



ISSN Print: 2394-7500  
ISSN Online: 2394-5869  
Impact Factor: 5.2  
IJAR 2015; 1(12): 18-38  
www.allresearchjournal.com  
Received: 06-09-2015  
Accepted: 02-10-2015

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## Dynamics of HIV voluntary counseling and testing uptake among the rural and urban communities of Nakuru District, Kenya

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### Abstract

While there has been an increasing attention towards HIV/Aids epidemic with more emphasis being on raising access to care and treatment, these efforts are bound to become unsustainable due to a high rate of new infections. In 2007, for every HIV patient who was put on drugs six others became infected with the virus. Voluntary testing and Counseling has been suggested as the most effective intervention that could reverse this rate of infection. Its utilization in Africa and many parts of the world has however, been at an all time low. In Kenya where populations of over 1.4 million people are living with HIV/AID virus, less than 20% of the total population knows their status. The aim of this study is therefore to establish and document the dynamics of VCT uptake in Nakuru district of Kenya with a view to suggesting measures to increase this uptake. The main objectives of the study were to identify factors that influence VCT uptake and determine the levels of knowledge and prevailing attitudes on HIV testing. The role that gender play in VCT utilization was explored.

This was a cross sectional study in which a mixed research method methodology employing quantitative and qualitative data collection methods was used. Quantitative data was collected using a structures questionnaire while Qualitative data was collected using focus group discussions and key informant interview. The target population was residents of Nakuru aged 16-60.

The research found that the awareness regarding HIV and VCT among the community members is relatively high. However, there are still a significant proportion of people who hold misconceptions about the disease and more also the testing service. This may partially explain why people opted not to take the test. Further, Majority of the people wants to take up the test but both social and health system barriers such as gender inequality, the cost of taking the service, service operational hours, accessibility; misconceptions about the disease among others barriers make them not to utilize the service. The study recommend the adopting a more pro-active model of testing which could include mobile and home based testing to help remove most of these barriers and therefore lead to an increased uptake. Moreover promotional activities targeting couples, providing the service beyond the current normal working hours (8am- 5pm) weekdays and weekends.

**Keywords:** Nakuru, VCT, HIV/AIDS

### Introduction

In more than 20 years HIV/AIDS has become the worst medical catastrophe ever experienced by humankind. Globally it is estimated that over 40 million people are living with HIV/AIDS, with its impact likely to be felt for generations to come. Sub-Saharan Africa remains the region most heavily affected by HIV/AIDS accounting for 67% of all people living with HIV and 75% of AIDS deaths in 2007 (UNAIDS 2008) [44].

In those countries heavily affected, HIV has reduced life expectancy by more than 20 years, lowered economic growth, and deepened household poverty. In sub-Saharan Africa alone, the epidemic has orphaned nearly 12 million children aged under 18 years. The natural age distribution in many national populations in sub-Saharan Africa has been dramatically skewed by HIV, with potentially perilous consequences for the transfer of knowledge and values from one generation to the next (Global HIV working group, 2007) [32].

In 2007, more than 1.4 million Kenyans were living with HIV/AIDS; with the biggest proportion of this affecting Kenyans aged between 30-34 years compared to other age categories. Further, the burden of infections is reported to be higher among females than males up until age 35 after which the ratio of male to female infections starts to approach 1 to

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1 (KIAS 2008) <sup>[57]</sup>. Moreover, between 2003-2007 the prevalence of HIV in rural Kenya is reported to have increased by 58%. Forty five percent of these new infections are reported to have occurred among married or cohabitating couples <sup>[57]</sup>. (KIAS 2008) <sup>[57]</sup>.

While increased attention has been paid to HIV epidemic with more emphasis placed on access to care and treatment, efforts to reduce HIV incidence are faltering. For example, for every patient who initiated antiretroviral therapy in 2006, six other individuals became infected with HIV (Global HIV working group, 2007) <sup>[32]</sup>. If the current trends continue, it is projected that 60 million more HIV infections will occur by 2015, and the annual number of new HIV infections will increase by 20% or more by 2012. However, if comprehensive HIV prevention were upscaled scale, projections shows that half of new infections projected to occur by 2015 could be averted. In sub-Saharan Africa alone, for example 52% of projected infections could be prevented and the annual number of new HIV infections could be reduced by nearly two-thirds to fewer than 2 million infections by 2015 (Global HIV Prevention Working Group 2007) <sup>[32]</sup>.

One intervention that has been put forward is the use of voluntary counselling and testing. Voluntary Counselling and Testing (VCT) is the process by which an individual undergoes counselling to enable him/her to make informed choices about being tested for HIV. Underlying the offering of this service are two assumptions: first, that after being tested and learning HIV results, individuals positively change their sexual behaviour. The second assumption is that people want to know their HIV status and would utilize services if they were provided inexpensively.

When the Government of Kenya declared HIV/AIDS a national disaster in 1999, VCT centers were introduced as an intervention strategy to combat the pandemic. These centers are places where individuals who may want to know their HIV status can voluntarily go for a free service. The overall objective of VCT centre is to help decrease anxiety, stigma, fear, and the sense of hopelessness associated with HIV testing (MOH, 1999) <sup>[73]</sup>.

According to the Kenya's Ministry of Health, less than 20 per cent of Kenyans know their HIV status at the moment and there is an estimated 1.2 million HIV-infected Kenyans who do not know that they carry the virus (MOH 2008) <sup>[76]</sup>. In the Kenya Demographic Health Survey (KDHS) conducted in 2003, 67 percent of the respondents indicated that they would have liked to take a HIV test (KDHS 2003). In response to the findings the Government increased the number of VCT centers and allocated more staff and resources to these. Despite this development, a recent study by Ngatia *et al.*, (2007) <sup>[84]</sup>, showed the VCT uptake level still low. This study therefore seeks to determine the dynamics of VCT uptake among the sexually active Kenyan aged 15 -34 years.

There are several justifications for carrying out this study. Firstly, Voluntary Counselling and Testing is an essential component of effective response to the AIDS pandemic in that it targets behavior change. Knowing ones HIV status empowers people to make informed decisions about their sexual lifestyles that would otherwise predispose individuals to HIV infection and reduce the difficulties of dealing with HIV test results. It has also been hypothesized that in mature epidemics where death due to HIV is common, people who test HIV sero-negative will jealously guard their HIV negative sero-status

Secondly, VCT is a crucial step towards the use of antiretroviral therapy that greatly improves the quality of life among HIV infected persons. Furthermore, research in many countries has shown that people who know their sero-status, whether it is HIV negative or positive, drastically change their behaviour. (UNAIDS, 2001) <sup>[45]</sup>. One of the major government strategies is to make voluntary counseling and testing services widely available, so as to target majority of the population not yet infected and to encourage early identification of those who are infected for proper care services.

The final justification of carrying out this study has to do with methodology used in the previous studies reviewed. The majority of the studies reviewed have used people who have already volunteered to go for the test as their target population. There are a number of problems with this approach, firstly, in using those who volunteered for VCT, a strong self-selection bias is created – a bias that is especially problematic as there is good reason to suspect that those who volunteer for VCT are already fundamentally different to those who do not. It is highly probable that these volunteers are far more sexually responsible and at lower risk of HIV infection in the first place. It would therefore appear that targeting both service users and non service user would yield a more objective data on factors influencing its uptake. Moreover, the use of a mixed method methodology allows the researcher to go deeper on issues of voluntary counseling and testing uptake as opposed to use of quantitative methodology alone which is common among the existing studies reviewed.

The study research question is 'What factors influence utilization of VCT center's among sexually active Kenyans aged 18-60 years?' The main aim of this study is to establish and document determinants of VCT uptake in Nakuru district with a view to indentifying measures to increase uptake.

The broad objectives of the study was to determine factors that influence VCT uptake among rural and urban communities, to determine the levels of knowledge and prevailing attitudes on HIV testing among Nakuru residents aged between 18 years and above, and to establish the role that gender plays in VCT utilization.

### Material and Method

The researchers took objectivist approaches by admitting that factors that influence VCT uptake can be known by administering to the respondents, a standardized tool to measure various aspects of the respondents such as knowledge on HIV/AIDS, HIV/AIDS risk perception, attitude towards VCT service among other factors that may be associated with individual's decision to utilize VCT service. However he also admits that this can only be achieved within some probability and hence a need of other approaches that will complement it. Consequently a mixed research method methodology employing quantitative and qualitative data collection methods was deemed as the most appropriate.

The research was guided by post-positivist theoretical perspective. Post-positivists believe that human knowledge is not based on unchallenged, solidified foundations; but it is hypothetical. Nevertheless, they believe there are real grounds for asserting these beliefs, although these warrants can be modified or withdrawn in the light of further investigation (Crotty 1998) <sup>[24]</sup>.

Post-positivism assumes critical-realist ontology and an empiricist epistemology (Denzin & Lincoln 2003) <sup>[31]</sup>. Like its

earlier Positivist cousin, it posits a reality that is “out there” to be discovered, however, in contrast, the reality can only be known imperfectly and within probability, not certainty as in the naïve-realist position of Positivism. Post-positivism postulates, like Positivism, that the universe is comprised of objective, constant objects and structures that exist as observable entities, on their own, independent of the observer’s appreciation of them (Denzin & Lincoln 2003) [31]. Factors such as attitude towards the VCT service, knowledge about the HIV/AIDS, risk perception among other things has been associated with service utilization (Forsythe *et al.*, 2002) [24]. These can be measured to some degree using a standardized research tool and the level to which this influence the VCT uptake be known. However contradictions which may arise from the quantitative data may be clarified by collecting qualitative data.

This study was conducted in Nakuru central district one of the seventeen districts in the Rift Valley province of Kenya. Rift valley is one of Kenya's seven administrative provinces outside Nairobi, the largest and one of the most economically vibrant provinces in Kenya. The province covers an area of 173,854 km<sup>2</sup> with a population of 1,187,039 inhabitants making it the largest and most populated in the country. This province was selected for the study because it has one of the biggest numbers of people living with HIV/AIDS. According to the KIAS (2008) [57]. Rift Valley and Nyanza together contributed 50% of the People living with HIV/AIDS virus in Kenya.

The target population were people aged above 18 years living in Nakuru district. This age bracket was selected due to the fact that it is the age which is highly sexually active; the age when people are at risk also the fact that according to KIAS (2008) [57], people in this age carry the biggest burden of the disease compared to other age categories. The district was selected for its large population and the fact that it is the provincial headquarter to Rift Valley province.

To be eligible for inclusion to the survey questionnaire and to participate in focus group discussion respondents needed to fulfill the following criteria.

- 1 Be aged between 18 and 60
- 2 Be a resident in the district for at least six months prior to the commencement of the study.

A respondent meeting the above criteria were only excluded from the study on the basis of the following:

- 1 Where they were too sick to respond to the questionnaire or participate in a focus groups discussion.
- 2 Where they were under the influence of drugs or alcohol. This is because the opinions they express while under influence may not be reliable nor could it be valid.
- 3 Where they were mentally incapacitated. This is because under Kenyan law they do not have the capacity to give consent and also their opinions may not be reliable nor valid

A structured questionnaire was used as the quantitative method of data collection. The questionnaire included items on HIV/AIDS knowledge, attitude and practice and social demographic information on the respondents. The use of survey assisted the researcher to accurately describe the community through reaching as many of members of the target community as possible.

The benefits of the use of a structured questionnaire are many, First, it enabled the researcher to quantify community members with various community characteristics relation to the utilization of VCT services, allow statistical analyses to establish associations between respondents characteristics

and VCT utilization; make estimations on aspects such as the number of people who are aware of the VCT existence and the number of people who are aware of benefits of its utilization among other things.

Another advantage of using a structured questionnaire is that it was found to be an economical research tool in that due to the focus provided by standardized questions, only questions of interest to the researcher were asked, recorded, codified, and analyzed. Time and money was not spent on unnecessary questions. Moreover, structured questionnaire were found to be an efficient way of collecting information from a large number of respondents, provided a way in which Statistical techniques can be used to determine validity, reliability, and statistical significance of responses. This technique is also flexible in the sense that a wide range of information can be collected from the same individual without them feeling overworked.

The target population to which the structured questionnaire was administered were respondents aged between 18-60 years using VCT facilities in Nakuru central district. Study participants were drawn using the district health facility list maintained by the provincial health officer. This sampling frame covers all facilities in all districts of the province

A three-stage sampling procedure was used. Firstly, all the facilities were stratified on the basis of them being urban or rural (H=2). The second stage involved selecting facilities in which to administer the questionnaires. The number of urban and rural facilities from which the questionnaire was administered was allocated proportionately to the population in rural and urban residence. The sample for each stratum was then shared equally among the strata facilities selected. Finally, all clients coming for VCT service in those facilities were requested to respond to a structured questionnaire until the required sample in the facility was attained. For each facility in which the questionnaire was administered, one key in format interview was also taken one with a counsellor / VCT manager.

#### Sample size determination

A 95% confidence level with  $\pm 5\%$  margin of error (MOE) was desired for this study. The unadjusted sample size ( $n'$ ) required for  $\pm 5\%$  MOE using the conservative proportion

$$(p) \text{ of } p=0.5 \text{ (or } 50\%) \text{ is: } n' = \left( \frac{Z}{MOE} \right)^2 p(q)$$

Where

- $n$  is the desired sample size
- $Z^2$  is the standard normal deviate at the required confidence interval.
- $P$  is the proportion in the target population estimated who would like to be tested of HIV at VCT centers but due to many factors they have not taken the test.
- $q = 1 - p$

Therefore, sample size for the respondents was:

$$n = \frac{1.96^2(0.5 \times 0.5)}{(0.05)^2} = 384$$

The population from which this sample was being drawn is big enough (above 10,000) and hence finite population correction (FPC) was ignored because  $N$  (total number of clients) was large, and unadjusted sample size was larger

than fpc adjusted sample size, making  $n'$  the more conservative figure.

A Kenyan study investigating behavior change after visiting VCT conducted by Arthur *et al.* (2007) [6] reported a response rate of 78%, while another one conducted in Ethiopia, Kenya's next door neighbor by Getachew in 2004 (Getachew, 2004) [40] on factors influencing VCT uptake showed a response rate of 97%. It was therefore estimated that response rate ( $\phi$ ) of 80% will be achieved in the current

study. Consequently, the new sample size ( $n'_{adjusted}$ ) with  $\phi = 80\%$  is  $n'_{adjusted} = \frac{n'}{\phi} = 480$  clients.

Sample size of 480 was equally distributed between the two strata using proportional allocation:  $nh = \frac{Nh}{N} \times n$ . Refer to Table 1 for figures. Proportional allocation was used to ensure same sample weight for all strata.

**Table 1:** Estimations for stratified sample design

Stratum	h	Population served: Nh	Approximate number of facilities need to be selected	Sample size per stratum : nh
Urban facility	1	353,007	8	160
Rural facilities	2	834,032	16	320
Total	-	1,187,039	24	480

There were many benefits of including qualitative data collection methods in the study; first, the approach provided more contextual details than is possible with use of survey methods alone. A decision to utilize a voluntary counseling and testing service may be influenced by personal experience or societal factors. Consequently, in order to answer the questions of what factors influence individual decision to utilize a VCT service, this study must take in to consideration individual and the social context.

Secondly, community utilizing VCT services is at the heart of this inquiry. For the VCT service to be of benefit to the community, it must be modeled to fit the community. Community context here was deemed to be particularly important in that Kenyan communities tend to differ significantly in many ways. For example, Kenyan rural communities normally spend most of their time in the farms and may not be available in specific times when the VCT centre is opened. On the other hand urban communities may have more time at their disposal and hence more time to access VCT service. Other contexts such as culture, education level, income and so forth within the targeted community were taken into consideration while designing a project. Further, VCT relates to HIV/AIDS which has a bearing to sexuality. Sexuality is not a series of individual, episodic behaviors linked to specific acts and the physical body, but represents a range of sexual activities and norms, whose meaning and significance for both the individual and society change over time. (Di Mauro, 1995, [32]) hence a need for an inquiry that will cover these grounds.

Another advantage of including aspect of qualitative inquiry is that it can offer understanding of the meanings behind the actions and terminologies that may be used by individual or the community. Meaning depends upon context, and the interpretation of action or opinion must take account of the setting in which it is produced (Dey, 1993) [21].

Finally the inclusion of qualitative aspects in the current proposed study may help in correcting the bias that may occur during the survey method. Heisenberg claims that, 'what we observe is not nature itself, but nature exposed to our method of questioning' (Heisenberg, 1958) [47]. The data, which are gathered from that research, might be, in part, a product of the research process. The time and context in which the data were gathered will also influence those data (Dervin, 1997) [33]. Therefore, the using this method may provide some balance on the bias that may result from the survey method.

Key informants included the VCT counselors/managers. These were recruited purposively from the facilities in which

the survey questionnaire was administered. They were however expected to have worked in the centre for at least a six month period preceding the study. The purpose of conducting these interviews was to shed some light into such factors as their training needs, operational hours, and work load, other services they offer at the centre including service quality and issues relating to the supply of test kits and reagents, since these may influence the service uptake. The justification for conducting these interviews is that the researcher intended to get an in-depth account of issues associated with the running of the VCT centers including policy issues. Professionals working at the centre were thought to be more likely to have a better understanding of issues to do with VCT policies and those issues relating to the clients they serve. The advantage of using key informant interviews is that they were easy to administer and their ability to generate information from people directly involved with the service delivery.

The participants in the focus group discussions were recruited through Faulu Kenya an NGO that is involved in developmental issues in the district. Recruitment of participants considered age and sex characteristics to achieve homogeneous groups in terms of age and sex, to encourage free participation during the discussions.

The focus group discussions centered on participants perceptions of HIV/AIDS and VCT. Data saturation will determine the number of focus group discussions to be conducted with each category.

Validity in research refers to the degree to which the data corresponds to the 'way it is' within the phenomenon which is being investigated. To ensure credibility of the data collected in this study, triangulation was done. Triangulation refers to collecting data from different sources to confirm the validity. The researcher referred to the literature and the structured questionnaire to confirm validity. Another way that enhanced validity was including independent checks with multiple researchers. Additional focus groups discussions was also conducted to ensure the validity of the data and more specifically on issues found to be inconsistent during the preliminary data analysis.

On the other hand, reliability is the consistency of measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. To ensure the reliability of qualitative data, the researcher trained the assistants by going through the focus group and key Informant schedules with them to ensure that items in both focus groups discussion and key informant guides means the same to all research

assistants. Bi-lingua Kiswahili and English research assistants were used to conduct Focus groups discussion and the items in the guide being translated into the two languages prior to the research.

Validity of the data collected using structures questionnaire was ensured by checking it against other sources such as literature and qualitative data and clarifying any inconsistencies.

On the other hand, to ensure reliability of the data collected using structured questionnaire, the following was done. A pilot study was conducted and problematic items adjusted accordingly. Finally the researcher trained all research assistants to ensure that they understand each item in the questionnaire.

Qualitative data analysis was inductive which implies that categories of analysis was imposed *a priori* on the data but was identified through the analysis process using the following steps.

### Step 1 transcribing

The recorded data was transcribed

### Step 2: Preliminary exploratory analysis.

During Step 2 of data analysis the researcher explored the data in order to become familiar with the interview information. This entailed reading the transcript multiple times. From this initial review of the transcript it was hoped that the researcher will begin to see themes emerging from the data. Sections of the transcripts that reflect a theme were identified and notations made to record ideas that the researcher identified while reading the data.

### Step 3: Making connections to the research questions.

Step 3 involved describing and further developing the themes from the data to answer the research questions. The themes identified in Step 2 were revisited with the research questions as the lens for analysis. Coding scheme that best defined the themes identified was done to provide a way to break up the data for further analysis. At this point the transcript was re-read with these codes in mind and sections of the data bracketed and coded. A color code was used to identify these blocks

### Step 4: Inter-rater reliability.

To ensure reliability of the coding scheme, the researcher requested another person to assist. To do this the person was requested to review the transcript and use coding scheme used in step three above to code the data. Results were then shared and any discrepancies discussed and resolved.

### Step 5: Interpretation findings.

Once all of interview data was coded it was then divided into themes. This was done by cutting up the interview data "blocks" and sorting them into each of the codes identified above. Pasting the data onto index cards assisted the sorting process. The original in its entirety was preserved. Finally the data was reviewed within the themes or categories, and an understanding of each theme reached. Quotes were selected that best illustrated the meaning of the category.

The fact that key informants included in the study are few in number makes it impossible to maintain their anonymity in regard to the data they give. Confidentiality is ensured instead.

Another ethical limitation encountered in this study includes the fact that some of the respondents were not be able to comprehend some issues in the questionnaire properly and therefore needed to be guided through the questionnaire. This made it impossible for the information they gave to be anonymous to the research assistant concerned. This was however addressed by training research assistants on the need to maintain confidentiality during and after the process.

### Other ethical Considerations.

The approval to conduct this study was sought from the Human Ethics Committee of Victoria University of Wellington New Zealand and the Moi teaching and referral hospital Eldoret Kenya.

### Results and Discussion

A structured client-exit questionnaire was administered with the help of three research assistants to 480 respondents drawn from 16 VCT centers of the district; out of which 422 were completed and returned. Of these 268 (63.5%) were male and 154(36.5%) were female. The mean age of the respondents was 26.58 with a standard deviation of  $\pm 7.76$ . The youngest respondent was aged 16 years while the oldest respondent was 60 years. Other social demographic characteristics of the respondents were as shown in Table 2 below.

**Table 2:** social demographic characteristics of the respondents.

Characteristic	Frequency	%
<b>Marital status</b>		
Currently Married	142	33.6
Living with a man/woman as if we are married	94	22.3
single/Never Married	99	23.5
Divorced	11	2.6
Widow/widower	76	18
<b>Total</b>	<b>422</b>	<b>100</b>
<b>Religion of the respondents</b>		
Catholic	30	7.11
Protestants	352	83.4
Muslim	38	9.0
African tradition	1	.2
<b>Total</b>	<b>422</b>	<b>100</b>
<b>Education of the respondents</b>		
Have never attended school	15	3.6
Did not complete primary school	68	16.1
Primary	172	40.8
secondary school	105	24.9
Post secondary school (including college, university, other	62	14.7
<b>Total</b>	<b>422</b>	<b>100</b>
<b>Occupation of the respondents</b>		
Student	70	16.6
Farmer	136	32.2
Business	147	34.8
Professional	69	16.4
<b>Total</b>	<b>422</b>	<b>100</b>

### Level of knowledge on HIV/AIDS

The level of HIV/AIDS knowledge among the respondents was evaluated by asking a set of ten questions as a part of the semi structured interview. The knowledge items were in six domains that included awareness of the disease, the disease

cause, Mode of transmission, disease treatment, risky behaviors, and preventive measures. Majority of the respondents 405 (96.2%) indicated they had heard of the disease, 396 (93.2%) correctly identified HIV virus as the cause of the disease with 392 (92 %) correctly asserting that there is no cure for HIV/AIDS.

Regarding the sources of information on HIV/AIDS and VCT, respondents had multiple responses. More than half (52.6%) reported to have heard about it from the mass media (Radio and Television) while others got the information from other sources like relatives and friends, religious leaders peer educators and health workers as shown in Figure 1.

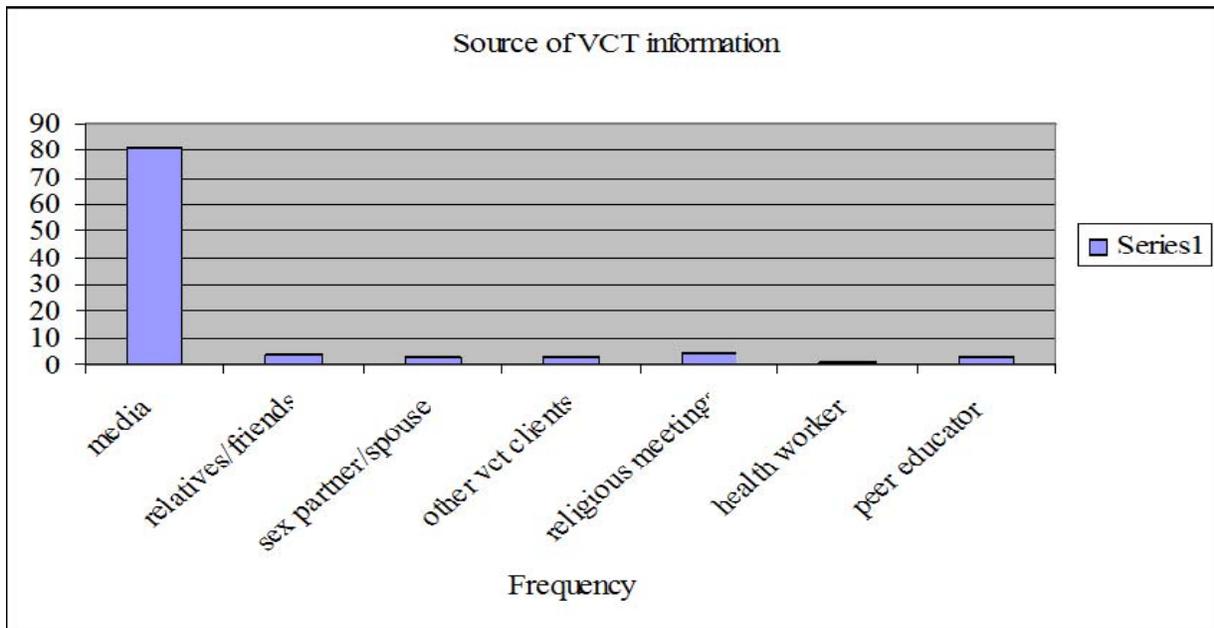


Fig 1: Sources of HIV/AIDS information for the respondents

Regarding the level of knowledge on HIV/AIDS prevention, a majority of the respondents depicted a high level of knowledge. Table 3 below shows respondents responses to a set of questions on issues related to with HIV/prevention.

Table 3: Respondent’s responses on issues to do with HIV/AIDS prevention

Item	True		False		Don't know	
	frequency	%	frequency	%	frequency	%
Abstaining from sex can prevent one from contracting HIV.	404	95.7	18	4.3	-	-
Use of condom can reduce ones chance of contracting	357	84.6	59	14	6	1.4
Limiting sex to one partner can reduce once chance of contracting HIV	409	96.9	3	3.1	-	-
Avoiding sex with prostitutes can reduce one’s chance of contracting HIV	413	97.2	9	2.1	-	-
Avoiding sex with a person who has many partners can reduce one’s chance of contracting HIV	406	95.5	16	3.8	-	-
Avoiding sex with homosexuals can reduce one’s chance of contracting HIV	393	92.5	29	6.8	-	-
Seeking protection from a traditional healer can reduce one’s chance of contraction HIV	16	3.8	402	95.3	-	-
Somebody Can get the AIDS virus from mosquito bites	13	3.1	406	96.9	-	-

In general findings in this section indicate a high level of HIV/AIDS knowledge among the respondents. This could be due to the fact that there has been a lot of HIV related work in this community and also the fact that this was a client exit interview meaning that some of the knowledge could have been attained during the counseling process. A bivariate analysis using Pearson chi square test on knowledge as the outcome of interest against social demographic characteristics of the respondents including age, sex, education level of the respondents and occupation showed no significant results on all four Characteristics.

**Risk perception**

HIV risk perception is an important determinant of behavior change and therefore complementing HIV and other sexually transmitted infections (STIs) prevention measures. Regarding this, respondents were asked if they considered

themselves to be at risk of HIV infection. A majority of 299(70.9%) respondents felt that they were at risk while 123(29.1%) felt they were not. Those who felt to be at risk of infection were further asked to rate their level of perceived risk as being high moderate or low. Majority of them; 153 (51.2%) felt that they were at high risk of contracting HIV, 75 (25.1%) considered themselves to be at moderate risk while the rest 71(23.7%) perceived their risk of infection to be low. Using Chi square test, marital status of the respondent was found to be significant in determining whether the respondent felt at risk or not. ( $\chi^2 = 9.929$ ,  $P = 0.054$ ). Single, divorced, widow/widower respondents were 1.35 less likely to feel at risk than those married/living with a man or woman as if married.

To assess their risk of exposure to the HIV virus, respondent were asked to state if they had used a condom in their last sexual encounter. 413(97.9%) respondents responded to this

question out of which 258(61.1%) reported having not used a condom in their last sex.

Further, in an open question, respondents were asked to state some of the benefits they expected to accrue in attending VCT. Responses to this included knowing their HIV sero-status, getting drugs if infected, getting good counseling, enjoying confidentiality, and acquiring HIV knowledge. Other benefits of VCT mentioned included enhancing risk reduction and being able to plan for their future.

To detect stigma related to HIV among the respondents, they were asked two questions touching on discrimination and their willingness to care to take care of somebody who is infected. A majority of the respondents, 92.9%, were willing to take care of a HIV positive patient. The question on discrimination was asked in a form of likert scale. Table 4 below shows how the respondents responded to this.

**Table 4:** Respondents level of agreement to assertion that people who test positive are most likely to be discriminated against.

People who test positive are most likely to be discriminated against.		
	Frequency	Percent
strongly disagree	151	35.8
Disagree	41	9.7
Agree	101	23.9
strongly agree	42	10.0
don't know	87	20.6
Total	422	100.0

Regarding VCT service accessibility to the respondents, they were asked to state whether they had previously attempted unsuccessfully to access the service. A majority of 339 (80.3%) had tried unsuccessfully to access the service at least once with 38(9%) having tried twice, 9(2.1%) thrice and 10 (2.4%) respondents having tried more than four times. On running Chi square test, Sex and age of the respondent were

found to be significant in determining whether a person had unsuccessfully tried to access a VCT service or not, with ( $\chi^2 = 9.375, P = 0.05$ ) and ( $\chi^2 = 29.38, P = 0.003$ ) for sex and age respectively. Table 5 below shows distribution of the respondents who had unsuccessfully tried to access VCT service by sex and age.

**Table 5:** Distribution of the respondents who had unsuccessfully tried to access VCT service by number of times sex and age

	Number of times the client has tried accessing VCT service unsuccessfully					Total
	once	Twice	Thrice	Four and above		
Sex of the respondent	Male	174	26	9	9	268
	Female	108	12	0	1	154
	<b>Total</b>	<b>282</b>	<b>38</b>	<b>9</b>	<b>10</b>	<b>339</b>
Age category of the respondent	16-25	149	13	1	8	215
	26-35	109	20	8	2	173
	36-45	8	5	0	0	15
	Over 45	16	0	0	0	19
	<b>Total</b>	<b>282</b>	<b>38</b>	<b>9</b>	<b>10</b>	<b>339</b>

Females were 1.7 times less likely than male to have tried unsuccessfully access a VCT service. On the other hand younger people 16-35 were more likely to have unsuccessfully tried to access the service than people of above 36 years. This may suggest that the service being offered may not be young people and male friendly.

On the distance of the VCT centre location in relation to the respondents' home, respondents were asked to state whether the centre they took their HIV test from was the nearest to their home. 303(71.8%) responded to the affirmative while, the rest 119(28%) asserted that the VCT centre where they took their test from was not the nearest to their homes. Those who indicated as having travelled far to take the test were further asked to state their reasons as to why they had opted to take the test from their specific centre of testing. Some of the reason given included being more conveniently located as compared to other VCT centers near respondent's home 11 (9.2%), preference to be tested away from home where they are not known 17(14.2%), being able to secure a VCT test appointment immediately 65(54.6%), and being referred to a particular VCT centre by a health worker 26(21.8%). It is worthy to note that being able to secure VCT test appointment immediately was reported by the largest proportion of those who had travelled for a longer distance for the test.

To gauge the quality of the service offered at the VCT various questions relating to the client satisfaction with the service, service accessibility to the client, convenience of the counseling room, privacy enjoyment and the time spent with the counselor and the counselor's attitude towards the client were asked.

Regarding the level of respondent's satisfaction with the service they received respondents were asked to rate the service in terms of whether it was satisfactory, good and bad. 61% reported the service to be satisfactory. 33.4% reported the services to be good while only 5% thought that the services were bad.

On the convenience on the counseling room, 409(96.9%) of the respondents reported that it was convenient while 13(3.1%) reported that the counseling rooms were not convenient. This can be an encouragement to the clients to tell others about the counseling rooms which may increase the number of those visiting the VCT centers.

Regarding privacy during counseling, 398(94.3%) reported that they enjoyed privacy while 24(5.6%) did not. Since privacy is crucial in VCT counseling, it should be noted that the smaller percentage could have had important issues with privacy. This needs to be addressed at the counseling centers. Regarding time spent with the counselor. Nearly 275(65.2%) reported that the time spent was just right. 93(22%) reported

that the time was too long while 54(12.8%) reported that the time was too short. Since professional counseling has stipulated time for each session, the clients who thought the time was too short may have had too many issues that had to be addressed while those who reported that the time was too long could have gone just for testing. They may not have wanted to address the issues the counselors thought were important. This emphasize the importance of the counselors to address the issues directly as they are raised by the clients. On the counsellors attitude towards the client 258(61.1%) of the respondents said it was satisfactory, 140 (33.2%) said it was good and 24(5.7%) classifying it as bad.

Most of the People who participated in the focus group discussions are familiar with the matter relating to HIV/AIDS, and admitted to ever having a discussion on the topic Some of the people mentioned with whom they discussed the disease included close friends, family members, older men and religious leaders. Among the young people who admitted to ever discussing the disease, close friends and family members are most preferred with preventing themselves from the disease being the main goal of the discussion. This was particularly commonly expressed by young male. For example one male remarked

*Yes I do discuss this with my friend, it is far much easier to do this with them, i want to know how to protect myself- young male participant*

In regard to those who never discuss the disease, varied reasons were given. These included lack of information about the ailment, shame, and the fact that some did not feel comfortable discussing sexual matters in the open. Female participants were more likely to register shame and discomfort in discussing the matter in the public than their male counterpart. One of the young female participants remarked

*'I think it is shameful to discuss something like that in the public'- Female youth*

A question as to whether they would like to know their HIV status elicited mixed reaction. Those who would want to be tested cited such benefits ability to plan for their future, increase their health status awareness and hence be able to protect themselves and their partners in future. The following remark by a young male participant is a typical of expressions made by the participants.

*Of course I would want to be tested...I want to know how my body is and also know how my partner is before we get married. – Young male*

For those who did not want to know their HIV status, varied reasons were given. These included fear of the fact that if found positive they would be discriminated against in the community, overpowering fear of mental and physical distress and certain early death if one is HIV positive; which clearly outweighed the somewhat intangible benefits of being able to plan one's life and not infect others. This was shown in such expressions in the following.

*I have been thinking about it, I am not yet confident to take the test because I do not know how I would be able to handle the results. I am not sure how I will be able to face people if I am found positive. - Male youth*

Participants in married unions feared the possibility of dying early and leaving behind their children without a person to take care of them. One adult participant remarked the following.

*I have children, if I am found that I am infected I would be miserable. I don't want to start getting stressed about who will take care of my children when I am gone. – Female adult*

Across all the categories of participants there was a common feeling that people who test positive to HIV may not discuss their status for fear of being abandoned and loss of reputation. Where they choose to do so, it was reported that they do that with other people who has tested positive to HIV or family members. The general feeling was that they confided with people who are also infected and family members so that they can get support. However while family members were mentioned as possible people with whom a HIV positive person may confide, it was remarkable in the findings that women were not likely to discuss the results with their spouses unless they went for the test together. The following is a remark by one married female adult.

*There is no way I can tell him, I do not want problems, and he will ask me why I went to the centre without his knowledge. I know he would be angry with me. - Married female adult.*

#### **Attitude towards contracting HIV**

Most of the participants were of the opinion that many people of their age or sex are worried of contracting HIV/AIDS. Some of the main reasons given as to why people are worried included the fact that if infected with HIV you die slowly as compared to other diseases and also the fact that contracting HIV gave certainty of an early death. A married female remarked the following.

*Yes I am worried, if you get the disease, people will watch you as you die slowly and they will not be able to help you. People will also run away from you, you will loose your dignity... others will think you are promiscuous- married female adult.*

Youth participants were more worried of contracting the disease in that it is known to disrupt person's goals in life and someone's ambition to move towards set goals. A small proportion of youths expressed fear of contracting the disease in that they would be rejected by their families and friends. Youths from rural areas expressed fear of contracting HIV saying that this would make them unproductive and also make them a burden to their families. They also expressed fear that their financial burden would increase. Another fear of being infected with HIV expressed was the possibility that a person would be rendered poor. The following are remarks by urban and rural male youths.

*It is terrible to be found HIV positive; this would mean that someone's life has to be re arranged, your visions in life are gone. People will no longer be able to associate with you well –Urban male youth.*

*If found positive to HIV, it means that with time you will be weak and you will not be able to work on your shamba (farm). If you have a family they will have to depend on others. You will also be a burden to your own family and the society too. - Rural male Youth*

A prevalent cause of worry among the adults expressed by most of the participants is the fact that HIV/AIDS is an incurable, frightening illness that causes a great deal of distress and, as a result, children are orphaned with no support or guidance. This type of fear was more prevalent among the adult women than it was among adult men. Some men expressed the fear of the fact that the disease would render them ineffective in as far as providing for their family is concerned. They were of the opinion that the disease would make them weak and hence unable to work. One female rural adult remarked the following.

*People are worried because they will die slowly. It is frightening to have your children see you die as they watch and not be able to do anything for you. Even more difficult would be the thought that you will leave your children without anybody to take care of them, nobody to guide them in this life. –Adult rural woman*

Some adults' participants expressed the fear that if they got infected they would be rejected by the members of their families and also by friends. This was particularly commonly mentioned by young adults. Another fear expressed by adults was that the disease is usually associated with promiscuity and therefore if infected they feared that they would be labeled promiscuous.

A small number of the participants were of the opinion that people of their age and sex are not worried of contracting disease. Some of the reasons given for not worrying included the fact that AIDS is a disease like any other and contracting it may as well be a bad luck; and that while there is no cure for the disease at least there exist some sort of treatment that makes somebody live a good life even after contracting the disease. A small group of people mainly drawn from urban youths were of the opinion that AIDS is like an accident, which you cannot be able to predict, and therefore there is no need to worry about it. A good example of this opinion are remarks by two urban male youths who remarked the following.

*Look, it will never be possible for you to fully protect yourself from the infection. For example every time I go out with my girlfriend, I trust that she has been faithful; I have no way of proving otherwise. You just have to be lucky not to contract the disease- Urban male youth.*

*It is unthinkable that you can get the infection from the very people who are meant to protect you. I have heard of people who got infected while using public health facilities. Accidents do occur and we have no way of protecting ourselves from them. Only God can -Urban male youth*

### **Attitudes and Perception towards testing**

To assess participants' attitudes towards HIV testing, they were asked if they thought people like them would want to know their HIV status and also state reasons as to why they would or would not want to know their status. Regarding this, participants expressed varied opinions across all categories of age and sex.

Respondents in favor of testing gave varied reasons for wanting the test. Participants in the youth groups felt that testing for HIV is good because it helped a person to protect themselves against the diseases and also be able to plan for their future with a bit of certainty. Another small number of

participants felt that if people knew their HIV status they will avoid infecting others. Common feeling by youths is that testing for HIV would enable them live a longer life and be able to plan accordingly for example when they want to get married as indicated in the remark below.

*People who know of their HIV status are able to plan for their future, at least you are sure of your health status, you do not need to worry of imminent death but you concentrate on doing what you have to do to enable you have a better life- male youth*

Moreover, youths said testing was important in that a person attains a sense of being safe if found negative and for those who test positive could use the chance to educate others on remaining negative as indicated in one youth's remark below.

*When you are tested of you tend to get more information than otherwise, you feel safe you are able to educate your colleagues as pertains to this disease- male youth*

Another opinion regarding HIV testing by the same group is that a person who has been tested becomes more confident in setting future goals.

Regarding the same, adults had varied reasons as to why someone should or should not take a HIV test. A number of respondents thought that knowing one's status helps in planning for their future and particularly if one had in the past been exposed to the disease through risky sexual practices, such as unprotected sex as expressed in the following remark by one adult female.

*Some of us may have trodden the wrong paths... we need to know how safe we are for us to be able to plan for our life- adult female*

Among the rural adults living happily was the common reason given for HIV testing. Another reason given as to why HIV test should be taken by adults living in the urban is the fact that people would want to know if they are 'healthy' or not (where health implies a HIV negative status) so that they do not end up paying a lot of money for a Visa that will not be granted if found HIV positive and also the fact that some employers required the test while employing as expressed in the remark below.

*It is important particularly if you want to travel. Many of the embassies require that you take a comprehensive health test. This is expensive and if you knew your status before this could save you a lot of money. - Urban male adult*

Some of the reasons given as to why people would not want to test for HIV included the fact that people who test positive may be rejected by their family and friends, they may live a stressful life just by knowing their status and that people who test positive to HIV may commit suicide and were said that they will have a reduced productivity by mere knowledge of their status. Example of these views is as expressed in the following two remarks by adult male and female.

*One reason as to why I think people opt not to take the test is the fact that they do not want to be rejected by the*

*society, if you are known to be HIV positive people will definitely not treat you as normal.- Male adult*  
*If you know you are HIV positive you will have stress, you productivity will go down soon you will be laid off-*  
*Rural female adult*

Asked to give opinion on whether HIV positive people disclose their HIV status, most participants were of the opinion that that HIV positive people not discuss their status. For the few who do it, they were said to discuss it their health care providers, family members, close friends or with other HIV positive people; a belief especially prevalent among female youths and adult groups. As to why they do discuss their status there was a general belief that they do this in order to get support from healthcare workers, the family, friends and other HIV positive people. Among the adults there was a general feeling that those HIV positive people who discuss their status in the public they do this in order to build HIV awareness. This was as captured in the following remarks by adult males

*I do not think many people discuss this but I once had a close friend who confided in me, he had to because he did not have anyone else to talk to. HIV positive people need support from us as friends and family. – Adult Male*  
*Yes people discuss this to educate others on the disease but these are few people who are courageous. -Adult Male*

Asked why they think that HIV positive people do not discuss their status, participants had varied views. Among the adult groups, the main reason given as to why HIV positive people do not talk about their status is the belief that HIV/AIDS is “a shameful disease” associated with people of loose sexual morals. Prevalent believe among the youths is the believe that people would be ostracized in the community and therefore they prefer to keep it to themselves. This opinion was expressed in the remark below by a female youth.

*AIDS is a sexuality disease. The society has taught us that matters of sex should only be discussed in the bedroom. It is counted as shame to talk about it in the open. - Female youth*

Female youth expressed a belief that HIV positive people do not discuss their status for the fear of being the subject of gossip among their friends that may leads to a loss of reputation in the community, loss of confidentiality and increased isolation and rejection as expressed in the following remark by a female youth.

*Who would want to subject themselves to gossip, definitely they will loose dignity if they did that. They do not want o be the subject of the day. - Female youth.*

Regarding participants’ awareness of a place where they could take a HIV test, all the participants were able to mention at least one place that they could go and take the test from. Asked how they came to learn about these places respondents had varied answers. These included personal referrals, brochure and posters, radio, television, referral by community healthcare workers and barazas (community meetings).

On the expected benefits by someone who undergoes HIV counseling and testing two common themes emerged. The first theme and the most prevalent is the perception that people who go through HIV counseling and testing receive some kind of support that help them to either stay negative if uninfected, or to live positively if infected. Some of the benefits mentioned alongside this theme for people who test positive to HIV included getting advice on bodily care, getting advice on nutrition, getting advice on family planning and getting advice on available treatments regimes for the disease. For people who test negative to HIV, participants mentioned that they can expect to get advice on family planning, safe sex, and more HIV education. This was as captured in the following remark by adult female.

*Well there are a lot of benefits but it depends on which side of the river you are, if you are infected the doctor (actually means a counselor) will help you to know how to take care of yourself, what to eat where to go for treatment among other things. If you are no infected with the virus, at least you will have more confidence in yourself and you will learn how to take care of yourself so that you do not get infected.- adult female.*

Some participants believed that once a person knows his or her sero-status whether positive or negative, they learn some methods of protecting themselves and others from disease. Several respondents cited condom use as an important component to this behavior change. This was clearly captured in the following remark by a young male participant.

*If someone knows how his/her health is it is a step in protecting him/her self from the disease. I expect the counselor will teach them on the best way to do this. How to have sex safely without endangering other people. - Young male*

Among youth, a few respondents cited free or affordable services as a VCT benefit, as well as trained counselors who will share with them when they are scared and prepare them for testing results.

*At least VCT is free and by attending I will learn more about the disease for free. -Young male*

Among adults, several respondents thought that counseled clients can then counsel others. This response was particularly prevalent among adults. The quality of counseling was also an important benefit to some adult respondents, such as preparation to receive results and, for a few 30-39 year olds, receiving advice on reproduction issues.

*When you are counseled, you get proper information which you can pass to young people who depend on you for direction and also you can help your colleagues.- adult man*

The second emerging theme on the expected benefit is the fact that knowing someone’s HIV status would eventually lead to a reduced HIV infections in the general population. Most of the respondents were of the opinion that VCT increases a person’s knowledge of the disease which helps in protecting themselves better and in the long run lead to a reduced prevalence in the general population. HIV

Counseling component of VCT on the other hand was expected to aid in personal behavioral change among the respondents a thing that was said to translate to reduced rates of HIV /AIDS prevalence. The following remarks by adult male participants show is an example of these beliefs.

*You see if everybody knew their status and they are not malicious, they would protect others who are not infected. This would reduce the burden of disease in our community- adult male*

Some youths were however of the opinion that people who test negative to HIV may have a reinforced false belief that would make them engage in risky sexual behavior which in turn increase their chance of contracting HIV and hence an increase in the prevalence of the disease in the general population as expressed in the following remark by one youth male participant.

*To me I see it in the other way. People who have gone for VCT and tested negative can start thinking that they are untouchable by the virus, they may continue in their behavior, if they do then I don't think what he is saying would be true..... We would actually in that case, have more people infected than we already do.-male youth*

Asked which people would be interested in taking HIV test, majority of the respondent irrespective their age sex and geographical locations felt that basically everyone is interested in knowing their HIV status. The few who felt that not everybody is interested in taking the test argued that people who are sexually active may be more interested than those who are not sexually active, in order to know their status. It was also commonly mentioned that youths are mostly affected and should therefore be on the front line in knowing their HIV status. Few people thought that Health care workers could be interested in that they come in to contact more often with sick people. The following remark by a young female participants captures this view.

*I think it depends; people who engage in sex may want to know if they have been infected. If I don't engage in sex then why would I doubt myself? - Young female*

Another category of people mentioned that could be interested in taking up the test are the people who has recently divorced or people who are courting and would want to get married soon. Mature people category of respondent and predominantly women, thought that VCT would help strengthen spousal relationship if there was mistrust between couples as captured in the following remark by an adult female.

*You see, this thing would be helpful to families. Where both husband and wife know the status of the other it would boost trust, the problem is only that our men do not agree to go with us-adult married female*

Asked whether people like them (the respondent) would be interested in taking a HIV test, majority of youths were open to the idea compared to other groups. Adult respondents were more interested with information about the disease rather than taking the test so that they can use that to help young people in their families.

*This thing is very new to us, we do not know many things about HIV, if we go see the doctor, (actually means a counselor) I would be taught many things. I awareness n future when my friends and my children comes me, I would be able to direct them well. Right now I have nothing about it to offer*

Regarding hindrances to VCT utilization, frequently mentioned impediments included inaccessibility in terms of distance to their homes, lack of privacy, apprehension of a positive test, fear of being stigmatized, transport cost to the VCT centre, and location of the VCT centre in relation to other services in the centre as captured in the remark by one adult male living in the rural area.

*Look at it this way, the nearest VCT centre to our home is at Nyojoro (name of a trading centre). This is ten kilometers away. To access it I would need to take a matatu (mode of public transport) because if I have to walk I will take a whole day, I have other work to do. – rural adult male*

The fact that the disease has no cure was also seen as an impediment. Participants saw no need to get tested if they will get no cure anyway as the following young male living in the rural area remarked.

*Even if you are tested and found positive, nothing much will happen, it is just in vain, you will not be cured – young rural male*

Among the adult respondents' Work load was the main hindrance to VCT utilization. The need to attend to other responsibility presented them with less time to visit the centre for the test as suggested in the following remark by one adult male living in the rural centre.

*The centre is ten kilometers away. To access it would need to take a matatu (mode of public transport) because if I have to walk I will take a whole day; I have other work to do. –rural adult male*

Fear of what their parent would think if they found that they had gone for a test was also said to be another hindrance among the youths. One female youth remarked the following

*I do not know, but I am not sure what my parent would think if they found out that I had attended a VCT. Perhaps if I am free with them and they gave me their support I would be able to do this. -Female youth*

Women reported that many people would be willing to go for a test if the services were free or affordable. The issue of the location in relation to their home location also came up. The issue of having to get appointments to attend a service was also seen as a hindrance. One female rural resident participant expressed the following

*You see my schedule is such that I wake up early in the morning, prepare my kids for school, milk the cows, take the milk to the sale centre, go to the farm, prepare lunch for my children go to the farm again until it is late in the evening to come back just in time to do the milking again. If you look at this schedule it is impossible for me*

*to get a lot of time in order to observe strict appointment needed for the test. I tried in the past and failed. I am still waiting for the time I will be available.-adult female rural resident*

Another hindrance to take up the test was lack of close friendship among the youths. Having friends to walk with to the VCT clinic was said to be a motivation as expressed by the following remark by a one female youth.

*Me I would say that some people me included fail to go for the test because we do not have friends who we can go with at the centre. It would be scaring to go alone. If my buddies supported me and agreed to go with me perhaps I would take the test. Female youth*

There were also concerns about the quality of the service and attitude by the providers. Few participants cited apprehension that counsellors may be unfriendly, are judgmental and “boring”. A few respondents feared that they could get wrong results from the test. One adult female living in the rural area remarked the following on this.

*One time I had taken my first born to the hospital. I did not have enough nappies to change the kid in as I hand left the house in a hurry. The nurse was not very kind to me; she called me all sorts of names accusing me of being lazy and ignorant. I fear this are the same type of people that are running VCT facilities. We should have friendly people running the centres. I do not want ever to go through the same again and especially when it is about HIV/AIDS-adult rural female.*

Regarding motivations to taking the test, participants had varied Ideas. Among the participants whether married or not, educating people on HIV/AIDS and stressing the importance of knowing one’s sero-status would motivate them to go for HIV testing. Youth thought that the location of the VCT centre in relation to their home coupled with the location of the counselling room in relation to other services offered at the centre could be a motivating factor. Some youths also believed that free, private and closely located VCT centres would attract more people to take the test. Few youths suggested parental support to be key in deciding as to whether to go for HIV test or not. The above views were well captured in a remark by one female youth in the following remark.

*You see, our local VCT is about 10 km away, If I need to get a test I have to walk for all that distance and that will take a lot of time, it means then I have to get permission from my mother and I do know how I would explain this. She will automatically know that I have been having sex. Female youth*

There was a feeling that if VCT was marketed properly where by people are educated HIV together with other common health problems like malaria people would be more likely to take the test when HIV testing is promoted alone. There was feeling that promoting HIV alone made it seen as an extraordinary disease which in the process promoted fear in people as expressed in the following remark by one adult male.

*I believe people already have an attitude against the disease. The way adverts come about in the television is*

*usually very scaring. People do not believe that it is a normal disease; they put pictures of very thin people, dying people. This makes people opt not to take the test. They would rather die without knowing than to imagine they will be that thin, that miserable. - Adult male*

While it is a common practice to offer the service for free to all the willing people, respondents felt that this was not really free in as they needed money to travel as expressed in the following remark by one adult male residing in the rural area.

*We are told the service is free but they do not consider that I have to travel to the centre which is miles away. I am also aware that good centers charge for the service, why can’t the government have a VCT centre in our shopping centre nearby, this would be very advantageous to us, it would save us a lot of time and money.....-male rural adult*

Other motivation to take a HIV test mentioned included lifestyle change, such as marriage, new sexual partner, pregnancy or taking a new job and the need for adults to plan for their children’s future or where they think one of them is unfaithful. Moreover, the respondents felt if people were educated on how the anti retroviral drugs work, they would be motivated to take up the test. They felt that misconception on ARV drugs and HIV disease drives people away from testing as expressed in the following remark by one adult male urban resident.

*Me I feel that people do not understand how these drugs they say are available works, if we they are shown how the drugs work perhaps they will find the wisdom in testing-urban male adult.*

Finally, some respondents from all age groups thought that incentives like money, t-shirts and drinks should be offered as an encouragement to get HIV testing.

As to whether individual’s behaviour might change as a result of knowing his/her sero-status, participants had divided opinion. Majority of the participants were of the opinion that once tested people would definitely act in some ways that would either increase the rate of infection or decrease it. Some people felt that if people knew their status to be positive they would take care of themselves and their partners while others felt that this would make them commit suicide or even infect other knowingly in revenge. One urban resident adult male remarked the following.

*In my opinion, if people knew that they are HIV positive, they are likely to change their behaviour. Regrets would set in and probably this will make them change their sexual behaviour. No body wants to die fast, they want to take care of themselves and others too.-adult urban male*

Of those who test negative, many respondents felt that they would change their behaviour; in order to preserve their HIV negative status. A small group of youth felt that they would not change their behaviour since they would think they are immune to the disease as expressed in the following remark by a male youth.

*To me I see it in the other way. People who have gone for VCT can start thinking that they are untouchable by*

*the virus, they may continue in their behavior, if they do then I don't think what he is saying would be true..... We would actually in that case, have more people infected than we already do.-male youth*

The popular mode of VCT promotion among the participants was mass media (radio, television, newspapers, posters, pamphlets and magazines). Other modes preferred for VCT promotion included Youth fun centers, youth groups, and fun days. Barazas (public meetings) and other public forums were more preferred way of VCT promotion among the rural residents.

On the type of information the participants would prefer to get when VCT service is promoted, opinions were varied. These included information on the VCT location, the operating hours, information on any charge and information on other services offered at the centre. On the HIV test itself, participants expressed the desire to get information on the nature of the test (how it works) the procedure that a client goes through while taking the test, and how the results are interpreted. Other type of information desired included information on HIV prevention, and treatment. Few people mentioned that they would like information of other sexually transmitted disease to be included in the package.

Further the respondents were asked to enumerate the type of service they would expect when they go for a HIV testing at VCT centre. Participants' opinions varied on this. The most regular response to this question in all the categories was counseling and HIV testing services. Young people groups expected information on HIV/AIDS control and prevention such as information on condom use as well as information of other sexually transmitted disease. Adult respondents expected that on top of HIV counseling they would be educated on how to counsel their family members who may need their help.

Regarding the desired mode of service, participants were asked to state how they would like to be served at the centre. The most frequent response by the participants regardless of their age sex and geographical location was related to issues of quality. Participants felt that they would be more comfortable going for the test if they were assured of the quality of the service. Other frequently mentioned issues of service included assurance of their confidentiality, polite and respectful communication by the counselors, and courteous treatment even with an HIV positive status, private service and rapid results. The issue of timeliness by the counselor in regard to appointments was also mentioned by a number of people. Respondents particularly expressed displeasure with waiting in the queue for a long time. All age groups expressed preference to be counseled by people their own age and sex.

Regarding the training background majority of the counselors had undergone some training ranging from basic counseling certificate to a diploma in counseling, with most their training experience ranging from one year two 10 years. On the number of clients seen by the counselors daily, all the key informants reported to being able to see an average of 20 clients every day. Two of the respondents reported to having to frequently turn away clients due to lack of capacity and time to see them.

Asked about the major concerns that the clients have when coming for the test, respondents cited apprehension of a positive HIV test result, fear that their spouses will not agree to come for the test and possibility of getting wrong results.

*I once had a woman client who was so fearful that she is already positive, because she thought that her husband was not faithful. I took a lot of time to talk to her to allay this fear; many of them have this fear that they are infected even before they have taken the test.- Key informant Nyojoro VCT centre*

Regarding to accessibility and convenience of the service to the intended users, Key informants were of the opinion that there is a need to adjust the current service delivery time whereby it is offered between 8am and 5 pm, to allow easy access for working people during lunchtime, early evening and weekends.

*.....thirdly I would make sure that this service is offered even the weekend because there are people who are working; others would want to be served even after five in the evening because they have been in at work the whole day. I would make sure that the service is offered for as late as 6 pm and over the weekend. - Key informant Rongai*

One key informant suggested a need for additional spaces in the counseling centre for other activities such as providing a supervised space where children can play to enable less interrupted counseling session. Other activities suggested included youth friendly centre where by youth activities can take place.

*About restructuring VCT should be given a good plan whereby there is good flow of clients. Like you see here patients are mixed, sometimes others do not want to be seen coming for VCT. If there was that good planning it would be possible to put a reception, and a place where the clients waits comfortable with reading material and a television set. When I was being trained I was told it's good to have it to keep the client busy and also put educative programmes running.- Langa Langa*

Asked to give to give some of the areas that need to be improved to make the service both effective and efficient, supervision, opening times, good planning of the building where VCT service is to be located as well as good budgeting were mentioned.

*One thing that personally I think it is not done well is about supervision. It is started quite late. For me supervision is important. Many counselors are doing wrong things, the counselor is alone in the room and can do anything. Whether they do the correct or the wrong procedure no one would know. I would recommend an observed practice. The counselors can actually observe each other in practice so that if one person is failing the can correct each other. Supervision is one of the things I would insist. It should be that if one does not go for supervision then they should not practice- Key informant FPAK*

Moreover, data management was said as not aiding the VCT service at all despite the continued collection of the data. The reason for this was said to be the fact that nobody ever analyses the data and also because the data do not capture what is important for the centers in question

*Another thing is about the data. I think there is too much data; there is quite a lot of it that have discrepancies. You find like now for example the data forms that we have is not applicable to children and polygamist, some of them do not capture anything. And then by the end of the day why are we collecting that data? it is not even applicable for our own report. If we improve on this data it can be analyzed and help us collect statistics and may be change some policies. - Key informant FPAK*

Regarding Linkages to other services, all key informants cited the existence of a comprehensive care centers at the location of the site. All of them referred the patients who test positive to these centers unless the client wanted to go elsewhere.

*We have a comprehensive care; we do have all the facilities needed to take care of the patient. We have a model of care which is comprehensive. We also have support groups. However the client has an option to go elsewhere they like. - Key informant FPAK*

## Discussion

The purpose of this study was to describe the dynamics of VCT uptake among rural and urban communities of Nakuru district, Kenya. It is now acknowledged that HIV voluntary counselling and testing are entry points to HIV related care and prevention services and that it provide opportunities for people to reduce their risk of acquiring or transmitting the disease. The study was commenced due to the fact that although the VCT services are free in the country, the uptake has been very low. According to the Ministry of Health, less than 20 per cent of Kenyans know their HIV status at the moment. Moreover, an estimated 1.2 million HIV-infected Kenyans do not know that they carry the virus and therefore do not receive any sort of HIV-related care (MOH 2008) [76]. Some aspects of the VCT service, such as the performance of the counsellors, clients' attitude towards testing, HIV stigma, VCT centres' operating hours, accessibility, among other aspects were expected, from previous literature, to play a significant role in VCT uptake and these formed significant components of the study tools.

Majority of the respondents responding to client exit questionnaire were aged 16-35 years. This was similar to other studies (Fylkesnes & Siziya, 2004; [37, 41]. Jereni & Muula, 2008). This could be explained by a perception that young adults feel more at risk because of their own activities compared to older people, especially in relation to sexual behaviour. It is also possible that young people have more comprehensive information sources than older adults. Equally, it is also plausible that older participants were less willing to accept VCT for fear of stigma or unfamiliar practices than were the younger people. Indeed this apprehension was expressed during the focus group discussion with adult male and female participants as one of the main reasons why they had opted not to take the test.

More males than females attended VCT. Studies on VCT uptake by gender sends mixed signal with some indicating a higher uptake by males than female (Reilley *et al.*, 2004, Adamasu & Fitaw, 2006) [2] research and others (Olewe *et al.*, 2008) [58] indicating a higher uptake by female than males. The inconsistency in these studies might be due to differences in target populations, service delivery,

geographical, and social-cultural context; and adjustment for confounding.

A possible explanation of this uptake imbalance in the current study could be in gender roles and relations which limit control by women in matters regarding to sex. Uptake of VCT by female clients is influenced by the power women wield within a sexual relationship. In Kenya just like any other African country, women are ranked lower in the gender hierarchy. Married women are still often subject to their husband authority and may therefore have to get permission from their husband, to go for a test. This was regularly cited during the focus discussion with the married female participants as one of the reasons as to why they had not taken the test. Being an unmarried female does not help the situation either as gender inequality permeates to the larger society, whereby unmarried female is expected to get permission from the male partner or in case of a minor, from the father. A study considering the role of men in the prevention of mother to child transmission of HIV (PMTCT) conducted in Botswana by (Kebaabetswe P *et al.* (2003) [42], revealed that men did not support idea of their wives/partners being tested without their permission. Female may refuse VCT in order to avoid potential negative consequences in case of disclosure of a positive HIV test result. A study tudy by Gaillard *et al.* (2000) [6] showed that 68% of HIV positive women in a resource poor setting in Africa, did not inform their sex partner mainly for fear of their reaction. Other studies (Campbell,) [25] has also reported such disclosure being met with such consequences as Violence, the breakup of marriages, being neglected or disowned by their families, loss of security, shelter, food, relationship; and even murder. Further, in Kenya, HIV or sexually transmitted disease in women is associated with a higher level of stigmatization associated with premarital and extramarital sexual activities (Moss W *et al.*, 1998) [75]. This further compromises women's ability to seek HIV or sexually transmitted disease testing and care (Wu Z, 2007) [71]. Similar difficulties in accessing VCT services exist for unmarried people whose VCT-seeking process is especially complicated by the stigma associated with premarital and extramarital sexual activities.

In the light of this observation targeting female and single people for HIV/AIDS health education should be made a priority in public health interventions. Interventions need to be tailored for this population to increase their awareness of HIV risks, reduce misconceptions, and promote HIV testing among the populations. Moreover, these findings suggest interventions focusing on participation of both spouses in counselling to help VCT service obtain its objectives. Studies (Okonkwo *et al.*, 2007, de Paoli *et al.*, 2004 and Creek *et al.*, 2007) [59, 22, 17] has shown that male spouse participation increase women's willingness to be tested for HIV. This willingness could be by male accepting to be tested simultaneously with their partners, by accepting to accompany their wives to the testing centres, and by males taking the test earlier than their wives.

Marital status can be an important risk factor when exploring patterns of HIV transmission in a population and therefore should be taken into consideration when implementing HIV prevention programmes. Regarding this more Clients in married/ Living with a man/woman as if in a married relationships sought VCT services than those in single, widowed or never married categories. This is different with a study by Irungu *et al.* (2008) [38], in the same area which showed a low uptake of VCT by married/living. A probable

explanation for this is that there was an aggressive promotion of Couple HIV testing and counselling in reaction to a study findings (KIAS 2008) <sup>[57]</sup>, which found a high prevalence of sero-positivity among monogamous couples. This may therefore imply a success in this particular couple testing promotion.

The current study findings on the service utilization by people of other marital categories raises concern. While widowed/divorced has more than tripled since 2003 (KIAS, 2008) <sup>[57]</sup>, only few of them (4.4%) sought the VCT service. This is especially relevant in the current study since people who have ever been widowed, divorced or separated have high HIV prevalence at 17-21 percent (KDHS, 2003) <sup>[60]</sup>. One hypothesis is that partners of such women are likely to have departed them due to sexual related matters or died from HIV-related illness after years of infection. This therefore means that partners are potentially exposed to HIV for several years before their partners leave or die. VCT programme targeting this population category is more likely to reduce new infections and also reduce morbidity related to HIV.

Most of the participants responding to client exit questionnaire in the present study had at least primary school education. Good education is important in creating awareness of HIV and promoting of VCT services. Studies (Herek *et al.*, 1998, and CDC, 2000) <sup>[49]</sup>, indicates that people who have little knowledge or are misinformed about HIV modes of transmission are much more unlikely to take up the test; and also likely to hold discriminatory attitudes than those who are well informed. In the opposite, people who are aware that casual contagion is impossible are less likely to hold a negative attitudes towards people living with HIV and are more likely to go for VCT test.

There is however conflicting associations between VCT test and education. Several studies showed reduced VCT uptake among educated individuals (Matovu *et al.* 2005; Mpairwe *et al.* 2005; Thior *et al.* 2007) <sup>[78, 99,]</sup>. Kiarie *et al.* (2000) <sup>[45]</sup> and Nyblade *et al.* (2001) <sup>[86]</sup>, found no association between HIV testing and education while Gage & Ali (2005) <sup>[42]</sup>, Hutchinson & Mahlalela (2006) <sup>[35]</sup>, Perez *et al.* (2006) <sup>[90]</sup>, and Sherr *et al.* (2007) <sup>[93]</sup>, showed an increased VCT uptake among educated individuals. The fact that they used different population segment in their studies and the fact that they do not show how they controlled the confounding factors may explain these inconsistencies.

Majority of the participants responding to client exit questionnaire were protestant. Religion is important in that in highly conservative religions indirectly; discourage people from taking up the test. In this study only few people were of catholic and Islamic faiths. A possible reason is that these two are highly conservative religions which emphasize on fidelity and pre marital abstinence as a matter of piety. Moreover it may also be explained by the negative attitudes towards condom use and other contraceptive methods offered during VCT services which go contrary to their teaching.

Farmers and people in business occupations made the majority of the respondent who attended the VCT. Students and people of professional occupations comprised a very small proportion of those who attended. A possible explanation for this could be convenience of the operating time. The VCT centres opened doors for the clients at 8.am and closed down at 5pm. This may be convenient for farmers and businessmen who are self employed but not for students and professional who have to adhere to certain time

schedule. In fact, key informants noted that majority of professionals do not attend the test due to inconvenient service operating hours that coincide with their working hours. These finding suggest a need to restructure the service so that they remaining open through lunch hour, late evenings and weekends; to accommodate people who may have work or other obligations that prevent them from accessing services during normal business hours.

Majority of the respondents completing the structured questionnaire exhibited a high level of HIV/AIDS knowledge in the six domains of knowledge that included awareness of the disease, the cause of the disease, mode of transmission, the disease treatment, risky behaviours, and preventive measures. Equally, most of the People who participated in the focus group discussions are familiar with the matter relating to HIV/AIDS, and in deed admitted to ever having a discussion on the topic. This is similar to other studies (Njue, C *et al.* 2009, KIAS, 2008, UNGASS 2010) <sup>[57, 64]</sup> which reported a high level of knowledge among the respondents.

A possible explanation to this is the fact that there has been a lot of HIV/AIDS related work in this community and also the fact that this was a client exit interview, meaning that some of the knowledge could have been gained during the counselling process. A bivariate analysis using Pearson chi square test on knowledge as the outcome of interest against social demographic characteristics of the respondents including age, sex, education level of the respondents and occupation showed no significant results on all the six.

Knowledge has been cited as an entry point in the initiation of behaviour change (Njue, C *et al.* 2009) <sup>[57]</sup>. Since there is neither a treatment nor a vaccine against HIV and AIDS, behavioural change provides the only protection against infection. Efforts to prevent or reduce risk of HIV infection through behaviour change begin with an understanding of the determinants of risk behaviour. Several models have been proposed to explain HIV-related risk behaviour for this; prominent among these being the AIDS Risk Reduction Model (Catania *et al.*, 1990) <sup>[22]</sup>, and the Information-Motivation-Behavioural Skills model (Fisher and Fisher, 1992). Both models identify knowledge as an important determinant of risk behaviour. Accordingly, most intervention programs (VCT included) provide information about HIV-related transmission and prevention to help participants to reduce their risk of infection. While the researcher notes this high level of HIV/AIDS knowledge, it is equally important to note that a small percentage of the respondent depicted misconceptions on the six domains which needs to be addressed as they may lead to risky sexual behaviour. On this light community Health education should continue.

HIV risk perception is an important determinant of behaviours change and therefore complementing HIV and other sexually transmitted infections prevention measures. Regarding this Majority of respondents (70.9%) responding to the structured questionnaire felt that they were at risk. Equally, most of the participants in the focus group discussion expressed some perception that they were at risk of contracting the disease. Marital status of the respondent responding to the structured questionnaire was found to be significant in determining whether they felt at risk or not. Single, divorced and widow/widower respondents were less likely to feel at risk than their married/living with a man or woman as if married counterpart. This is different from findings in other studies (Shisana, *et al.*, 2004, Njue, C *et al.*

2009, Catania *et al.*, 1990) <sup>[61, 57]</sup> which found the HIV risk perception not to differ between married and unmarried people. A possible reason for this inconsistency could be the highly publicized study findings, (KIAS, 2008) <sup>[57]</sup>. Which indicated a high prevalence of sero-positivity among monogamous couples. This could have made married/living with partner feel more vulnerable to the disease compared to their single, divorced and widowed counterparts.

### VCT awareness and Perception towards testing

Participants' depicted a high level of awareness on VCT service all the participants were able to mention at least one place one could go for a test. Equally participants expressed apposite attitude towards testing, whereby there was a general feeling that taking a HIV test was seen as beneficial among the participants. However some of the participants were not willing to take the test citing various things that included fear of wrong results and inefficient rude counsellors. Studies has shown that service encounters whether directly (i.e. by actual utilization) or through proxy (i.e. through interaction with people who has utilized the service) can significantly influence clients attitude towards the service (Parasuraman *et al.*, 1994, Btner, M.J., 1990) <sup>[91, 16]</sup>. This inturn influence their utilization depending on whether they perceived the service to be of quality or not. To explain how this comes about Holbrook and Corfman (1985) <sup>[79]</sup>. Introduced two concepts: client satisfaction and client attitude. According to them, client satisfaction refers to a client's evaluation of a specific transaction while a client's attitude corresponds to a global evaluation of the product/service and which is not objective. Consequently, the tendency by non tester to depend on the general public health facilities which is generally poor have may have made them create a negative attitude towards it. In turn this could have lead to poor utilization of the VCT facilities since most of them are offered in general public health facilities. Following this argument therefore, improving the general public health services which has been associated with poor services could also lead to an increased VCT uptake. Alternatively delinking VCT services with the government operated public health service may redeem its image among the targeted consumers and hence lead to an increased uptake.

There was a clear age and gender differences on the motivations and hindrances to the utilization of VCT services. This was expected in that different community groups has different issues that may work towards motivating or hindering VCT utilization. Common among the participants regardless of their age and gender however, were apprehensions of a positive test and fear of being stigmatized. These barriers were much more common themes among non-testers (FGD participants) than they were among those who had taken the test (respondents to the structured questionnaire). Fear of positive results, sudden death and loosing dignity has been showed to hinder VCT utilization (McNair, 1998) <sup>[50]</sup>. While there has been a lot of HIV education in the community these findings suggest that HIV misinformation is still prevalent among the community members and therefore call for more education. Moreover providing extensive community outreach and post-test support services as part of a comprehensive VCT program may be helpful.

According to the Key informants the counselling process included offering information on how the testing is done and how results are interpreted. At the same time, other

information is also given which includes information on how the disease is transmitted, how the disease is prevented, and the available treatment regimes. The main focus of this information enhancement of personal responsibility, a tactic that discouraged certain behaviours that could put individuals at a risk of contracting HIV/AIDS. While this model may appear to be the most effective approach to encouraging individuals to be aware of the potential consequences of their actions and to take responsibility for changing their behaviour to protect themselves, it fails to address adequately the other aspect of HIV risk: that one's partner may constitute a threat to one's health and life. This for example was expressed by some women participants in the focus group discussion who said they had not taken the test because their husband/partners had not 'given them permission' to do so. Others expressed frustration because they had no way of controlling their unfaithful partners. Moreover, youth participants in the focus group discussion felt that HIV was more of an 'accident' in as they had no way of ensuring that one's partner has been faithful and more also no way of proving that the other person is faithful or not. Information that stress the importance of personal decision making in HIV prevention may un intentionally promote negative perception on those who test positive to the disease. This pattern is worrisome because individuals with an undesirable condition are generally subjected to greater stigma when they are perceived to be personally responsible for their situation. While the current information is useful in addressing personal risk, there is a need to re-orientate VCT service so that information offered address the external HIV risk for example by encouraging couples to come together for HIV counselling and testing. Moreover, more needs to be done so that VCT sessions equip testers on ways to negotiate for safer sex with their spouses and particularly women.

Accessibility and inconvenience service operation hours were other barriers mentioned. To some and particularly adult working group, inflexible working hour made it impossible to take up the test. Additionally the cost of transport to the VCT centre was also mentioned as impediment. The fact that some VCT centres were located far from the target population increased the cost of transport much more than the participants could afford. Rigid service operation time coupled with transport difficulties limit the number of people seeking VCT from established healthcare settings (Asingwire 2004; MoH & ORC Macro 2006; Morin *et al.* 2006; Yoder *et al.* 2006). <sup>[8, 81]</sup> Consequently, many people, have not sought VCT and are not aware of their HIV status (WHO/UNAIDS/UNICEF 2007). A possible solution to this problem could be re-orienting the service from the traditional mode whereby VCT is made available at the government health centres, to a more pro-active modes such as mobile VCTs and home based HIV testing which can be offered at the nearest market place and at client's home setting.

This will help to overcome these and other social barriers which has been associated with low uptake.

While majority of the respondents responding to the client exit structured questionnaire expressed satisfaction with the level of privacy during the counselling and testing process, it was one of the major things mentioned by the non testers (FGD participants) as to why they had not taken the test. Concerns about confidentiality have been found to represent an important factor reducing acceptability (Irwin *et al.* 1996) <sup>[52]</sup>. people seem to place a high value on privacy; that needs

careful thought when VCT is offered. Services that maximize the autonomy of the client appear to correspond well with high demands. An important underlying reason for the low response to clinic based VCT is likely to be associated with confidentiality. In this study, based on the FGDs, I postulate that factors such as the likelihood of meeting someone known to the individual at the local clinic and fear of breach of confidentiality by clinic staff were factors that could influence acceptability negatively.

AIDS related stigmas create barriers to seeking VCT. To assess this, respondents responding to the structured questionnaire were asked two questions touching on discrimination and their willingness to care to take care of somebody who is HIV infected; and an open question relating to the same was asked to the participants in focus group discussions. Majority of the respondents 92.9% responding to the structured questionnaire were willing to take care of a HIV positive patient signifying low level of stigma. As small percentage (<8%) however of those who tested reported HIV/AIDS stigma. On the contrary qualitative data from the focus group discussions yielded several aspects of HIV stigma including negative perceptions of people living with AIDS, a sense that people with AIDS could feel ashamed and guilty. They believed that people who contracted the disease lose their dignity and were likely to be down looked upon by other members of the community.

These findings are consistent with other studies (Fortenberry *et al.*, 2002 and Stall *et al.*, 1996) [28, 63] which showed that HIV/AIDS related stigma is higher among the people who had not tested compared to those who had taken the test. While it is true that other aspects of VCT service delivery influence VCT uptake, stigmatizing perception expressed by FGD participants could play a significant role in the service uptake, and there is a need therefore to increase HIV education among the community members to fight the stigma. Studies (Chesney and Smith, 1999; Eisenman, Cunningham, Zierler, Nakazono, and Shapiro, 2003; Fortenberry *et al.*, 2002; Stall *et al.*, 1996) [16, 25, 29, 63] have shown that in a community where HIV stigma is prevalent people tend to avoid taking up the test. This is because HIV related stigma fosters social isolation and discrimination against people with HIV-AIDS and therefore people would rather not take the test if they perceive it that it will endanger their position in the society. In this sense it becomes a barrier not only to prevention of HIV, but also to care and treatment of people living the disease.

Fatalism, a feeling of helplessness in the face of an incurable disease was expressed by a number of non testers. These individuals felt no need to know their HIV status without any possibility of cure. These findings are similar to other studies which showed that people who express Fatalism do are not likely to take-up HIV test. Increasing education particularly on available HIV treatment, positive living, self care and nutrition after a positive HIV diagnosis may reduce this perception and therefore increase VCT uptake.

Poor perception of the public health service linked to the VCT service may also be a reason for the low intake. A significant proportion 39% respondent responding to the structured questionnaire indicated the service to be unsatisfactory while a few FGD participants expressed the concerns on such things as getting wrong results, waiting for too long, unfriendly and rude counsellors, lack of privacy and lack of confidentiality. These poor perception may

hinder them from taking up the test. Indeed findings from health systems research conducted in the same area indicate that poor perception of the health services in general was acting as a serious access barrier to health care (Audo and Njoroge, 2005) [54].

Over the years Kenyan public health system has natured a negative perception in the public due to limited availability as a result of shortages of skilled service providers, inadequate material resources, poor infrastructure and inadequate procurement and supply management systems (WHO/UNAIDS/UNICEF 2007) [45]. Consequently this may be working against the VCT service utilization. In this light therefore delinking the service from the government health service may foster confidence among the community members and therefore more VCT utilization.

Some of the youths and young adults participants in the FGD expressed fear of what their parent would think if they found that they had gone for a test. This clearly suggests a poor communication between the children and their parent which in turn hinders utilization of prevention services including HIV testing. In Kenya and indeed in many African countries, sexual matters are rarely discussed between children and parent due to cultural barriers. Recent prevention programs have included mass media campaigns targeted to adolescents and young adults warning of the risks for STDs and HIV and promoting condom use. While these individually-based approaches are important in prevention programming, multi-targeted approaches which include the parents and the family may also be important and yet, to date, have largely been ignored. It is widely recognized that families, and parents in particular, play a critical role in the socialization of children, preparing them to assume and perform their various roles in societies (Fox, 1981; Hepburn, 1983, Gecas and Seff, 1990) [27, 34, 30]. Orientating HIV education to target family could increase the VCT uptake.

While care was taken to collect an objective data for this study there are some limitations that need to be taken into account in interpreting the study findings. First, the data were collected only in one geographic location, the Kenya's Rift valley province. The results might not be generalizable to other areas of Kenya. In addition, the study only surveyed two types of population groups, those who were already using the VCT facility (Client responding to the structured questionnaire); and those reporting not to have taken the test and using a self help groups service facilitated by Faulu Kenya. These two groups could be systematically different from the other people living in the community and findings from other groups could be very different from the study findings.

Self report bias may have occurred as the respondents were required to self report. Further, both the reluctance of the Key informant to be interviewed in depth and limitations on what they were willing to talk about in interviews hindered data collection. Finally, in Kenya discussion on sexual matters is sensitive; thus it is possible that some respondents reported HIV testing behaviours which they thought were socially desirable but that were not necessarily factual

## Conclusion

Prompted by a low VCT uptake despite high publicity and continued HIV infection, this study set to explore dynamics of HIV testing among the rural and urban community of Nakuru district. The awareness regarding HIV and VCT among the community members is relatively high. Despite

this however, there are still a significant proportion of people who hold misconceptions about the disease and more also the testing service. This may partially explain why people opted not to take the test. Further, Majority of the people wants to take up the test but both social and health system barriers such as gender inequality, the cost of taking the service, service operational hours, accessibility; misconceptions about the disease among others barriers make them not to utilize the service.

### Recommendations

The study recommend the adopting a more pro-active model of testing which could include mobile and home based testing to help remove most of these barriers and therefore lead to an increased uptake. Moreover Promotional activities targeting couples may help purge the existing gender imbalance in the utilization.

Providing the service beyond the current normal working hours (8am- 5pm) weekdays and weekends will enable those who have to work on a strict schedule during the week and weekend utilize the service.

Strengthen the general public health facility to help win back the trust of the service consumers. This will lead to an increased uptake of VCT service.

Provide youth-friendly voluntary counselling and testing for HIV (VCT) service and to motivate for VCT utilization

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