

# The Status of Human Immuno-deficiency Virus (HIV) Infection among Youth Aged 15-24 Years in Malawi and Kenya

Simon Kiprono Ruttoh<sup>1</sup>, Milward Tobias<sup>2</sup> and Benard Kipngeno Ruttoh<sup>3</sup>

1. School of Public Health, College of Health Sciences, Moi University, Eldoret 4606 30100, Kenya

2. School of Public Health, African Medical Research Foundation (AMREF) Campus, Moi University, Eldoret 4606 30100, Kenya

3. School of Education, Moi University, Eldoret 4606 30100, Kenya

**Abstract:** HIV (Human Immuno-deficiency Virus) prevalence in Malawi is one of the highest in the world, with 10.3% of population living with HIV. Kenya has a prevalence rate of 6% and with 1.6 million people living with HIV infection. The broad objective of the study was to assess the proportion of youth aged 15-24 years affected by HIV in Malawi and Kenya. This was a descriptive study design. Data were mainly collected from reports from government, World Bank, World Health Organization and UN agencies. Graphs, tables and charts have been used to present statistics. Data for specific age cohort were hard to find and hence, data were used for general HIV and AIDS with special attention to the youth where possible. In Kenya, HIV prevalence among young women jumps three folds from 2.8% of 15-17 year olds to 8.3% among 23-24 year olds. In Malawi, around 2,100 young people and adolescents are infected with HIV every day. In 2013, four million young people aged 15-24 were living with HIV, with 29% aged under 19 years. This age group includes school going youths, newly employed, economically productive and sexually active group. HIV prevalence in Malawi has been declining over time among persons aged 15-19 years from 16.4% in 1999 to 11.8 % in 2004 to 10.6% in 2010 and 10.3% in 2016. However, in Kenya, the trend of HIV prevalence reached its peak of 10.55% in 1995-1996 after which it declined to 6.7% in 2003 and has been stable since then.

**Key words:** HIV (Human Immuno-deficiency Virus), prevalence, infection, transmission, descriptive study design, Pearson correlation.

## 1. Background

There were 36.7 million people living with HIV (Human Immuno-deficiency Virus) in 2015 globally, up from 33.3 million in 2010 [1]. Sub-Saharan Africa has the most serious HIV/AIDS epidemic in the world [2]. In 2013, 24.7 estimated million people were living with HIV, accounting for 71% of the total global result [3]. HIV prevalence for the region is 47% but varies greatly between countries. For example, as of 1st January 2016, the population of Malawi was estimated to be 17,473,734 people. This is an increase of 3.06% (518,491 people) compared to the

population of 16,955,243 in the year before. However, the current population of Kenya is estimated to be 47,710,409 as of Wednesday, November 23, 2016, based on the latest United Nations estimates [4]. Young people, aged between 15-24, account for approximately 35% of new HIV infections [5]. In 2013, 4 million young people aged between 15-24 were living with HIV, with 29% aged under 19 years [5]. In Sub-Saharan Africa, young women aged between 15-24 account for 25% of all new HIV infections among adults, even though they represent only 17% of the adult population [6]. Since mid-1980s when the first cases of HIV were reported in Malawi and Kenya, the epidemic has turned to be pandemic over time [7]. Malawi's HIV prevalence is one of the highest in the world, with 10.3% of the population

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**Corresponding author:** Simon Kiprono Ruttoh, Ph.D., research fields: HIV/AIDS infection among youth and jigger infestation in Kenya.

living with HIV [8].

Malawi accounts for 4% of the total number of people living with HIV in Sub-Saharan Africa [9]. 1,000,000 estimated Malawians were living with HIV in 2013 and 48,000 Malawians died from HIV-related illness in the same year [10]. Young people account for 50% of new infections in Malawi, with HIV prevalence higher among 15-17 years old [11]. 4.5% of young females and 2.7% of young men aged 15-24 years old are living with HIV in Malawi [12]. Early sexual activity is high in Malawi, especially among the 15-24 age groups [13, 14]. With young people engaging in sex at an early age, addressing the sexual and reproductive health needs of this population is critical.

Kenya has an average HIV prevalence rate of 6%, with about 1.6 million people living with HIV infection; and it is one of the six HIV 'high burden' countries in Africa [15]. The western part of the country through Homabay, Siaya and Kisumu are the most affected with HIV rates of 25.7%, 23.7% and 19.3%, respectively [16]. The counties with the least infection rates are Wajir, Tana River and Marsabit, with rates of 0.2%, 1% and 1.2% [16, 17]. However, HIV incidence and prevalence are declining in the country according to the report in the online edition of the Journal of Acquired Immune Deficiency Syndrome [17]. The results of large cross-sectional surveillance surveys conducted in 2007 and in 2012 indicated that HIV prevalence fell from 7.2% to 5.6% and the incidence rate from 0.7% to 0.4%.

Over time, various interventions such as biomedical, behavioural, socio-economic have been applied. From 2004 to 2015, the number of new patients in Malawi started on ART (Antiretroviral Therapy) increased from about 3,000 to over 820,000. Malawi has made a significant contribution to the 15 million people globally on ART. Both countries have youthful populations. It is estimated that 45% of all Kenyans and 44% of all Malawians are below the age of 15 years.

## **2. Objectives**

The objective of the study was to assess the proportion of youth aged 15-24 years who are infected with HIV in Malawi and Kenya and to investigate interventions focused on this age group to prevent HIV transmission.

## **3. Methodology**

This is a descriptive study design whereby the proportion of youth aged 15-24 who were HIV infected, the interventions that were done in the countries and those focusing on this age group as well as ART access by these age group were presented. Data was by the reviews of reports and other publications covering the two countries under study.

### *3.1 Sources of Data*

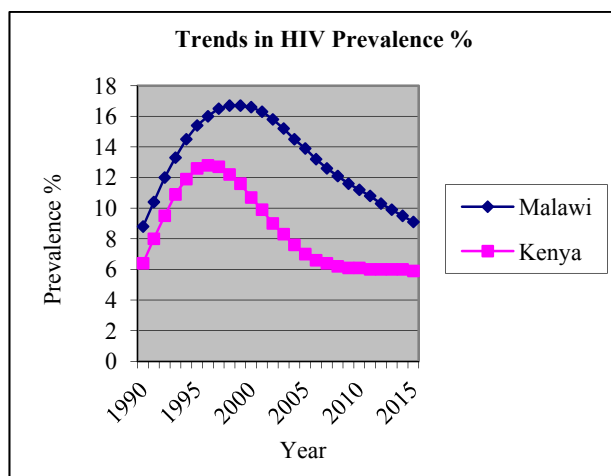
Data sources include reports from World Health Organization, United Nations Agencies, country reports and other sources.

### *3.2 Limitations*

There are two main limitations in this study. First is the data inconsistency and unavailability over time period. This disabled authors from running required statistical tests. Second is the lack of specific data for the age cohort under study. Resultantly, most of the information used is for HIV and AIDS in general with inferences for the age 15-24 where possible.

As it is shown in Fig. 1, the prevalence rate in the two countries had been rising from 1990, reaching its peak of about 10.5% in Kenya in 1997-1998 and about 15.4% among 1999-2001 in Malawi and then started declining in both countries. However, it seems to have stabilized in Kenya from 2009 to 2015 at about 5.2%. The combined forces of many factors including incidence and ART may explain this stable situation. With regard to youth aged 15-24 years, the prevalence in 2009 stood at 2% and 4% for men and women respectively in Kenya, and 3% and 7% for men and women in Malawi, respectively [18].

**The Status of Human Immuno-deficiency Virus (HIV) Infection  
among Youth Aged 15-24 Years in Malawi and Kenya**



**Fig. 1** Trends in HIV prevalence in Malawi and Kenya.

#### 4. ART Coverage

There has been an increase in ART coverage in Malawi and Kenya over time.

Table 1 shows ART coverage for the number of patients receiving and in need of ART in Sub-Saharan Africa regions.

The data in Table 1 show steady increasing coverage of ART over time, putting an impressive hope that the UNGASS (United Nations General Assembly Special Session) target of universal access to treatment may be achieved though not on time. The increase in ART uptake was as a result of affordable ART, an increase in generic competition and the establishment of new funding. However, that depends on consistent and increasing funding which is threatened by the economic crisis in major donor countries. It should be acknowledged that accessibility challenges have been reported in some facilities especially in Malawi. Thus, on the ground, the situation may not exactly tally with figures. Nonetheless, assessment of availability and accessibility challenges is a subject of further study. In Fig. 2, data for 2010 in Malawi is target not actual and

data for Kenya is for adults only.

On the apriori expectation that ART prolongs life and therefore positively correlate with prevalence rate, correlation analysis was run to test the hypothesis. Due to the limitation of data, it was not possible to do the same for Kenya and Malawi; data was only available for six years. This may be as a result that ART was introduced not so long. Table 2 shows results of the correlation between ART coverage and HIV prevalence rate.

The result of correlation computation shows a significant negative correlation at 5% level of significance between ART coverage and HIV prevalence in Malawi. According to UNAIDS (The Joint United Nations Programme on HIV/AIDS) [19], an 8-year trend shows new infections down by 17% with most progress in Sub-Saharan Africa. In Kenya, AIDS related deaths have fallen by 29% since 2002. At the background of decreasing incidence rate and mortality rate, the result suggests that incidence rate is decreasing faster relative to prolongation of life through ART. There are, however, many factors that affect prevalence rate both on the numerator and denominator. And then, the results show encouraging progress with regard to reducing new infections.

With regard to youth aged 15-24 years, access level remains very low and much lower compared to national access levels. Fig. 3 shows that only 12.3% of youth had access to treatment in 2008 and 2009 with access projected to be 12% and 13% for 2010 and 2012.

##### 4.1 HIV and AIDS Financing

Globally, HIV and AIDS have received deserved attention. The global community has responded

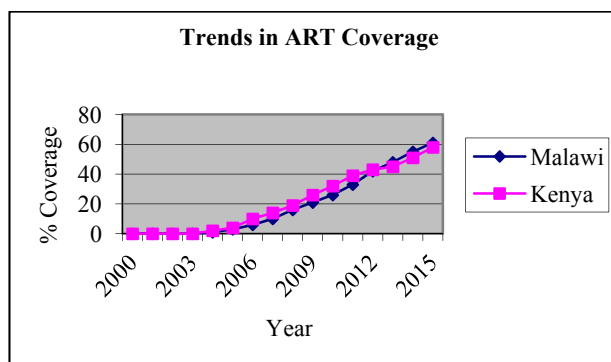
**Table 1** ART coverage [18].

	ART coverage %	Number receiving ART	Number in need of ART
Sub-Saharan Africa	39	9,633,000	24,700,000
Eastern and southern Africa	53.96	10,252,400	19,000,000
Malawi	69	405,131	580,000
Kenya	73	604,027	830,000

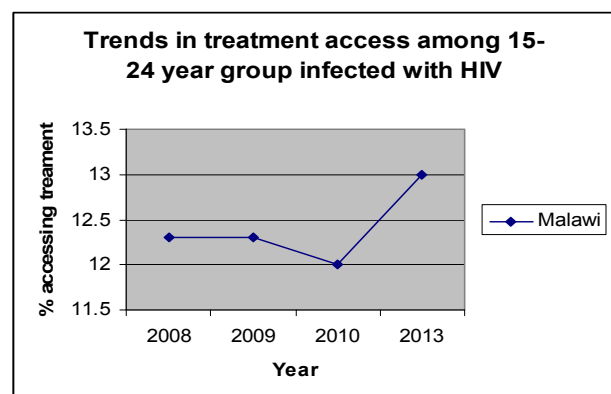
**Table 2 Correlation between ART coverage and HIV prevalence in Malawi.**

Correlation		ART in Malawi	HIV in Malawi
ART in Malawi	Pearson correlation	1	-0.883*
	Sig. (2-tailed)		0.020
	N	6	6
HIV in Malawi	Pearson correlation	-0.883*	1
	Sig. (2-tailed)	0.020	
	N	6	6

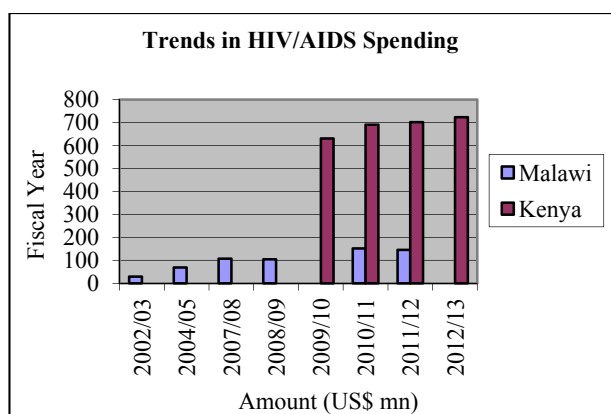
Note: \* means correlation is significant at the 0.05 level (2-tailed).



**Fig. 2 Trends in ART coverage.**



**Fig. 3 Trends in treatment access levels among the 15-24 years group who are HIV infected [20].**



**Fig. 4 HIV and AIDS financing.**

through the Global Fund to fight HIV and AIDS, tuberculosis and malaria which mobilizes resources to support developing countries. This and other multilateral and bilateral donors have contributed a large share of resources to HIV and AIDS. In Kenya, for example, bilateral donors contribute 70% of HIV and AIDS funds. There have been absorption capacity challenges in some cases. For example, in Malawi, absorption rate improved from 36% in 2005/06 fiscal year to 71% in 2007/08 fiscal year. The reasons for low absorption rate are outside the scope of this paper. Suffice to note that low absorption means deprived services to those who could have benefited from the interventions. Again, there are no disaggregated figures by age group just as there are no age cohort specific interventions. It is therefore not possible to assess what proportion of total spending has gone to youth aged 15-24 years.

In an attempt to show resource allocation trends by intervention, data were presented as shown in Fig. 4. Figures for 2008/09 represent half year figures.

Table 3 shows funding by intervention in Malawi in US\$. The results detailed in Table 3 indicate rising funding by intervention from 2005/06, 2006/07 and 2007/08 and dropping in 2008/09.

#### 4.2 Knowledge Levels

There have been increasing efforts on behaviour change which apparently remains key risk factor for HIV transmission. This is on the background that knowledge levels have increased yet new infections remain high. It is also acknowledgement of the fact

**The Status of Human Immuno-deficiency Virus (HIV) Infection  
among Youth Aged 15-24 Years in Malawi and Kenya**

**Table 3 Funding by intervention in Malawi (US\$ mn).**

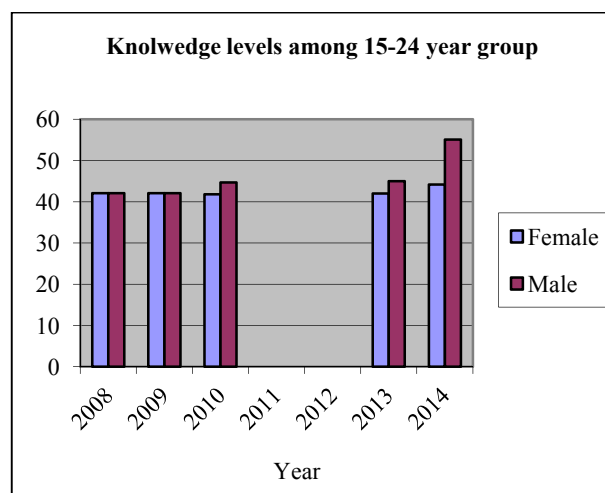
Intervention	2005/06	2006/07	2007/08	2008/09
Prevention & behaviour change	0.98	8.5	14.41	2.96
Treatment, care and support	8.53	22.7	35.72	17.46
Impact mitigation	1.3	4.01	11.5	3.62
Mainstreaming	10.05	11.33	13.43	2.04
Research, monitoring and evaluation	0.77	1.3	3.42	0.66
Resource mobilization and policy and partnerships	4.01	5.61	7.87	3.29

that fighting against HIV spread is more than biomedical and socio-economic issue but rather behaviour issue. The youth are particularly concerned in this regard. The abstinence, being faithful and using condom campaign, was in cases focused on the youth at least judging from how the adverts are messaged. It was noted that knowledge levels among the youth 15-24 years are quite low in both countries compared to national levels.

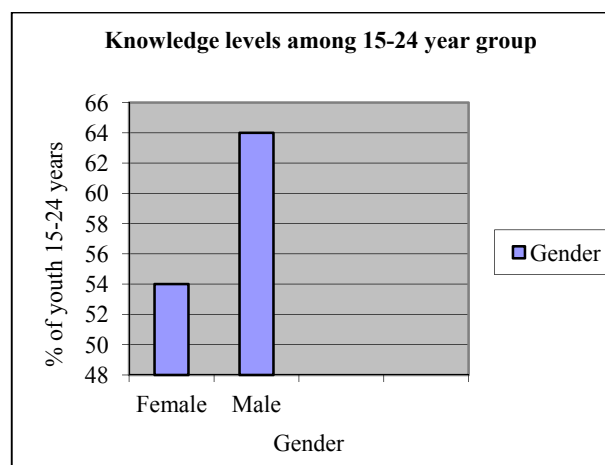
According to Fig. 5, only 42.1% of the youth could both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission in 2008 and 2009. The targets for 2010 and 2012 were 75%. In January 2000, government institutionalized life skills education in all secondary schools [19]. The 2010 UNGASS Malawi report was not available on the indicator of number of schools providing life skills education. There is a lack of consistency however with the 2003 UNGASS Malawi reported which recorded 85.3% of respondents 15-24 years as correctly identifying ways of preventing sexual transmission of HIV and rejecting major misconception about HIV transmission. In Kenya, 100% of schools are providing life skills education. Gender disaggregated data show stark difference between knowledge levels among male and female youth as shown in Fig. 6.

In both Kenya and Malawi, female prevalence is higher than male prevalence across all age groups. UNAIDS [20] estimated that in Kenya, young women are three times more likely to become infected than their male counterparts. In terms of risky behaviours, sex workers and their clients account for 14.1% of new infections in Kenya while in Malawi, men who

have sex with men have prevalence rate of 21.4%. Further, in Nairobi, Kenya, it was found that 36% of injecting drug users surveyed tested positive. Although the data are not specific for the 15-24 years age group who are a subject of this paper, a number of youth are involved in drug injection, commercial sex and men having sex with men.



**Fig. 5 Knowledge levels about HIV transmission among youth in Malawi.**



**Fig. 6 Knowledge levels about HIV transmission in Kenya [18].**

Resonating with the different knowledge levels in Kenya and Malawi is the difference in condom use. In Kenya, 14% and 39% of female and male youth aged 15-24 reported having used condom in 1998. The proportions improved in 2009 to 40% and 64%, respectively. On the other hand, in Malawi, 9% and 28% of female and male respectively reported having used condom in 2000. The proportions remained constant for female and improved to 32% for male in 2004 [21]. This underscores the need to allocate more resources to programs that address specific needs of the youth.

In Malawi, resource allocation projections for 2010, 2011 and 2012 under prevention, youth focused interventions was allocated US\$ 1.5 million, US\$ 2.3 million and US\$ 3.9 million respectively constituting a cumulative 1% of the cumulative US\$ 650 million over the three years. Other youth related interventions are condom distribution with 4%, mass media with cumulative US\$ 1.5 million and education with cumulative 3% of the total sum for three years. It is not easy to ascertain whether these amounts are sufficient or not, or represent a fair allocation given demands for youth related programs relative to other programs. Such a conclusion would only be arrived if data were available to enable us compare unit cost per age cohort.

## **5. Recommendations**

From the results, it was observed that the youth HIV prevalence is a public health issue. More so, this age cohort has intergenerational pass on potential because majority are not married such that infection contributes to new born children infection rates and maternal complications. Most youth in this age are in the process of career development and are a source of nation sustainability. In view of the multiplicity of effects due to youth HIV infection, the benefits of focusing on this group are enormous. Suggested recommendations are as follows:

Increase behavioural intervention programs for the

youth in order to improve on knowledge levels about HIV transmission and rolling out ART services in peripheral health facilities. Such programs should be holistic aimed at challenging the youth to start valuing life, their future and their role in society not merely covering HIV direct messages;

Ensure availability of youth friendly services in health facilities and youth clubs across the two countries and introduction of different competitions beyond sports in all areas, rural and urban, to make sure the youth are not only occupied but also exposed to competitions that build their mental ability;

Engage the youth in seeking solution on how to protect their health and addressing HIV epidemic within their environment;

Conduct cost effectiveness studies and prioritize on interventions that are more cost effectiveness than others. This recommendation comes in the wake of economic crises in major donor countries where large part of support comes from.

## **6. Conclusion**

HIV prevalence in Malawi has been declining over time among persons aged 15-19 years from 16.4% in 1999 to 11.8 % in 2004 to 10.6% in 2010 to 10.3% in 2016. However, in Kenya, the trend of HIV prevalence reached its peak of 10.55% in 1995-1996 after which it declined to 6.7% in 2003 and has been stable since then.

The objectives in this paper were to assess the proportion of youth aged 15-24 who are HIV infected and to investigate interventions focusing on this age cohort. In the course of data collection, it is hard to find data specific for the population under study on a number of required variables. Resultantly, what have been discussed in the paper are HIV and AIDS in general although effort was put to emphasize on the age 15-24 years. It came out clearly that the new infections are high in this group necessitating increased youth focusing interventions. In terms of access to treatment, the youth have low access levels

## The Status of Human Immuno-deficiency Virus (HIV) Infection among Youth Aged 15-24 Years in Malawi and Kenya

which may resonate with low testing patronage. Again, this reflects low knowledge levels about HIV and AIDS. Authors' recommendations shoot focus beyond the traditional activities to engagement of the youthful minds to start valuing their life, potential and future.

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