

# Factors affecting acceptance of VCT among different professional and community groups in North and South Gondar Administrative zones, north west Ethiopia

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## Abstract

**Background:** Voluntary counseling and testing (VCT) for HIV allows individuals to determine their HIV status and serve as a gateway for both HIV prevention and early access to treatment, care and support. Identifying factors associated with VCT acceptance among different professional and community groups is essential in promoting the service.

**Objective:** The aim of this study is to assess factors that affect VCT acceptance among different professional and community groups in the north and south Gondar administrative zones of north west Ethiopia.

**Methods:** A cross-sectional descriptive study was undertaken among different professional and community groups in north and south Gondar administrative zones using a pre-tested structured questionnaire on a total of 460 respondents from October - December 2004.

**Results:** Four hundred forty people granted interviews from a total of 460 proposed study participants with a response rate of 96%. The mean age of the respondents was 27.79 years. Sixty five percent of the respondents were males and the rest were females. Eighty two percent of the respondents were willing to accept VCT services. The age range from 15-19 years was found to be positively associated with VCT acceptance ( $p<0.01$ ). Results of the behavioural variables showed the effect of others (friends families, religious leaders, and couples) who were found to have statistically very significant effect towards VCT acceptance ( $p<0.001$ ). The absence of community support was found to be negatively associated with VCT acceptance ( $p<0.01$ ). The availability of ART was found to have positive association with acceptance of VCT ( $p<0.001$ ).

**Conclusion:** Involving closely related people is instrumental in enhancing the social acceptance of voluntary counseling and testing and providing sustainable and reliable VCT services. Increasing access to ART services would also help in further expanding VCT services. [*Ethiop.J.Health Dev.* 2006;20(1):24-31]

## Introduction

The impact of HIV/AIDS goes beyond public health concerns because it primarily affects adult populations in the productive and reproductive age groups and, as such, in its endemic stage, undermines the social and economic structures of developing countries (1). The report on the Global AIDS Epidemic released in 2004 indicated the estimated number of people living with HIV to be adults and children-37,800,000; 25,000,000 and 1,500,000 globally, in sub-Saharan Africa and Ethiopia respectively (2).

The HIV/AIDS situation in Ethiopia has evolved from two reported AIDS cases in 1986 to a cumulative total of 147,000 by mid 2003. It is currently estimated that 1.5 million people are living with HIV/AIDS and this is a staggering number to cope with in a resource-poor country (3). Out of the 23,861 people from whom the National Sentinel Surveillance (NSS) samples were obtained in 2003, 8.2% (4.1% rural and 12% urban) were found to be HIV positive. The estimated HIV prevalence in the Amhara National Regional State, where the study zones are located, was about 11%; and the prevalence in urban and rural areas of Gondar town was 14% and 8% respectively (3).

Voluntary HIV counseling and testing is the process by

which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV (1). Many studies have found that VCT is effective as a strategy for facilitating behavioral change around both preventing HIV as well as getting early access to care and support. It is also showed that VCT is instrumental in bringing about behavioral change, reducing unprotected sex and helping reduce the incidence of HIV and other STIs (4-9).

Many people in Ethiopia living with HIV do not know that they are infected. Up until now, only a small percentage of those with HIV/AIDS have had access to reliable voluntary counseling and testing services. As there is no cure for HIV/AIDS, voluntary HIV counseling and testing remains a key strategy to control the spread of HIV and to provide care and support to those who live with the virus (1).

Various studies undertaken in Ethiopia have shown a lack of perception of being at risk, no consideration for VCT services, fear of HIV positive results and fear of stigma to be some of the reasons why people are not seeking pre-marital VCT. In another study it was shown that having an educational status of secondary school and above, being female and being Christian were associated with willingness to take VCT (10-12). However there

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was a lack of such studies in north western Ethiopia where this study was conducted. Identifying factors which play detrimental roles in the acceptance of voluntary counseling and testing services helps in removing those barriers to accessing the service. Examining and understanding factors associated with VCT acceptance is also a vital and timely activity to facilitate HIV prevention efforts. These determinant factors are expected to differ from community to community. The impact of identifying factors affecting VCT acceptance also helps to promote the services in the prevention and control of HIV/AIDS. The designing of VCT services tailored to the different needs of various community groups should be based on empirical findings in each specific area. This study intends to identify factors operating among different community, professional and community groups in north and south Gondar and which are believed to affect the acceptance of VCT services. Hence, the finding of this study is expected to help VCT program designers to tackle different contextual factors that hinder the service.

## Methods

**Study design:** A cross-sectional descriptive design was employed in this study.

**Study area:** The study was conducted in North and South Gondar administrative zones, north western Ethiopia, from October - December, 2004. The two zones were selected for better representation of the area. Two out of ten woredas (administrative units) of south Gondar and three out of eighteen woredas of the north Gondar were included in the study. The total number of woredas included in the study was limited to five out of eighteen woredas of the two respective zones for logistical reasons. The five woredas were randomly selected from the total number of woredas in the two zones. A total of 18 different groups with professional and community members, i.e. six groups from south Gondar and 12 groups from north Gondar were selected for the study.

**Study population:** The different professional groups (teachers, health professionals, etc) and community groups (eg. Idir, women's associations, and youth's associations etc) found in north and south Gondar was taken as source populations. The selected groups were identified as pre-organized community, professional and community groups in the selected woredas. Being in the age of fifteen and above was one inclusion criteria in the selection of the study subjects.

**Sample size:** The sample size was determined by assuming a positive attitude towards VCT (50%) to obtain the maximum sample size, with a 3% margin of error and a 95% confidence level and with a 20% non-response rate. The calculated total sample size was 460

people from eighteen different professional and community groups.

**Sampling method:** A non-probability purposive sampling technique was considered due to the fact that the study groups were selected by the judgment of the researchers. Each group had an average of 25 participants based on an equal allocation of the total study subjects to the selected 18 professional and community groups. In cases where there were two or more professional and community groups of similar types in one woreda, one was selected by simple random sampling method to avoid selection bias and for better representation.

**Data collection instruments:** Structured questionnaires were used to collect data. The questionnaire adapted from the ones used for conducting the first Behavioral Surveillance Survey (BSS) of Ethiopia. The questionnaire contained questions related to socio-demographic characteristics, knowledge about HIV/AIDS and VCT, attitude towards acceptance of VCT, cost of VCT, proximity to health institutions; stigma and discrimination; previous sexual behavior; perceived benefits; perceived barriers; perceived susceptibility cues to action and significant others. Four qualified nurses were trained for two days and were made to participate in the pre-testing of the questionnaire and collecting of data. The data collectors interviewed the study subjects using pre-tested and structured questionnaires. The principal investigators supervised the data collection, and incomplete and inconsistent data were identified and the necessary corrections were made on the field.

**Data analysis:** The data entry, cleaning and analysis was performed using SPSS version 10 statistical program. For different variables, frequencies, odds ratio (OR), 95% CI and P-value at 5% percent were computed to assess the process and degree of association between dependent and independent variables and results were compared.

**Ethical consideration:** Ethical clearance was obtained from the Research & Publications Office (RPO) of the University of Gondar. An official letter of cooperation was written to the 18 groups in the five woredas and informed consent was obtained from the participants and confidentiality was maintained.

## Results

A total of 440 people responded to the questionnaire from the 460 proposed study participants with a response rate of 96%. The proportion of males and females was 65% to 35% respectively. The mean (+SD) age of the study subjects was 27.79 (+10.8) years with a median age of 25 years. Seventy three percent of the respondents were grade nine & above and those without formal

education constituted 4.5%. The majority of the study participants were Orthodox Christians (94%) while the rest were Protestants and Muslims. Regarding ethnicity, Amhara comprised 90%, Tigre (5%) and others (5%) (Table 1).

Table 1: **Socio-demographic characteristics of members of different professional and community group in north and south Gondar, November 2004.**

Variables	Frequency (N=440)	Percent (%)
<b>Place of residence by zones</b>		
Urban	351	79
Rural	89	21
<b>Sex of the study subjects</b>		
Male	287	65
Female	153	35
<b>Age [Mean (+SD)=27.79(+10.8)]</b>		
15-19	114	25.9
20-29	175	39.8
30-39	79	17.9
40 and above	72	16.4
<b>Educational status</b>		
No formal education	20	4.5
Grade 1-4	47	10.7
Grade 5-8	50	11.4
Grad 9-12	182	41.4
Grade 12 and above	141	32.0
<b>Religion</b>		
Orthodox	400	91.0
Muslim	29	6.6
Protestant	11	2.5
<b>Woreda level</b>		
Gondar town	138	31.4
Fogera	84	19.1
Debreabor	78	17.7
Chelga	76	17.3
Dabat	64	14.5
<b>Ethnicity</b>		
Amhara	396	90
Tigre	22	5
Oromo	11	2.5
Others	11	2.5
<b>Professional groups</b>		
Commercial sex workers	26	5.9
Constructional workers	24	5.5
Defense army	25	5.7
Heavy trucks drivers	14	3.2
large industrial workers	18	4.1
Farmers	20	4.5
Hospital health staffs	25	5.7
High school students	28	6.4
HIV club members	27	6.1
BSc. Nurse students	26	5.9
Military police	30	6.8
Woreda pool workers	30	6.8
Teacher training students (Pedagogy)	26	5.9
High school teachers	26	5.9
<b>Community Groups</b>		
People at corrections (prisoners)	25	5.7
Idir	21	4.8
Women association	26	5.9
Youth	23	5.2

Among the study subjects 283 (80.6%) of the urban residents and 78 (87.6%) of the rural residents were willing to accept VCT. The area of residence, whether urban or rural, showed no significant difference with regard to VCT acceptance with an OR of 0.59 (0.28, 1.21 (P-value=0.12). Regarding sex, 229 (79.8%) of the males and 132 (86.3%) of the females were found to be willing to accept VCT. There was no significant gender difference among males and females in VCT acceptance with an OR of 0.63 (0.35, 1.12) (P-value=0.09) (Table 2).

The highest VCT acceptance was observed among those study subjects aged 15 to 19 years where 104 (91.2%) opted to accept VCT while the least VCT acceptance was seen among those aged 40 years and above with 52 (72.2%) who were willing to accept VCT. Of the socio-demographic variables considered to affect VCT acceptance, the age group of 15-19 showed positive association with VCT acceptance four times greater than the other age group with an OR of 4.00 (1.63, 9.96) (P-value<0.01) (Table 2).

On bivariate analysis, the association between acceptance of VCT and educational level was not found to be significant. Health professionals and high school teachers were found to be 0.12 and 0.06 times less likely to accept VCT compared with the other professional and community groups included in the study with an OR of 0.12 (0.02, 0.73) (P-value<0.01) and 0.06 (0.05, 0.36) (P-value<0.001) respectively (Table 2).

Of the total number of respondents, 248 (56.4%) said they knew people living with HIV/AIDS while 229 (52.1%) said they knew a person who had died of HIV/AIDS. Eighty two percent of the respondents were willing to accept VCT (Table 3). The respondents were asked if knowing one's sero status could result in being stigmatized and consequently affects VCT acceptance. It was found out that those who stated stigma could come from knowing (disclosing) one's status were 0.4 times less likely to accept VCT with an OR of 0.40 (0.23, 0.69) (P-value<0.001) (Table 3).

Thirty three percent of the respondents believed that if one decides to have VCT, he/she would not have community support. Among those who said that deciding to have VCT testing would entail a lack of community support, 111 (25.2%) were willing to accept VCT while those who said otherwise-250 (57%) were willing to accept VCT. This shows that the lack of community support was negatively associated with half times lower VCT acceptance in the presence of community support with an OR of 0.53 (0.31, 0.90) (P-value<0.01) (Table 3).

About 369 (83.8%) of the respondents were willing to be tested if ART were available. The availability of ART was positively associated with acceptance of VCT which

is about 7 times higher than the case with the unavailability of ART with an OR of 7.18 (3.95, 13.10) (P-value<0.001). After controlling for the confounding effect to socio-demographic variables, the availability of

ART as an important predictor of VCT acceptance remained significant with an OR of 4.46 (2.24, 8.87) (P-value<0.001) (Table 3).

Table 2: **Acceptance of VCT Vs Socio-demographic variables (n=440) of different professional and community group in north and south Gondar, November 2004.**

Variables	Acceptance of VCT			Adjusted OR (95% CI)
	Yes	No	Unadjusted OR (95% CI)	
<b>Place of residence by zones</b>				
Urban	283	68	0.59 (0.28, 1.21)	1.04 0.44, 2.48
Rural	78	11	1	1
<b>Sex of the study subjects</b>				
Male	229	58	0.63 (0.35, 1.12)	1.01 0.52, 1.95
Female	123	21	1	1
<b>Age [Mean (+SD)+27.79 (+10.8)]</b>				
15-10	104	10	<b>4.00 (1.63, 9.96)</b>	<b>4.99 1.80, 13.84</b>
20-29	142	33	1.16 (0.83, 3.29)	1.42 0.65, 3.12
30-39	63	16	1.51 (0.67, 3.44)	1.41 0.58, 3.41
40 and above	52	20	1	1
<b>Educational status</b>				
No formal education	19	1	1	
Grade 1-4	41	6	0.36 (0.02, 2.44)	0.13 (0.01, 1.44)
Grade 5-8	42	8	0.28 (0.01, 2.49)	0.09 (0.92, 0.46)
Grade 9-12	154	28	0.29 (0.01, 2.19)	0.33 (0.11, 0.98)
Grade 12 and above	105	36	0.15 (0.01, 1.15)	0.51 (0.25, 1.00)
<b>Religion</b>				
Orthodox	333	67	<b>2.62 (1.08, 6.25)</b>	<b>4.04 (1.63, 9.99)</b>
Protestant	9	2	2.37 (0.36, 14.54)	1.92 (0.29, 12.64)
Muslim	19	10	1	1
<b>Woreda level</b>				
Gondar town	116	20	3.63 (1.79, 7.39)	0.55 (0.16, 1.830)
Fogera	73	11	4.15 (1.79, 9.79)	0.81 (0.28, 2.29)
Chelga	67	9	4.65 (1.90, 11.68)	0.46 (0.15, 1.46)
Dabat	55	9	3.82 (1.54, 9.67)	0.14 (0.04, 0.44)
Debretabor	48	30	1	1
<b>Ethnicity</b>				
Amhara	328	68	1.81 (0.37, 7.75)	1.47 (0.29, 7.34)
Tigrie	14	8	0.66 (0.10, 4.03)	0.41 (0.66, 2.57)
Oromo	11	0		
Others	8	3	1	1
<b>Different professional groups</b>				
Commercial sex workers	24	2	1.14 (0.10, 12.79)	
Constructional workers	22	2	0.44 (0.01, 6.98)	
Defense army	18	7	0.10 (0.00, 0.98)	
Heavy trucks drivers	11	3	0.35 (0.03, 3.18)	
Large industrial workers	13	5	0.25 (0.03, 1.83)	
Farmers	17	3	0.54 ((0.05, 4.65)	
Hospital health staffs	14	11	<b>0.12 (0.02, 0.73)</b>	
High school students	25	3	0.79 (0.08, 6.71)	
HIV club members	24	3	0.76 (0.08, 3.08)	
Idir	17	4	0.40 (0.04, 3.08)	
BSc. Nurse students	24	2	1.14 (0.10, 12.79)	
Military police	23	7	0.31 (0.04, 1.96)	
People at corrections (prisoners)	24	1	2.29 (0.14, 68.94)	
Woreda pool workers	24	6	0.38 (0.05, 2.47)	
Teacher training students (Pedagogy)	25	1	2.38 (0.15, 71.78)	
High school teachers	10	16	<b>0.06 (0.05, 0.36)</b>	
Women association	25	1	2.38 (0.15, 71.78)	
Youth	21	2	1	

Table 3: **Acceptance of VCT Vs knowledge, attitudes and practice variables (n=440) of different professional and community groups in north and south Gondar administrative zones, Gondar, November 2004.**

Variables	Acceptance of VCT			Adjusted OR (95% CI)
	Yes	No	OR (95% CI)	
<b>Knows people living with HIV</b>				
Yes	199	49	0.75 (0.44, 1.27)	
No	162	30	1	
<b>Knows people who died of HIV</b>				
Yes	189	40	1.07 (0.64, 1.74)	
No	174	39	1	
<b>Knowing HIV status brings stigma</b>				
Yes	87	35	<b>0.40 (0.23, 0.69)</b>	1.53 (0.63, 3.74)
No	274	44	1	1
<b>If I decide for VCT, I would not have community support</b>				
Yes	111	36	<b>0.53 (0.31, 0.90)</b>	<b>0.42 (0.18, 0.96)</b>
No	250	43	1	1
<b>If my friend turns out to be HIV positive, I would slowly withdraw</b>				
Yes	61	17	0.74 (0.39, 1.42)	
No	300	62	1	
<b>If ART would be available, I would be willing to be tested</b>				
Yes	325	44	<b>7.18 (3.95, 13.10)</b>	<b>4.46 (2.24, 8.87)</b>
No	36	35	1	1
<b>If I am HIV Positive, I would tell to close friend</b>				
Yes	240	37	<b>2.25 (1.34, 3.80)</b>	0.64 (0.28, 1.44)
No	121	42	1	1
<b>I would be willing to pay for VCT</b>				
Yes	279	47	<b>2.32 (1.34, 3.99)</b>	0.62 (0.34, 1.14)
No	82	32	1	1
<b>I am willing to let partner use VCT</b>				
Yes	347	71	2.79 (1.03, 7.44)	1.34 (0.42, 4.29)
No	14	8	1	1

Willingness to tell positive HIV results to close friends was found to be positively associated with VCT acceptance and those who do are twice more likely to accept VCT than those who were not willing with an OR of 2.25 (1.34, 3.80) (P-value<0.001). Seventy four percent of those seeking VCT were also willing to pay for the test. Willingness to pay for VCT was also positively associated with accepting VCT with an OR of 2.32 (1.34, 3.99) (p-value<0.001). From the total number of study subjects, 418 (95%) were found to be willing to let their partner to use VCT services. Willingness to let a partner to access VCT is about three times more likely to accept VCT with an OR of 2.79 (1.03, 7.44) (P-value<0.05) (Table 3).

Among those with the appropriate knowledge about HIV/AIDS 82.8% were willing to accept VCT, while among those respondents who do not have knowledge about HIV/AIDS 75.5% were found to be willing to accept VCT. The two by two table analysis between

knowledge and VCT acceptance didn't show a significant association with an odds ratio of 1.56 (0.70, 3.38) (P value < 0. 23) (Table 4).

Among those who have perceived benefits of HIV testing, 83.5% were willing to accept VCT, while among those respondents without perceived benefits of HIV testing, 73.4% were willing to accept VCT. The two by two table analysis between perceived benefits and VCT acceptance didn't show a significant association with an odds ratio of 1.83 (0.94, 3.54) (P value < 0.06) (Table 4).

Among those who have perceived barriers to HIV testing, 81.3% were willing to accept VCT while among those respondents without perceived barriers to HIV testing 82.4% were willing to accept VCT. The bivariate analysis between perceived barriers and VCT acceptance didn't show significant association between perceived barriers to VCT acceptance like distance, cost didn't

Table 4: Acceptance of VCT VS knowledge and some behavioural variables (n=440) of different professional and community group in north and south Gondar administrative zones, Gondar November 2004.

Variables	Acceptance of VCT			
	Yes	No	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
<b>Knowledge</b>				
Yes	327	68	1.56 (0.70, 3.38)	1.57 (0.69, 3.39)
No	34	11	1	1
<b>Perceived Behavior</b>				
<b>Benefit</b>				
Yes	314	62	1.83 (0.94, 3.54)	1.48 (0.73, 3.01)
No	47	17	1	1
<b>Barrier</b>				
Yes	117	27	0.92 (0.54, 1.60)	0.95 (0.55, 1.63)
No	244	52	1	1
<b>Susceptibility</b>				
Yes	167	41	0.80 (0.48, 1.34)	0.84 (0.50, 1.41)
No	194	38	1	1
<b>Seriousness</b>				
Yes	322	69	1.20 (0.53, 2.64)	0.62 (0.27, 1.42)
No	39	10	1	1
<b>Significant others</b>				
Yes	289	38	<b>4.33 (2.52, 7.46)</b>	<b>4.48 (2.62, 7.66)</b>
No	72	41	1	1

show significant association with VCT acceptance with an OR of 0.92 (0.54, 1.60) (P-value=0.76) (Table 4).

Among those who have perceived susceptibility to HIV testing, 80.3% were willing to accept VCT, while among those respondents without perceived susceptibility of HIV testing, 83.6% were willing to accept VCT. Perceived susceptibility to HIV/AIDS also didn't show significant effect on determining VCT acceptance with an OR of 0.80 (0.48, 1.34) (P-value=0.36) (Table 4)

Among those who have perceived seriousness to HIV testing, 82.4% were willing to accept VCT, while among those respondents without perceived seriousness of HIV testing, 79.6% were willing to accept VCT. Regarding perceived seriousness of the disease, HIV/AIDS also was found not to have significant association with VCT acceptance with an OR of 1.20 (0.53, 2.64) (P-value<0.63) (Table 4).

Among those who said their VCT acceptance will be influenced by significant others like religious leaders, community leaders, sexual partners, parents and friends, 88.4% were willing to accept VCT, while among those who said their VCT acceptance will not be influenced by significant others 63.7% were willing to accept VCT. The influence of significant people like religious leaders, community leaders, sexual partners, parents and friends was four times likely to make people accept VCT with an OR 4.33 (2.52, 7.46) (P-value<0.001). After controlling for the effect of socio-demographic factors, the role of significant others in affecting VCT acceptance positively

remained with an OR of 4.48 (2.62, 7.66) (p-value<0.001) (Table 4).

## Discussion

VCT is one of those approaches that are adopted at the national level for HIV/AIDS Prevention and Control. This study tried to look into some of the important factors that affect the acceptance of VCT among the different professional and community groups in the study area. There was no significant difference in VCT acceptance between the urban and rural population in this study. As this study is mainly focused on urban areas, the rural population is underrepresented. This underrepresentation would make it difficult to identify any urban-rural differential in this particular study.

This study showed the age group of 15-19 to be the most receptive group to VCT services compared with the other age groups. The age group between 15 and 19 is the most affected group by HIV/AIDS in Ethiopia which has the highest prevalence of HIV infection (1). Targeting this age group for VCT services would greatly reduce the risk of HIV/AIDS, which is evidenced in this group. The national VCT Policy of Ethiopia considers the lower age of consent for VCT to be 18 years (2). The significant positive association of the younger age group may be due to the better access to information through public gatherings, organizations, clubs and using other means of institutional media. This finding is the same with studies done in other places in Ethiopia (11,13,14,15).

This study demonstrated that educational status didn't show statistically significant association with VCT

acceptance. This finding is not consistent with the findings in other studies (5, 10). A study done in Jimma found out that better educational status was associated with a higher chance of VCT acceptance (13). The reason for the lack of association between educational status and VCT in this study could be due to the low number of study subjects with lower educational status or illiterates.

The study indicated that health professionals and high school teachers were found to have less acceptance of VCT compared with the other community groups included in the study. This could be due to the fact that as people's knowledge increases about the serious health consequences to the extent of death and the society's reaction to the disease, which is stigma and discrimination, people could decline to accept VCT despite good knowledge. It is also shown in a number of studies that knowledge does not necessarily bring about attitudinal change and practice of the desired behavior. Although there are important benefits to knowing one's HIV status, HIV infection, in many communities, is a stigmatizing condition and this can lead to negative outcomes for people following testing. People with HIV may experience social rejection and discrimination (16, 17).

This study identified the availability of ART as a positive predictor of VCT acceptance. The provision of ART would have a significant effect in prolonging life and this would have an impact on the community in creating positive attitudes and acceptance towards the service. Making every effort to make ART available would increase VCT acceptance by all community groups.

The study revealed the importance of religious leaders, couples, friends and families as reinforcing factors towards VCT acceptance. Normative belief generally focuses on what an individual believes other people, especially influential people, expect him/her to do. Perception of social or peer norms concerning the acceptability of VCT is an important determinant of VCT acceptance (18).

Seventy four percent of the people in this study were willing to pay for VCT services, and this finding is greater as compared to 13% reported in Kenya and 24% in Uganda (19). The greater proportion of study subjects who are willing to pay for VCT services is a good indication of the potential for service expansion. Expanding VCT services at a commensurate cost would help to increase service accessibility without jeopardizing VCT acceptance.

The most important factors identified in this study to influence the acceptance of VCT were being in the age group of 15-19, availability of ART, the influence of significant others like (religious leaders, peers, friends,

and teachers), stigma associated with testing and the presence or absence of community support towards acceptance of VCT.

One of the limitations of this study was that the sampling method used was non-probability purposive sampling, which may affect the representative of the study. Due to resource implications, the study considered different professional and community groups in the two administrative zones, which may not represent the selected group. An outcome measure, which is intention to accept VCT, can change for various reasons, as it is not a hard outcome. Another limitation is that the study was mainly focused on urban areas, and the rural population is underrepresented.

Based on the findings, the following recommendations were made. Involving closely related people and influential personalities is an important method to enhance social acceptance of voluntary counseling and testing. The most vulnerable group to HIV, which is the age group between 15-19 years, is the most receptive group of VCT and hence efforts should be made to extend the service to them. The lower age limit for giving VCT consent needs to be revised by the concerned policy makers. Efforts should be made to design their responsiveness towards VCT acceptance. Making every effort to make ART available would increase VCT acceptance by all professional groups, and efforts targeted at reducing stigma by all professional and community groups need to be addressed in order to deliver reliable and sustainable VCT related services. Further research using larger sample sizes and probability sampling techniques is recommended.

#### **Acknowledgment**

We are greatly indebted to the EPHA-CDC project for financing this study and for the critical comments that helped us to improve the outcome of our work. We acknowledge the unreserved efforts of the supervisors in materializing this research. This study would not have been a reality with out our study participants who gave us their precious time and responded genuinely to the questionnaire.

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