya County of Kenya.

Methods: This cross-sectional study used questionnaire to collect data from 263 adolescent boys on ART. Six focus group discussions were held with the boys and another six with PBO officials, while six in-depth interviews and five key informant interviews were respectively held with selected adolescent boys and healthcare practitioners and government officers.

Results: Endorsement of masculine identities were found to have a negative influence ($B=-0.323$; $p=0.000$) on VL suppression, significantly contributing to an estimated 24.8%-unit changes ($R^2=0.248$, $p=0.000$).

Conclusions: Socialization to be tough, fearless and aggressive as well as to shun expressing emotions has led to poor attendance of medical appointments and uptake of ART among the adolescent boys, hence negatively affecting VL suppression. Targeted interventions should aim at addressing such barriers among the adolescent boys.

Keywords: Adolescent boys, Ante-retroviral therapy, HIV and AIDS, Masculine identities, Viral load suppression

INTRODUCTION

Despite the fact that there exist indications showing gender differences in viral load suppression and mortality due to HIV infection among adolescents, little evidence has been adduced to relate low viral suppression and high mortality among adolescent boys on ante-viral drugs to socio-cultural factors that influence masculinity and sexual behavior. For instance, in the Sub-Saharan Africa, there were 46% fewer deaths due to AIDS-related illness among adolescent girls in 2019 than in 2010, compared to 32% fewer deaths among adolescent boys over the same

period.¹ This is an indication of a worse mortality risk for adolescent boys than for girls. Adolescents and young adults have gained remarkable attention in the fight against AIDS because of their rising HIV-associated mortality despite the introduction of highly active antiretroviral therapy (HAART).² Globally, approximately 39 million people were living with HIV in 2022, out of which 1.7 million or 4.4 percent, were adolescents aged 10-19 years.^{3,4} This is an indication that HIV remains the most serious public health challenge among the adolescents despite decades of interventions which show decline in HIV prevalence among other population sub-groups.³⁻⁵ Recent statistics show a

tremendous decline of HIV-related deaths by 51%, up from 1.3 million in 2010 to 630 000 in 2022.⁴ However, the current high HIV prevalence rates among adolescent boys pose significant threats to the achievement of the UNAIDS ambitious targets of 95-95-95 goals of which global commitment was emphasized to ensure that 95% HIV testing, 95% of those tested positive placed on Anti-Retroviral Therapy (ART) and 95% of those on ART attain Viral Load (VL) suppression.^{6,7}

The UNAIDS states that within a span of six months of ART administration, viral load in a patient will be significantly suppressed.⁸ VL suppression among patients on ART is noted on improved prognosis evident in reduced rate of disease occurrence and decreasing VL counts, progression and mortality.⁹ For adolescents living with HIV, effective adherence to ART can help them to attain viral suppression, improve their health and prolong their lives.¹⁰ However, in different contexts especially in Sub Saharan Africa (SSA), older adolescent boys may have poorer ART adherence and viral suppression than their female counterparts in countries such as South Africa.¹¹ Another study in Tanzania has associated virologic failure among adolescents aged 15-18 years to poor adherence and inappropriate use of drugs.¹² A related study found higher risks of mortality being associated with male gender, divorce and being anaemic among other factors.¹³ While some studies have specifically linked masculine identities among general male population to poor health behavior, less consideration has been given to adolescent boys who have already been initiated into ART.^{14,15} This insight is critical since gender socialization often takes place at adolescent stage hence understanding how masculinity conceptions correlate with viral load suppression of this population is important.

Masculinity as a concept denotes a socio-culturally constructed gender identity whose form varies across cultures and spaces and is defined by social, economic, religious and geographic contexts in time and space.¹⁶ Africa region is perhaps one of the contexts where masculinities have been endorsed with some unmatched zeal.^{12,17} For instance, patriarchal constructed masculinity has given way to hegemonic dominance, aggression, oppression and violent acts that foster bullying among adolescent males in places such as Nigeria.¹⁶ In various instances, personal, social and structural factors have been identified as important in encouraging young people towards one gender norm or another as they age.¹⁸

Whereas men in Kenya have been discursively constructed in different ways reflecting multiple masculine identities in tandem with a postmodern view of gender, how adolescent boys are socialized to endorse these identities and perhaps the influence on their health outcomes has not been well documented.¹⁹ However, some studies done in the contexts of the Luo community where the current research was conducted have highlighted a number of behaviour among adolescent

boys which predispose them to HIV and AIDS. For instance, in Siaya county, 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).²⁰ Ombere, Nyambedha and Bukachi further reports that in the beaches of Bondo in the same County, hurriedly performed sexual intercourse in the green lodging (sex in the bushes) by young men without protection is highly encouraged, yet this forms risky sexual behaviour because no condoms or other HIV preventive measures are taken.²¹

According to Ocholla-Ayayo et al, Luo et al male children are called Thuon, a title given to a brave fighter whose battle field performance is often exemplary, to develop such instincts and courage in them.²² Thuon or Nyathi-Majachir is male child who is brave, does not fear darkness and is able to confront hostile situations.²² While these studies provide evidence that social behaviour of adolescent boys in this study area has the potential of escalating HIV and AIDS pandemic, understanding how endorsement of masculine identities by this population influence VL suppression has not been exhaustively discussed in past studies.

Recent statistics from the Kenyan National AIDS Control Program (NASCOP) show that more adolescent boys (150) as compared to females of their age group (100) succumbed to AIDS related fatalities over the years despite such adolescents being on ART.²³ Thus, whereas masculinities have been associated with poor health outcomes among adult men in existing literature, little effort has been made to explore whether adolescent boys in areas such as Siaya County of Kenya have endorsed masculine identities and the extent to which such endorsement has influenced VL suppression among them.¹² The relationship between endorsement of masculine identities and VL suppression among adolescent boys in the study is best analysed through the lens of intersectionality theory advanced by Kimberlé Williams Crenshaw.²⁴ In the context of the study area, while Ocholla-Ayayo asserts that the adolescent boys are socialised to endorse gender norms of being tough, fearless (Thuon) and display less emotions so as not to be seen as females, Ombere, Nyambedha and Bukachi report that wimbo (continuous migration) and sex in exchange of fish remains a widespread behavior among young men in the beaches of Siaya County.^{22,25} The present paper uses the theory of intersectionality to explain how endorsement of masculinity influences viral load suppression among adolescent boys who are on ART in a high HIV prevalence community in Western Kenya.

METHODS

Research design

This study used descriptive cross-sectional design with mixed-methods, utilizing both quantitative and qualitative

methods of data collection and analysis.²⁶ This design enabled the researchers to use quantitative approach to measure some aspects of the phenomenon under study and qualitative methods to provide additional insights into issues explored through quantitative data collection.²⁷ The advantage of this design is that it provides for complementarity in data collection, analysis and interpretation.²⁸

Study setting

This study was carried out in Siaya County in western Kenya. Siaya County is predominantly occupied by the Luos who practice patriarchal kinship system where superiority of the male child and masculine behaviour is valued.²² Siaya has the second longest landing beaches of fishing line on the shores of Lake Victoria, after Homa Bay County. The fishing community has been associated with HIV/AIDS.²¹ Sex in exchange of fish is rampant among these beaches.²⁵

Data was collected across six purposively selected sub counties comprising of Gem, Bondo, Alego-Usonga, Ugunja, Rarieda and Ugenya. The choice of the study area was based on the high HIV prevalence. Between 2015 and 2019, Siaya County recorded the highest HIV prevalence in Kenya, standing at 15.3% by end of 2020, 4 times higher than the national prevalence rate of 4%.²⁶

Study population and sampling strategy

The study population included 795 adolescent boys identified with high viral load aged 14-19 years as contained in NASCOP records as at December 2022, alongside six comprehensive care-in charge (CCC) responsible for providing HIV care to patients in each sub county, the County AIDS/HIV and STI Coordinator (CASCO), 6 Sub County AIDS Coordinators (SCACOs) and fourteen Public Benefit Organizations (PBO) officials.²³

This study adopted Yamane's (1967) formula to calculate the sample size of adolescent boys with high viral load on ART as shown below:

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.

Instrumentation, validity and reliability

Out of 265 semi-structured questionnaires which were administered, 263 were accepted as validly filled up by

the researchers. Six In-Depth Interviews (IDIs) were done with the adolescent boys and 12 Key Informant Interviews (KIIs) done with government officials.

Construct and content validity index (CVI) were employed to ensure validity of the study instruments. For purposes of ensuring construct validity, we took care through operationalization of the research variables while for content validity index (CVI) where four experts from the University were asked to rate each question item in terms of its relevance to the underlying constructs using a 4-point ordinal scale: 1=not relevant; 2=somewhat relevant; 3=quite relevant; 4=highly relevant. We adopted the formula stipulated by Davis.²⁹

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

This yielded a CVI of 0.88, which is a high rating in terms of instrument relevance to research phenomenon. On the other hand, reliability was checked through split-half method using data collected during pilot study from 79 adolescent boys on ART who were thereafter excluded from the main study. With the aid of SPSS version 22, the computed correlation coefficient was 0.86, signifying that the instrument was of high reliability.

Data analysis and presentation

Data obtained using questionnaire was analysed via descriptive and inferential statistics with the aid of SPSS version 21. Descriptive statistics enabled generation of frequencies and percentages which was essential for interpretation of quantitative results. On the other hand, inferential statistics generated data which helped in explaining the relationship demonstrated in the model:

$$Y = \beta_0 + \beta_1 X_1 + e$$

Similarly, thematic analysis was used to analyse qualitative data obtained from open ended questions in the questionnaire, interviews and Focus Group Discussions.

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 in the presence of their parent/guardian.

RESULTS

Socio-demographic characteristics of the study population

The results showed that 23.2% of the sampled boys were 14 years old, while 19% were 15 and 18.6% being 16

years of age. This suggests that majority (60.8%) of the boys under the current study were minors who were 16 years old and below. Similarly, part of the results showed that majority of the adolescent boys (53.6%) had lost at least one parent or were total orphans and were living with grandparents as well as other relatives including aunts, uncles and sisters/brothers among others.

Masculine identities

This study endeavored to find out from the sampled adolescent boys the nature of masculinity messages they have been receiving and the sources of such messages (Table 1). Table 1 illustrates that in a number of occasions, majority of the boys were being told to be tough (79.1%), be fearless (78.3%), avoid expressing pain or emotions (58.6%), be self-reliant (72.2%) and to be aggressive and an achiever in life (71.1%). Cross tabulation analysis revealed that 208 youths have been socialized to be tough (14 years olds=24%, 15 years olds=19.2%, 16 years olds=18.8%), 206 urged to be fearless (14 year-olds=25.2%, 15 years olds=19.9%, 16 years olds=18.9%) and 154 urged to avoid expressing pain or emotion (14 years olds=26%, 15 years olds=17.5%, 16 years olds=20.8%). IDIs with the adolescent boys and health officials, it emerged that encouragement to be tough and fearless has been an ongoing message towards the boys since their initiation into ART. In one of the IDIs, a 15 years old boy narrated: I learnt of my HIV status through my mother and at the same time, it is my mother who encourages me to be strong and not to fear being sick: that sickness is part of life and a boy should stop doing his duties because of sickness. It's our mother who has been taking us to clinic ever since we were young.

The sentiments by the 15 years old boy demonstrate that the parents are significant in delivering these masculinity messages to their adolescent children. A similar theme also emerged during an interview with the County AIDS/HIV and STI Coordinator, whereby the expectation of being strong as a man was indicated as being an overriding message directed at the boys by members of the community. The female officer stated: Boys must be strong as men and that they have to provide for the family when the father is not around. They are not also supposed to break down during an emotional situation. They ought to be self-reliant by all standards. These sentiments from the female officer are a testimony that the society has socialized the boys to be ready and remain emotionally prepared to take up paternal responsibilities any time.

Masculinities and their influence on VL suppression

Furthermore, this study investigated the extent to which masculinity messages are endorsed by the respondents in their quest to access HIV and AIDS medication (Table 2). Based on reactions from having endorsed masculine identities, Table 2 illustrates that majority (84.4%) of the boys agreed that the discomfort they encounter from

being seen by village mates picking drugs from facility closer to their homes sometimes make them skip drug/VL test appointments, 76.5% of them agreed that queuing with women and small children at the facility for healthcare services often make me skip Drug/VL test appointments, while 72.6% of them agreed that queuing at the facility for healthcare services often make them skip Drug/VL test appointments, among others.

It emerged during the FGDs with some of the adolescent boys that due to the stigma associated with long queues, the boys have designed approaches of maneuvering around the whole issue by playing football around the facility till the queue is drastically reduced, as articulated by one 16 years old adolescent, Me I can never queue alongside women and children my friend, instead, I would rather play football within the facility until the queue reduces: that is when I will see the doctor. This maneuvering attributed to the 16 years old adolescent boy was further highlighted by one Sub County AIDS Coordinator (SCAC) who indicated that such display of toughness may be harmful to the boys since some would be doing this while undergoing a lot of illness as stated by one female officer: An adolescent child may be going through some illness and they are not ready to talk about it. The child is hurting on the inside. By being fearless, the child does not take drugs because they have the mentality that they are strong and fearless and nothing will happen to them. Some adolescents do not even open up to their parents that they have missed medication for the last two days in order to get help. In order to determine how endorsement of masculine identities influences VL suppression, the study first assessed the level of VL suppression among the adolescent boys. This was done by assessing the extent of VL sensitization and awareness as well as VL suppression levels as has been attained by the adolescent boys. Table 4 presents the distribution of respondents according to level of VL suppression.

As illustrated in Table 3, majority (83.3%) of the boys stated that they have suffered from a number of opportunistic diseases since their initiation into ART, they have not been ready to honour appointments for VL test (67.3%), they do not fully understand the importance of knowing their VL testing (52.9%) and that they do not frequently get their VL counts tested and measured (50.5%). This is irrespective of the fact that majority (73.4%) of the boys have indicated that they often receive education/sensitization on VL issues by caregivers. A commonly mentioned issue during FGDs with the adolescent boys is that when given a chance out of school to attend clinic, they would sometimes get engaged in income generating activities. For instance, a 16 years old boy mentioned that, I often miss out on honouring medical appointment to attend to pango squad (Boda Boda–Motor cycle transportation services), Ywayo sut (fishing expedition) and Kunyo Milu or Domba (mineral mining). Likewise, to a number of my friends, I must do this for me and our children to get what to eat.

Statement by the 15 years old adolescent demonstrates that the adolescent boys in this area do perform paternal responsibilities of looking after their families as expected of them by the society. To determine the influence that endorsement of masculine identities has on VL suppression among the sampled adolescent boys, the study conducted a regression analysis through the aid of SPSS version 22 (Table 4). From the model summary in Table 4, the R² was 0.248, implying that 24.5% of the variations in viral load suppression among the sampled adolescent boys could be attributed to endorsement of masculine identities by them. These variations are significant (F=0.000). The study further ran an Analysis of Variance (ANOVA) to determine the fitness of the model ($Y=\beta_0+\beta_1 X_1+e$) in determining the relationship between the study variables (Table 6).

The Analysis of Variance (ANOVA) results illustrate that endorsement of masculine identities is a significant ($p=0.000$) predictor of VL suppression ($F(1, 253)=83.221$) among the sampled adolescent boys on ART in Siaya County and that the model was fit for purposes of measuring the relationship. Further, the contribution of the independent variable coefficient (endorsement of masculine identities) towards viral load suppression (dependent variable) was also analyzed (Table 6). Table 6 illustrates that the Beta (B) for endorsement of masculine identities is -0.323. The implication of this is that a unit increase in endorsement of masculine identities would lead to a decrease in VL suppression by -0.323 units. Based on p value of 0.00 as shown on Table 6, this decrease in VL suppression is significant ($p<0.05$).

Table 1: Masculinity messaging.

S. no.	Being told to be	Yes (%)	No (%)	If Yes, by who?
1	Tough	79.1	20.9	Mother/Peers
2	Fearless	78.3	21.7	Mother/Peers
3	Avoiding expressing pain or emotions	58.6	41.4	Father/Peers
4	Self- reliant	72.2	27.8	Mother/Peers
5	Aggressive and an achiever	71.1	28.9	Community/Peers

Table 2: Endorsement of masculine identity influencing VL suppression.

S. no.	Endorsement of masculine identity	Yes %	No %	Neutral %
1	Queuing at the facility for healthcare services often make me skip drug/VL test appointments	72.6	16.8	10.6
2	Queuing with women and small children at the facility for healthcare services often make me skip drug/VL test appointments	76.5	16.8	6.8
3	Queuing with younger boys at the facility for healthcare services often make me skip drug/VL test appointments	52.5	41.4	6.1
4	The discomfort I get from being seen by village mates picking drugs from facility closer to my home sometimes make me skip drug/VL test appointments	84.4	7.3	8.3

Table 3: Level of VL Suppression.

S. no.	Viral load suppression level	Yes %	No %	Neutral %
VL sensitization and awareness				
1	I often get educated/sensitised on VL issues by caregivers	73.4	16.7	9.9
2	I frequently get my VL counts tested and measured	27.4	50.5	22.1
3	I fully understand the importance of knowing my VL counts	31.6	52.9	15.6
4	I am always ready to honour appointments for VL testing	7.6	67.3	25.1
Level of VL suppression				
1	I have never suffered from any other opportunistic diseases since my initiation to ART	5.7	83.3	11.0

Table 4: Endorsement of masculine identities and VL suppression model summary.

Model	R	R ²	Adjusted R ²	Std error	Change statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	0.498	0.248	0.245	0.553	0.248	83.221	1	252	0.000

Dependent Variable: VL Suppression, Predictor: (Constant), Endorsement of masculine identities.

Table 5: Endorsement of masculine identities and VL suppression ANOVA results.

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	25.451	1	25.451	83.221	0.000
Residual	77.067	252	0.306		
Total	102.517	253			

Dependent variable: VL Suppression predictor: (Constant), Endorsement of masculine identities.

Table 6: Coefficient for endorsement of masculine identities.

Model	Unstandardised		Standardised	t	Sig.	95.0% CI	
	B	Std error	Beta			Lower	Upper
1 Constant	3.793	0.126		30.212	0.000	3.546	4.040
Endorsement of masculine identities	-0.323	0.035	-0.498	-9.123	0.000	-0.393	-0.253

DISCUSSION

Masculine identities

This study has revealed that the sampled adolescent boys have been encouraged severally by their families and society to adopt specific identities such as being tough, fearless, self-reliant and aggressive and achiever and to avoid expressing pain or emotion (Table 1). Similarly, the findings showed that parents especially the mothers are the key people conveying these masculine identity messaging. These seem to be the specific attributes that boys transitioning to adulthood are expected to endorse. Such findings tend to concur with previous studies such as Kågesten et al which also found that interpersonal encouragements (family and peers) are central influences on young adolescents' construction of gender attitudes.³⁷

Moreover, part of gender socialization highlighted in existing literature is that boys are consistently encouraged to be strong and independent and are expected to prove their toughness and sexual prowess among others.²² These, in essence, form multiple identities that the adolescent boys are required to endorse in this study area akin to articulations of the tenets of intersectionality theory.²⁴ Meeting and satisfying all these identities coupled with the disadvantage of being orphans perhaps is the reason why the adolescent boys in this study are unable to attain VL suppression despite being on ART for over a year.

The analysis has further revealed that most gender norm messages are directed at adolescent boys aged 14 years. Perhaps this is the period when gender socialization is most effective. Indeed, a number of previous studies have indicated this age as the specific period for socialization of gender norms. For instance, following the study by Blum et al, which was conducted across 15 countries with adolescents aged 10-14, masculinity messaging directed at young adolescents seems to be the practice across different contexts.³⁰ Given that as the boys grow towards age 17, the intensity of the gender norm messaging decreases, probably because the masculine identities have already been absorbed and endorsed at age 14. Pearse and Connell, in their conclusion, stated that at a tender age,

adolescents absorb subtle and overt messages about what is valued, who has power and how to behave.³¹

Masculinity and its influence on viral suppression

The study further reveals that the adolescent boys were uncomfortable with queuing at the facility while seeking for healthcare, especially when the queue is filled with women, children and old people (Table 3). Perhaps this is due to the fact that by queuing alongside females and children, one would be seen as being weak and feminine. This in essence, goes against the masculine identity of being tough and strong which attract a reprimand for not displaying masculine tendencies.

A similar theme was captured in a previous study done in Nigeria by Olanrewaju et al which established that irrespective of one's educational level, masculinity and cultural norms remain major influencers of men's health-seeking behavior.¹⁵ Endorsement of masculine identities by the sampled adolescent boys therefore seems to contribute to failure in keeping medical and VL test appointments likewise to findings in previous studies done in different contexts.¹⁵ In turn, this could therefore be a factor which affects VL suppression among this sub-population.

CONCLUSION

Findings from this study show that the adolescent boys under ART have received various encouragements to enact particular masculine identities while faced with the dilemma of accessing HIV treatment. Such encouragements have particularly been delivered by their families and peers. Moreover, the endorsement of a number of masculine identities by the adolescent boys in this study have negatively influenced their VL suppression efforts because most of them do not honour medical appointments and hardly see the necessity of VL tests.

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