

# Assessment of Voluntary HIV Counseling and Testing Service Utilization and Associated Health Service Related Factors Among Out of School Youth in Nakuru Kenya: A Cross Sectional Survey

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## Abstract

Background: Voluntary HIV counseling and testing (VCT) is one of the key tools in the HIV/AIDS prevention and control programs in Kenya. But utilization of VCT services among out of school youth is low. The aim of this study was to investigate health service related factors associated with VCT utilization among out of school youth in a rural setting since though they are a risk group in Kenya they are less likely than other groups to be offered this service. A cross sectional study design was done among 369 out of school youth aged 18-35 drawn from three rural divisions of Nakuru County, Kenya, using proportionate and purposive sampling technique. Self-administered questionnaire was used to estimate the prevalence of VCT service utilization and to assess associated health service related factors. Data were entered and analyzed using SPSS version 11.5. The study sample consisted of 56.1% males and 43.9% females. The mean age for those who had utilized VCT was 24 for men and 23 for females. The majority of the out-of- school youth (62.6%) had not utilized VCT. Poor utilization of VCT services was found to be associated with perception of quality of VCT services. It was shown that VCT utilization was significantly associated with competence of VCT counselors and youth friendliness of the services. VCT utilization among out-of- school youth in Nakuru County was low. The major factors identified for increased VCT service utilization were better perception of the quality of the VCT services, and more competence of the VCT counselors. Hence, HIV/AIDS prevention and control programs in Nakuru County should focus on the above areas.

**Keywords:** HIV testing, VCT utilization, Stigma, Knowledge, Out of school youth, Nakuru, Kenya

## Introduction

Kenya is one of the Sub-Saharan Africa countries (SSA) that has been affected by a generalized and a concentrated HIV epidemic, where the epidemic is deeply rooted among the general population while there is also concentration of very high prevalence among key populations for example sex workers, their clients (NACCK 2014). HIV prevalence peaked at 10.5% in 1996, and had fallen to 6% by 2013 mainly due to the rapid scaling up of antiretroviral treatment (ART) (Mugo *et al.* 2010). Young people are especially vulnerable to HIV infection due to early sexual debut, emotional and developmental factors, low condom use, biological and social vulnerabilities, sexually transmitted infections, poor health seeking behavior, and alcohol and substance abuse (Ndwiga & Omwono 2012).

In the past, many traditional communities in Kenya effectively discouraged pre-marital sex through a combination of strict social sanctions and early marriages (Ayugi 2005). Information about sexuality and reproduction was passed on not by parents but by grandparents, aunts, uncles and community leaders often in association with initiation ceremonies. These traditional patterns of sex education have been disrupted by socio-economic changes, rapid urbanization, increased mobility and rapid population growth (Ayugi 2005). The Government of Kenya, with other stakeholders, developed a national HIV/AIDS strategic plan that identified strategies to alleviate the spread of HIV/AIDS (NACCK 2014). HIV counseling and testing has been a major focus of the response in Kenya with the country adopting multiple strategies including provider initiated testing, outreach testing, home based counseling and testing, and integration of testing and counseling in ANC, STI and

SRH services (NACCK 2014)

Voluntary counseling and testing is an effective strategy for preventive effects on HIV transmission and serves as a gateway to most HIV/AIDS related services (Tesfaye *et al.* 2012) In addition, VCT is an important entry point to other HIV/AIDS prevention services, including emotional support, increasing motivation to avoid risky behaviors, access to HIV specific treatment, care and support (Fischer *et al.* 2007). Despite the array of delivery approaches and the advantages of VCT services, and the high readiness for VCT, the uptake of these services in sub-Saharan Africa has been disappointingly low even in places where the services are readily available (Fylkenes *et al.* 1999)

Young people aged between 15 - 24 years account for more than 50 percent of all HIV infections worldwide (McCauley 2004) Among young people living with HIV, nearly 80% (4 million) live in sub-Saharan Africa (Moyer *et al.* 2007). Young people are especially vulnerable to HIV infection due to early sexual debut, emotional and developmental factors, low condom use, biological and social vulnerabilities, sexually transmitted infections, poor health seeking behavior, and alcohol and substance abuse (McCauley 2004). Providing HIV counseling and testing services to certain populations of young people can be especially challenging as they may be; mobile because work forces them to travel, members of the military, political refugees, street kids, or be displaced by civil conflict (Dirar 2010). In addition, young people may lack sufficient support network, access to ongoing health care, or even basic nutrition and shelter and hence they may not be able to return for additional counseling and support (Dirar 2010). In the absence of treatment options; many youth respondents do not see the benefits of testing, while testing itself regardless of the outcome was seen by many as putting one at risk of loss of social status and discrimination in the society (McCauley 2004).

According to Boswell 2002, barriers to VCT for young people include availability and acceptability of services, including waiting time, costs and pressure by health staff to notify partners, worries about confidentiality and fears that results would be shared with parent(s) or partner(s). (Boswell & Baggaley 2002) .Understanding the factors influencing the utilization of VCT provides information for the design of context based appropriate strategies to improve access. Nevertheless, studies undertaken to understand factors affecting VCT utilization among rural youth population in Kenya in general and Nakuru County in particular are limited.

It is against this back ground that this study sought to identify those health service related factors among out-of-school youth in three rural divisions in Nakuru County which may affect their utilization of VCT services.

## 2. Research methodology

### 2.1 Study Area and design

This study was carried out in a rural setting in the three divisions of the former Nakuru North District of the present Nakuru County in Kenya's Rift Valley. The study was carried out in the three divisions of Bahati, Subukia and Dundori during an eight period in 2012. It was estimated that the total population living in the area was 453,000 inhabitants in 2012, of which approximately 88,000 were youth group. The area covers 593.3 km.<sup>2</sup>. This study area was identified for its typical rural setting; high population density and a large number of unemployed youth. There are six voluntary counseling and testing centers out of which one is youth friendly. The rest of the VCT centers are in public and private hospitals.

The VCT centers are scattered and majority of the out-of-school youth, have to travel long distances, (often more than 20 kms.) to access the services. A cross sectional survey was conducted in this study. The study population included out-of-school youth aged 18-35 years who consented to the study. Questionnaires were administered to this group in the three divisions during a research period of eight weeks

### 2.2 Study population and Sampling procedure

The study population consisted of out-of-school youth aged 18-35, who attended recruitment meetings and consented to the study during the eight week period of survey in 2012. The confidence level was set at 95% and 0.05 level of significance. According to UNICEF (2003), the uptake of voluntary counseling and Testing (VCT) in real life situations resulted in figures generally less than 50%. The proportion of target population estimated to visit VCT Centers in Kenya is 40%. Hence  $p = 0.4$  and  $q = 0.6$ . The sample size is worked out using the formula developed by Fisher (1973) A total of 369 youth were hence interviewed.

Proportionate sampling was used to determine the number of out-of-school youth to be interviewed from each Division (table1). The Youth were purposively sampled from each Division. Several items were developed for each of the independent variables. Data was collected using a semi-structured questionnaire administered by the researcher and well trained research assistants. Pretesting of the questionnaire was performed on some out of school youth in the County, to verify clarity of the instrument used. The questionnaire, originally prepared in English language was translated to Swahili and again retranslated to English by language experts for consistency. One FGD was conducted in each Division. The FGDs consisted of ten out-of-school youth both male and female. Before the administration of the questionnaires, the researcher and a research assistant, held discussions with youth on VCT services and their experiences of these services to minimize recall bias. The

youth who consented to the study and met the inclusion criteria were included in the study. Out-of- school youth who did not attend recruitment meetings or who declined to give consent, or were below 18 years or above 35 years were not included in the study.

### 2.3 Data Collection

The researcher and research assistants visited out of school youth, during trainings organized by the Ministry of Youth Affairs and Sports, on agricultural field days and public barazas (informal meetings) over the eight weeks period of the study. Data collection was done by pre-tested, pre-coded, and self- administered questionnaire with open and closed ended questions from the youth who gave informed consent. The questionnaires were self-administered to collect socio-demographic and health service related information.

### 2.4 Measurements

The dependent variable for this study was the utilization of VCT. It was measured by the number of out-of-school youth who had voluntarily tested for HIV in the VCT centers in the three divisions of the County. The independent variables were health service related factors.

### 2.5 Health service related factors

Perception of quality of VCT services was measured by asking the study subjects how they felt about the VCT staff interpersonal skills, time spent waiting, clarity of information provided, sensitivity of staff to the youth, friendliness of the services, privacy of the VCT sessions (e.g. availability of a separate room for testing) and support services for those who tested positive. A response which implied a negative perception was awarded -1, neutral response was awarded 0 and a statement which implied a positive response was awarded +1 (14), 2004). A summary indicator for the perception of the quality of service was then obtained as follows: 0 – 3 Positive (<50%) =Poor Perception, 4 – 5 Positive (50%-70%) =Average perception; 6 – 7 Positive (>80%-100%) =Good Perception  
Cost

### 2.6 Data Analysis

Data were entered and analyzed using SPSS version 11.5. Descriptive statistics performed included determining the mean, median and mode. Utilization of VCT was dichotomized into; low utilization (<50%) and high utilization (>50%). The significance of association was tested using chi-square and an association was statistically significant when the p-value was less than 0.05 ( $p < 0.05$ ). The variables with a p-value  $< 0.05$  in the univariate analysis were included in the multiple logistic regression analysis. Logistic regression was used to assess the associations between the dependent and independent variables. In the regression models; information on individual and health related factors were included as independent variables.

### 2.7 Ethical Considerations:

The present study was approved by the Graduate school of Kenyatta University, the Ministry of Education and the District Commissioner Nakuru. Informed consent was obtained from each of the participants

## 3. Results

Three hundred and sixty nine (369) of the study populations were interviewed in the three Divisions of Nakuru North District (now Nakuru County) (Table 1).

Bahati division had the highest percentage of youth participating in the study (52.6%), followed by Subukia division (33.3%) then Dundori (14.1%). Of the study sample, approximately 56.1% were males and 43.9 females .The mean age of the participants was 24 years for men and 23 years for women, respectively. The majority of the study subjects (61.2%) were aged between 18-20 years, while 11.1% were two hundred and eighty eight (78%) of the respondents were single while(Table 2).

One hundred and thirty eight (37.4%) of the study subjects had tested for HIV compared to 231(62.6%) who had not tested. Though the majority of the males( 56.1%)participated in this study, compared to 43.9% females, utilization of VCT services was slightly higher (38.9%) among females compared (36.2%) to males.

Of those respondents, who used less than one hundred Kenya shillings (one dollar) to access VCT services, the majority of them (61.3%) had not utilized VCT services. Of those who used more than a dollar to access the services, only 23.3% had utilized VCT services. Cost was not found to be significantly associated with VCT utilization (Table3).

25.7% of the youth tested for HIV in public health hospitals, 33.0% tested in private clinics while 20.5% tested in either at the youth friendly center or standalone VCT centers (Table 4).

Two hundred and five of the youths believed that VCT counselors were qualified to offer VCT services while one hundred and sixty four (44.4%) did not think so and had not tested for HIV.

The quality of VCT counselors was found to be significant ( $p=0.0001$ ). One hundred and seventy three (73.9%), said that the services were not youth friendly and had not tested for HIV. Whether the VCT centers offered youth friendly services or not was found to be significant ( $p=0.0001$ ). Of those who said that there was no support for those who tested positive, 65% had not tested for HIV. A significant association was established between availability of support and testing for HIV ( $p=0.048$ ,  $F=6.088$ ,  $df=2$ ).

The factors found to be significant with VCT utilization in the univariate analysis were: perception of importance of VCT ( $p=0.0001$ ), competence of VCT counselors ( $p=0.0001$ ) and youth friendliness of the services ( $p=0.0001$ ) (Table 5). The results in the hierarchical regression analysis showed that VCT perception and competence of VCT counselors contributed 3.1% of the variability respectively and both of them remained significant.

## Discussion

Voluntary HIV counseling and testing (VCT) is one of the key tools in the HIV/AIDS prevention and control programs (Tesfaye et al. 2012). But utilization of VCT services has been found to be low even where these services are readily available (Fylkenes et al. 1999). This study sought to identify those health service related factors among out-of-school youth in three rural divisions in Nakuru County which may affect their utilization of VCT services.

Poor utilization of VCT services was found to be associated with perception of quality of VCT services. It was shown that VCT utilization was significantly associated with competence of VCT counselors and youth friendliness of the services. VCT utilization among out-of-school youth in Nakuru County was low. The major factors identified for increased VCT service utilization were better perception of the quality of the VCT services, and more competence of the VCT counselors.

In this study, utilization of VCT services was slightly higher (38.9%) among females compared (36.2%) for males. This is similar to a Tanzania study which found that females were more likely to uptake Voluntary HIV Counseling and testing services than males (NBS & ICF 2012). They attributed this to the fact that females of 15–24 years old in Tanzania tend to start having sexual activity earlier as compared to males. Research elsewhere also indicates that gender powerfully shapes attitudes toward testing (Carla & Osborn 2007). Men tend to underestimate their risk for HIV infection more than do women, despite reporting more high-risk behaviors, and women have more fears about testing than do men (Stein & Nyamathi 2001).

According to our study findings, cost to access VCT services was not significantly associated with VCT utilization. This is similar to a study done among the youth in Rukungiri district in Uganda. (Mwenyango 2010).

In our study, 67.6% of the youth who had poor perception of the quality of VCT services had not utilized the services. *‘Some VCT staff are familiar to you, as they are locals and there is fear that they may spread the information especially if the results are positive’* said a male discussant from our FGD. In a Ugandan study, the most important concerns of men were; access to VCT services, confidentiality and quality of HIV results (Wolf et al 2005). In one Ethiopian study, students who had heard of the presence of confidentiality at the VCT service site were three times more likely to utilize VCT service (Girmay 2013). The concerns of access overlap with those for confidentiality (Worku 2005).

We also found in our study that a higher proportion of the youth who tested did so when they had access to separate rooms. This finding is similar to another Kenyan study in which confidentiality was a major concern to the youth (Museve et al. 2013). In this Kenya study, the discussants in their FGDs were convinced that young and female VCT counsellors were the worst service providers since they could not maintain confidentiality. *‘These counsellors especially young females, discussed their clients profile with other people’*, said one of the discussants. The students preferred older females or male counsellors who are more likely to keep confidentiality. As has been reported elsewhere, confidentiality is an important factor that may reduce VCT utilization which needs to be factored in prevention and promotion programs (Girmay 2013). In a Ugandan study, some men had concerns not about the performance of the HIV test but rather about the integrity of the health workers in providing accurate HIV results (Wolff 2005). The men specifically feared that health workers are bribed to falsify HIV results. On the contrary, a study done in Tanzania on uptake and attitude to voluntary counseling and testing among health care professional students found that only 19.1% of the respondents have negative attitude for health care professionals and more than half (63.8%) had positive attitude about attending VCT (Mgasha 2009).

In this study, factors found to be significant with VCT utilization in the univariate analysis were: perception of importance of VCT, competence of VCT counselors and youth friendliness of the services. In two Ugandan clinics, tested youth participating in exit interviews rated the skills and friendliness of the providers as what they liked most about the VCT service (Juma et al 2002, Kirumira et al 2003). They mentioned long waits as what they liked least, and reported that the wait as each person received their results privately was a particularly stressful time.

In another Kenyan study, (88.3%) of University students agreed that VCT was important in the fight

against HIV/AIDS (Museve *et al.* 2013). The percentage of those who viewed VCT as important in the fight against HIV, in this Kenyan was higher than that of Horizon (2002) of 50% and the findings of Abebe and Mitkie (2009) of only 25%.

In another study among the youth in Uganda and Malawi, VCT services were found not only financially and spatially unfriendly to young people, but were also socially and culturally unavailable to them (Chimaraoke *et al.* 2009). According to these researchers, the socio-cultural inaccessibility and unavailability of VCT to the young are key reasons for their apprehension over it: Hence, some evidence suggests that while current campaigns and efforts may succeed in popularizing VCT services, their accessibility and sensitivity remain problematic to the youth.

### **Limitations of the study**

- (1) Findings from this study may not be generalized to the whole population of young people because the study involved only those young people who were out of school in one County in Kenya.
- (2) As in any cross-sectional study, cause and effect relationship was not possible to establish for the factors dealt with in the study
- (3) Since the study results depended on the responses of the participants and there is a high chance of recall bias.
- (4) The questionnaires used in this study, contained some culturally sensitive inquiries for the respondents in some study areas, for example, about their sexual behavior. This might have influenced the students to provide biased information

### **Conclusion**

VCT use among out-of-school youth in Nakuru County was low. Factors found to be significant with VCT utilization were: distance to the VCT centers, perception of importance of VCT in the fight against HIV/AIDS, competence of VCT counselors, youth friendliness of the services, condom use, income, HIV related stigma, and willingness to utilize VCT services with sexual partner. The low utilization of VCT services among this group is a challenge to preventive strategies of HIV in Nakuru Country. This necessitates more innovative culturally appropriate preventive approaches acceptable to this vulnerable group as the fight against HIV/AIDS gathers momentum in Nakuru County in particular and Kenya in general

### **Recommendations**

The issues surrounding acceptance and use of VCT need to be addressed. On the basis of the results of this study, we recommend the following:

More VCT centers need to be established and be well distributed in Nakuru County to ensure accessibility to the out of school youth especially in the remote parts.

The health service related factors identified in this study that reduce the utilization of VCT services need to be addressed. These include: lack of confidentiality, incompetency of staff, and youth unfriendliness of the services.

Individuals who got tested at the various should be encouraged to broadcast more information about VCT to the other youth in the county and their friends.

As boy or girlfriend relationship has positive association with VCT utilization; it is recommended that those in relationships should be encouraged to utilize VCT services together and also condomize and avoid multiple sexual partnerships.

Stigma and discrimination was found to be a key obstacle to the uptake of HIV services among out of school youth. This important issue needs to be addressed specifically in all HIV/AIDS educational preventive/promotions programs in the county through youth friendly initiatives and activities.

### **Competing interest**

The authors declare that they have no competing interests

### **Authors' contributions**

AO made significant contribution to the conception, initial and final drafting and revision of the study. CI participated in conception and initial design, drafting, statistical analysis and interpretation of study findings. OP and OA participated in revision of the manuscript and intellectual input. All authors read, edited and approved the final manuscript.

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**Table 1: Proportion of study respondents interviewed in the three Divisions of Nakuru County (n=369)**

Nakuru County Divisions	Approximate no. of youth	Number interviewed
Bahati	46,514	193
Nakuru	29,600	123
Dundori	12,686	53
<b>Total</b>	<b>88,800</b>	<b>369</b>

**Table 2. Age distribution of Respondents**

Age groups	% of respondents
18-20	61.2
21-25	36.3
26-30	20.9
31-35	38.8

**Table 3.VCT utilization by cost of access**

Variable	Utilized VCT n (%)	Not utilized VCT n (%)	$\chi^2$ statistical test
Cost	Less than Kshs 100	43(38.7%)	$\chi^2 = 2.760$ df=2 p=0.252
	More than Kshs 101	7(23.3%)	
	Free	88(38.6%)	

**Table 4. Proportion of youth utilizing VCT by perception of the quality of services (n=369)**

Variable	Utilize VCT n (%)	Not utilize VCT n (%)	$\chi^2$ statistical test
Perception of services	Good	74(33.5%)	$\chi^2 = 25.132$ df=2 p=0.0001
	Average	43(43.9%)	
	Poor	21(42.0%)	
Competence of VCT counselors	competent	108(52.7%)	$\chi^2 = 46.170$ df=2 p=0.0001
	Not competent	30(18.4%)	
Separate rooms	Have separate rooms	104(39.1%)	$\chi^2 = 1.175$ df=1 p=0.278
	No separate room	34(33.3%)	
Youth friendliness	Youth friendly	76(57.6%)	$\chi^2 = 38.653$ df=4 p=0.0001
	Not youth friendly	62(26.1%)	
Support	Adequate support	28(51.8%)	$\chi^2 = 6.088$ df=2 p=0.048
	No adequate support	110(35.0%)	
Type of Health facility	Public health hospital	32(33.7%)	$\chi^2 = 10.962$ df=3 p=0.012
	Youth friendly centre	32(42.1%)	
	Private clinic	50(40.9%)	
	Stand alone VCT	24(31.5%)	

**Table 5: Predictors of low VCT utilization (n=369)**

Variables	R-Square	R-Square change	F-Change
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Perception of importance of VCT.	.424	.031	0.0001
Competence of VCT Counselors	.455	.031	0.0001
Youth friendliness	.458	.002	0.334