*ORIGINAL ARTICLE*

# UPTAKE AND BARRIERS OF VOLUNTARY COUNSELING AND TESTING AMONG ANTENATAL CARE ATTENDANTS, SOUTHWEST ETHIOPIA.

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*ABSTRACT*

**BACKGROUND** - *Voluntary counseling and testing (VCT) service provides an essential knowledge, skill and helps pregnant women to access intervention such as short course antiretroviral and infant feeding options. Therefore, the potential barriers to the service need to be assessed.*

**OBJECTIVE**: *This Study is intended to examine the uptake of VCT and its barrier among Antenatal care (ANC) attendants in southwest Ethiopia.*

**METHODS**- *Health institution based cross-sectional study was conducted from Sept. 1, 2004 to Nov. 1, 2004 among ANC attendants in southwest Ethiopia. A total of 285 pregnant women were selected conveniently. Additionally, five experienced counselors were involved in the study. Both qualitative and quantitative interviews methods were utilized using structured questionnaires.*

**RESULT**- Out of a *total of 285 pregnant women who participated in the study, 77(27% had accepted VCT. The acceptance rate was higher among 16-20 years old women ($p<0.05$) and those from urban residences ($p<0.025$). Women who are single, divorced or widowed were also found to have more acceptance of VCT than married women ($P<0.001$). Among tested women 61(79.2%) received test result. Qualitative analysis showed that lack of decision-making autonomy and fear of partner's reactions were identified as major barriers. The reason for low return for test result was the women do not want to know their HIV status; but gave their blood to avoid offending the counselors.*

**CONCLUSION** - *This study revealed that the uptake of VCT service is very low. Therefore, to increase the utilization of VCT service at ANC setting, problems associated with the service should be addressed. This includes quality of counseling, provision of test result on same day and addressing individual concerns.*

**KEY WORDS:** *HIV, AIDS, VCT, PMTCT, uptake*

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## INTRODUCTION

Each year 600,000 newborns infected (more than 1600 each day) with Human Immunodeficiency Virus (HIV) and 90% of them live in sub-Saharan Africa. More than a quarter of newborns infected with HIV die before the age of one. Up to 60% die before reaching there second birthday. Over all, most die before they are five years old (1).

Mother to child transmission (MTCT) of HIV can occur before, during, and after delivery. Transmission rate is higher during delivery. Breast-feeding contributes substantially to the overall risk. In the absence of specific interventions the estimated rate of MTCT ranges from 15% to 40% the difference between populations being largely associated with the prevalence of breast-feeding (2,3).

The most effective approach in preventing vertically acquired HIV infection in children is through primary prevention among women of child bearing age and secondarily through the prevention of unwanted pregnancies among the HIV infected women and of prevention of mother to child transmission (PMTCT)(4).

The result from clinical trails of antiretroviral medications zidovudine and nevirapine created the possibility of offering intervention methods to reduce HIV transmission from an infected pregnant mother to her infants (2,5).

A well functioning appropriate and accessible VCT service is a prerequisite for successful programmers of PMTCT. HIV testing and counseling provides essential knowledge and support to individuals at risk from contracting HIV, enabling pregnant women to access specific interventions such as antiretroviral prophylaxis and infant feeding options (2,3,7,8).

Despite the multiple benefits of VCT its low uptake among pregnant women limited its advantage. A number of studies have reported low uptake of VCT (9,10). A study in Botswana shows 58% of women attending ANC were counseled and only 46% of those counseled were tested (9).

In Zimbabwe 186 women attending an antenatal clinic in Chitungwisa were offered VCT as part of their ANC. Although most women endorsed the multiple benefits of VCT, uptake was low, with only 23% of women consenting to VCT (10).

Different studies identified a number of barriers to VCT in ANC settings. This includes fear of sero positive result, lack of facilities where partner can receive counseling and testing, worry about partner's reaction, the lack of effective treatment available for infected women themselves and fear of stigma and discrimination (9,10). Other studies identified problems related to VCT centers this includes methods of reporting confidentiality, unavailability of treatment and ARV despite the presence of simple rapid tests (11,12,13).

In some countries VCT services are under utilized because of the services they offer are inadequate and don't meet the clients need. A study from India found that some clients who had tested at hospital sites were found to be an aware of their HIV status and had not received any follow up (14). Poor quality of VCT service was also noted to be a considerable problem. According to a study conducted in South Africa; only 85% people interviewed had given consent before being tested. Only 48% had had "adequate" pre-test counseling (15).

The other factor, which reduces the effectiveness of VCT in PMTCT centers, is uptake of test result. Studies show that not all women who gave their blood receive result. Study in Rwanda showed that 68.7% of women received their result among tested women (16).

In the presence of limited access to VCT, the number of pregnant women who are willing to be tested is low. Even though some of them have HIV test, considerable number of women doesn't return for result.

In Ethiopia the numbers of studies conducted in this area are limited if not nil. Therefore this study determines the uptake of VCT, return for result and barriers to uptake of test and result. In addition methods to maximize the uptake and return rate are discussed.

## METHODS AND MATERIALS

**Study area**

The study was conducted in Illubabor zone of Oromiya region southwest Ethiopia. Illubabor zone has 13 woredas among which Menschen fur Menschen Foundation (MfM) is conducting PMTCT program in 4 woredas since Sept. 2003. In the four woredas there are 5 PMTCT centers (4 health cents and 1 hospital). The research was conducted in 3 health centers and one hospital namely (Yayu Health center, Mettu health center, Gore health center and Mettu Karl hospital). The main components of the program are VCT for all pregnant women attending ANC, administration of a single dose of nevirapine to the HIV positive mothers informed of their sero status and their newborns, improved obstetrics care and breast feeding replacement services, continuous follow up of mother-child pairs through routine health services, including provision of treatment for opportunistic infections; care and support activities and promotion of these activities.

According to 2004, 3rd quarter report of the program 1861 pregnant women attended antenatal care in the five health institutions from the commencement of the program. Six hundred seventy (36%) pregnant women were tested for HIV and 37(5.5%) were found to be HIV positive. Among HIV positive pregnant women only 4(10.8%) women and 6(16.2%) infants took nevirapine. Two (5.4%) mothers were willing not to breast feed their infants and adhered to replacement feeding. According to national sentinel surveillance report of 2002, the prevalence of HIV among pregnant women in the area is 10.5 %( 17).

**Study design and period**

A health institution based cross-sectional study was conducted from Sept. 1, 2004 to Nov. 1, 2004.

**Study population**

The study subjects were pregnant women who attended ANC from Sept. 1, 2004 to Nov. 1, 2004 in Mettu, Gore, Yayo health center and Mettu Karl hospital.

**Sample size and sampling technique**

A total of 285 pregnant women came for ANC during the study period were consecutively taken and included under the study among these 30 were interviewed further. In addition 5 experienced counselors at PMTCT centers were interviewed.

**Data collection, analysis and interpretation**

Phase1. (Quantitative data)

The counselors interviewed women who come for ANC in the four PMTCT sites. The interview topics included personal demographic information (age, education, marital status, address) and whether they refused or accept testing and if they have planned to disclose their result to their sexual partner. In addition, their address and contact person i.e. Community based reproductive health agents (CBRHA) in their kebeles were asked for tracing purpose in qualitative phase of the study.

Phase 2 (Qualitative)

During this phase the principal investigators conducted in depth interviews (n =35) with 20 women who received

pretest counseling and rejected testing and , 10 women who received pre-test and give their blood for test but refused to take their result, 5 counselors who are working on PMTCT. In addition on site supervision was done to see the situation. Semi structured questionnaire outlying the major topics for the in-depth interview for interviewer were used. Local language was used for the interview and translated later. The chi-square test for comparing different selected variables was done at the level of significance of 0.05.

**Ethical considerations**

An official permission was obtained from Illubabor zone HAPCO and from the three respective woreda and health institutes. The women gave their verbal consent for participation in the study and all information that was obtained kept confidential.

## RESULTS

A total of 285 pregnant women participated in the study; 54.7% were from urban and the rest from rural area of Illubabor zone. Most (130(45.6%)) of women were in the age range of 16 to 20. Most (96%)were married, 68.4% were Christian and those from Oromo, Amhara, Guraghe and Tigre ethnic groups constituted 66.3%, 18.9%, 7.4 % & 3.5 %, respectively. More than half (64.2%) of the women attended primary, secondary or postsecondary school.

**Table 1**. Socio- demographic characteristics of women attending ANC in four PMTCT sites southwest Ethiopia, Dec. 2004. (N= 285).

| Variables | Number | Percent |
|---|---|---|
| Age | | |
| 16-20 | 130 | 45.6 |
| 21-25 | 75 | 26.3 |
| 26-30 | 50 | 17.5 |
| 31-35 | 20 | 7.0 |
| 36-40 | 10 | 3.5 |
| Education | | |
| No formal education | 102 | 35.8 |
| Primary (1-6) | 88 | 30.9 |
| Secondary (7-12) | 86 | 30.2 |
| Post Secondary (12+) | 9 | 3.1 |
| Religion | | |
| Christian | 195 | 68.4 |
| Muslim | 90 | 31.6 |
| Ethnicity | | |
| Oromo | 189 | 66.3 |
| Amhara | 54 | 18.9 |
| Gurage | 21 | 7.4 |
| Tigre* | 10 | 3.5 |
| Others | 11 | 3.9 |
| Marital status | | |
| Married | 274 | 96.1 |
| Widowed | 5 | 1.7 |
| Divorced | 3 | 1.1 |
| Single | 3 | 1.1 |
| Address | | |
| Rural | 129 | 45.3 |
| Urban | 156 | 54.7 |

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A total of 77 (27%) women accepted VCT. Those women who were below 35 years of age were more prone to accept VCT than those who were older and was significantly higher among women aged 16-20 (P<0.05). Like wise the address of the women has statistically significant association with the acceptance rate of test. Women who are from urban areas were more eager to be tested than those from rural (P<0.025). Women who are single, divorced or widowed were also had more acceptance of VCT than married women (P<0.001). Education, religion & ethnicity did not show statistically significant association with the uptake of VCT.

**Table 2.** Depicting socio- demographic characteristics Versus HIV- tested women among ANC attendees in four PMTCT sites, southwest Ethiopia, Dec. 2004. (N=285)

| Variables | Total (n) | Tested (%) | $X^2$ | P-V |
|---|---|---|---|---|
| **Age** | | | | |
| 16-20 | 130 | 46(35.4) | | |
| 21-25 | 75 | 16(21.3) | 10.6 | <0.05 |
| 26-30 | 50 | 10(20) | | |
| 31-35 | 20 | 5(25) | | |
| 36-40 | 10 | 0 | | |
| **Education** | | | | |
| No formal education | 102 | 1(18.6) | | |
| Primary (1-6) | 88 | 31(35.2) | 6.6 | <0.1 |
| Secondary (7-12) | 86 | 24(27.9) | | |
| Postsecondary | 9 | 3(33.3) | | |
| **Religion** | | | | |
| Christian | 195 | 47(24.1) | 2.7 | <0.25 |
| Muslim | 90 | 30(33.3) | | |
| **Ethnicity** | | | | |
| Oromo | 189 | 49(25.9) | | |
| Amhara | 54 | 20(37) | 6.6 | <0.25 |
| Guraghe | 21 | 5(23.8) | | |
| Tigre | 10 | 0 | | |
| Others† | 10 | 3(27.3) | | |
| **Address** | | | | |
| Rural | 129 | 26(202) | | |
| Urban | 156 | 51(32.7) | | |
| **Marital status** | | | | |
| Married | 274 | 69(25.2) | 12.10 | <0.001 |
| Single /Divor/Widow.* | 11 | 8(72.7) | | |

**Single, Divorced, Widowed*
*† Kefa, Wolayita, Sidama, Agnwak*

The major reason for not accepting VCT was lack of decision-making autonomy; Most of the married women believed that they need to get permission from partner before HIV testing. Other reasons include fear of partner's reactions, and stigma and discrimination.

Among tested women, 61(79.2%) received test result. women in the age group 26 to 30 years had higher uptake of test result (P< 0.001). Overall uptake of test result is higher among women < 30 years old. Mothers who have no formal education were more likely to receive test results than others (P< 0.005). Address, marital status, ethnicity and religion have no significant association with uptake of test result.

**Table 3.** Women who received test result among HIV tested ANC attendees in four PMTCT centers southwest Ethiopia Dec. 2004.

| Variables | Total tested (N=77) | Result received (%) | $X^2$ | P value |
|---|---|---|---|---|
| **Age** | | | | |
| 16-20 | 46 | 41(89.1) | | |
| 21-25 | 16 | 10(62.5) | | |
| 26-30 | 10 | 10(100) | 27.1 | <0.001 |
| 31-35 | 5 | 0 | | |
| 36-40 | 0 | 0 | | |
| **Education** | | | | |
| No formal education | 19 | 19(100) | | |
| Primary (1-6) | 31 | 20(64.5) | | |
| Secondary (7-12) | 24 | 20(83.3) | 11.67 | <0.005 |
| Post Secondary (12+) | 3 | 2 (66.6) | | |
| **Religion** | | | | |
| Christian | 47 | 35(74.5) | 1.65 | <0.25 |
| Muslim | 30 | 26(86.7) | | |
| **Ethnicity** | | | | |
| Oromo | 49 | 37(75.5) | | |
| Amhara | 20 | 16(80) | 2.52 | >0.5 |
| Gurageh | 5 | 5(100) | | |
| Tigre | 0 | 0 | | |
| Others† | 3 | 3(100) | | |
| **Address** | | | | |
| Rural | 27 | 21(77.8) | 0.05 | >0.5 |
| Urban | 50 | 40(80) | | |
| **Marital status** | | | | |
| Married | 69 | 53(76.8) | 2.3 | <0.25 |
| Sing/Div/wido.* | 8 | 8(100) | | |

**Single, divorced, widowed*
*† Kefa, Welayita, Agnwak*

The major reason for not receiving test result was the women do not want to know their HIV status, but gave blood to avoid offending the counselor. Other respondents complain distance of the health facility from their home to return back on the next day for the result.

Seventy-six (98.7%) of the tested women said that they have planned to tell their results for their sexual partner. The only one HIV Positive women didn't want to disclose her result due to fear of partner's reaction. During in-depth interview counselors noted that HIV negative women are willing to disclose their test result than positives. One counselor reported negative out comes following disclosure. That is one HIV Positive women were divorced after disclosure.

During on site observation staff shortage and lack of private room for VCT were identified in most of the centers.

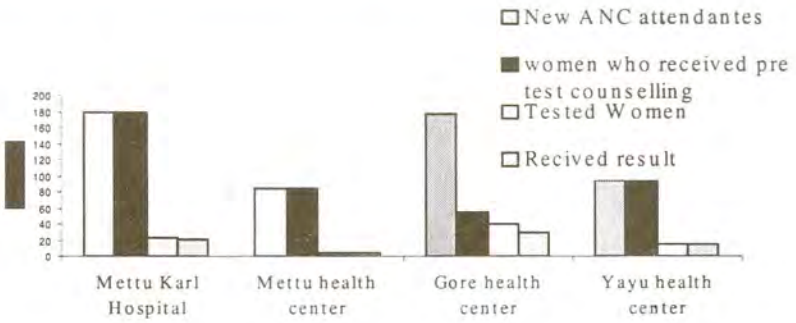


**Fig.1.**Uptake of VCT and return for result among ANC attendants at Four PMTCT sites southwest Ethiopia December 2004.

## DISCUSSION

The uptake of pretest counseling is different from one site to other ranging from 31.25% to 100%. (Fig 1)

This study showed that considerable proportion of women attending ANC services were not enrolled in counseling services. The uptake of HIV counseling service is affected negatively by staff shortage. In the PMTCT centers one counselor give antenatal, well baby and family planning services. At some centers lack of privacy and rules that requires client to return another time for counseling further discourages women from being counseled.

The uptake of test in this study is 27% that is lower than other studies conducted in Thailand (19) and higher than reports from Zimbabwe (10).

Age was shown to be a significant factor in the determination whether mother will accept HIV testing or not. In contrast to other study (20) younger women were more likely to be tested in this study. This may be due to the high-risk perception among younger women.

It was well established fact that rural and urban population are perceived have differences in knowledge, readiness and ability to follow advice (21) similarly in this study those women from urban area were more likely to accept VCT than their counter partners. Married women were less likely to accept VCT than other groups. This may be attributed to the tendency for married women to seek their husbands' approval prior to testing for HIV. This result was inline with studies conducted in Tanzania (22) and Uganda (23).

From the qualitative analysis it was found that women describe fear of partner's reaction as being the major barrier to HIV testing. The decisions to test were one that women often fear to defend or that they made with out the consent of partner. When consent from partner was not sought before testing conflicts frequently arose and it was this conflict that women feared.

The other mentioned barrier to uptake of VCT is stigma and discrimination. Many women fear discrimination and violence if they are identified as HIV positive and thus

are unable to take advantages of interventions offered to protect their infants from infection; particularly the administration of ARV prophylaxis and avoidance of breast-feeding.

The quality of counseling is another key factor in motivating women to take the HIV tests. Poor quality of VCT service was also noted to be a considerable problem in study from South Africa (15). Our qualitative analysis coincides with this study.

Therefore, counselors should give pregnant women information about risk and benefits of HIV testing briefly. In addition-discussing and addressing reasons for refusal such as lack of perceived risk, fear of positive results could promote understanding and accept testing at a later date. Moreover quality counseling empowers women who want to discuss and persuade their partner and get a chance to be tested.

Considerable number of women did not take their results. Educations were the major predictor of return for test result. Similar to other study (24), lower education level is associated with higher likelyhood of request for HIV test result. In contrary; in a study conducted in Vietnam (25), low education was associated with not returning for results.

Reasons for not taking results include not really want to know HIV status but gave blood to avoid offending the counselor. Therefore, it is important to inform the women that testing is not mandatory and that they will not be denied access to other services if they choose not to be tested.

Most of pregnant women decide to disclose their results to partner. Studies show that disclosing of HIV status to sexual partner is associated with supportive and understanding responses (26). However, there are also many negative out comes following disclosure (27, 28). As the woman divorced after disclosing her positive sero-status to her partner. Therefore, it is important to balance the benefits that an individual woman may receive against the potential risks.

Couple counseling involves parents in PMTCT all the way from VCT through out decisions on treatment, infant feeding options, and care and support programs. In fact studies have shown that providing HIV counseling and testing to couples can lead to greater acceptance and less abuse and abandonment of HIV infected women (29).

Finally, only knowing HIV test result cannot make pregnant women to sustain in the long way of PMTCT interventions. Therefore, it is important to give ongoing counseling to translate the benefits of VCT in to practical outcomes for both the mother and child.

## CONCLUSION

This study revealed that the uptake of VCT is very low. Therefore to increase the utilization of VCT at ANC setting, problems associated with the service and individual factors should be addressed. This includes quality of counseling, provision of test result on same day, addressing individual concerns and staff shortage. Options for increased partner involvement in PMTCT programs and couple counseling should be encouraged. There is a need for large-scale study on the issue.

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