

Status of ANC-linked HIV counseling and testing as an intervention for PMTCT in public health facilities in Addis Ababa: quality of HIV counseling given to pregnant women for PMTCT

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Abstract

Background: A high quality of PMTCT is essential for success: done well, it will result in significant reduction in child mortality through decreased peri-natal and postnatal HIV transmission; done badly, it could lead to deaths, increased drug resistance, and poor infant feeding.

Objective: the aim of this study was to assess the quality of antenatal-based HIV counseling and testing as an intervention for PMTCT at ten public Health Centers in Addis Ababa City.

Methodology: a cross sectional study was conducted at purposively selected 10 health centers in Addis Ababa from April to May 2008. Methods included observations of counseling sessions, and interview of key informants at PMTCT sites. Data on counselors' communication skills, duration and content of pre- and post test counseling was collected using a structured questionnaire adapted from UNAIDS tools. SPSS Version 15.0 was used to enter, clean, and analyze the data.

Results: A total of 66 (31 pre- and 35 post test) counselling sessions were observed. The mean duration of pre-test counselling was 5.37 minutes (± 3.34) and that of post test was 3.0 minutes (± 2.24). In 78.8% of the sessions, the counsellors gave clear and simple information to mothers; in 25.8% of the sessions, the mothers were not given the chance to freely consent or dissent for blood test. In the post test sessions, 42.9% of the mothers' understanding of the meaning of their test results was not explored.

Conclusions: The communication skill of the counselors was generally 'satisfactory'. The majority of pre- and post test sessions included the basic information on HIV and PMTCT/MTCT. However, the discussions were unusually brief, rudimentary and lacked depth and coverage. [*Ethiop. J. Health Dev.* 2009;23(3):190-198]

Introduction

Mother to child transmission is the most common mode of HIV transmission in children which can be vertically transmitted from HIV positive pregnant women to their unborn babies during pregnancy, labor and delivery or through breastfeeding after delivery (1). Fortunately, the risk of prenatal transmission of HIV is below 2% with antiretroviral treatments, safe delivery and safe infant-feeding (2). Without these specific interventions to reduce the risk of HIV transmission, estimated rates of vertical transmission ranges from 14% to 25% in Western Europe and North America and from 13% to 42% in developing countries (3).

The Government of the Federal Democratic Republic of Ethiopia is committed to reduce the spread of HIV/AIDS and address the consequences of the epidemic. The National HIV/AIDS Policy was enacted in 1998; and in 2001, the National HIV/AIDS Council declared HIV a National Emergency. Ethiopia has adopted the WHO/UNICEF/UNAIDS 4-pronged PMTCT strategy as a key entry point to HIV care for women, men and families (4). Prevention of mother-to-child-transmission services began in 2003, but suffers from low utilization of antenatal care and delivery services. Only 0.8% of

HIV infections among births to HIV positive mothers were averted in 2005/6 through PMTCT programs (5).

The revised version of the Ethiopian PMTCT guideline issued in 2007 promotes integrated and "Opt-Out" approaches as the most appropriate strategies for expanding national access and sustainability of PMTCT (HIV) services in the country (4). It also focuses on provision of HAART for all eligible HIV positive pregnant women and use of combined ARV prophylaxis for those who are not eligible for HAART. Compared to other approaches, routine provider-initiated HIV counseling and testing using the opt-out approach for all pregnant women has resulted in greater acceptability, increased opportunity to prevent MTCT, and minimized stigma. Provider-initiated routine counseling and testing using the opt-out approach is recommended for all clients seen within the context of maternal care (i.e. antenatal, labour, immediate postpartum). The clients are given pre-test information in a group or individually on HIV/AIDS and PMTCT and are told that their routine antenatal laboratory tests will include HIV test. The provider also must inform the client that she has the right to say "no" (to opt out), and this decision by no means affects the services she will get from the health facility. Ethiopia has

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started Human capacity development and rolling out the revised PMTCT guidelines at a larger scale in early 2008.

The World Health Organization is promoting the pre-test initiative, which calls for HIV voluntary counseling as an entry point for access to care and prevention (6). The purpose of pre-test counselling in all PMTCT settings is to provide clients or couples with adequate information to make an informed decision on HIV testing. The Pre-test counselling session should take approximately 10–20 minutes for the group or individual sessions in the ANC setting (7).

The purpose of post-test session is to provide women or couples with the HIV test result; to help them understand the meaning of the result; to encourage disclosure and partner testing; to offer counselling and prevention education including risk-reduction messages as well as support and referrals to services (7). The post-test session for the women or couple whose result is HIV-negative typically lasts about 5–10 minutes, and for the HIV-positive generally takes 15–30 minutes or longer, depending on the need of support.

Evaluation of counseling quality has been divided into two common elements—competence or counseling quality (which includes interpersonal relationship, gathering information, giving information, and dealing with special circumstances) and content (which includes pre-test, post-test, and HIV diagnostic procedure counseling) (8).

Measuring the quality of HCT in PMTCT programs is therefore, very important. There are few published information on this subject in Ethiopia, especially in the context of scaling up this program in high-prevalence areas. This study, therefore, tried to assess the quality of antenatal-based HIV counseling and testing in terms of counselors' competence/skills, content/topics of discussion and duration of pre- and post test counseling provided to pregnant mothers through the program to prevent MTCT of HIV at public health centers in Addis Ababa City.

Methods

The study was conducted in purposively selected public health centers in Addis Ababa City Administration. Addis Ababa is the Capital City of Ethiopia with an area of 540 km² and a total population of about four Million, of which 51% are females. The Region's HIV prevalence estimate for 2005 was 11.7%, with incidence rate of 1.4% and hosted a total of 7,995 HIV positive pregnant women and 179,381 children orphaned by AIDS (4). According to the Addis Ababa HIV/AIDS Prevention and Control Office (AAHAPCO), in 2007 there were 35 PMTCT service rendering health institutions in the metropolis—twenty six health centers, six hospitals and three clinics.

A facility based cross sectional design was employed from April to May 2008 applying both qualitative (observation) and quantitative methods to assess the quality of antenatal-linked HIV counseling and testing. Ten health centers (one from each sub city) were selected based on their antenatal client flow purposively, as it was difficult to include all the centers carrying out antenatal HIV counseling and testing. But finally only nine health centers were observed while giving HCT because one health center was not providing PMTCT service during the data collection period for it was under renovation. All the studied health centers used the opt-out approach. Four pre- and post-test counseling sessions were observed per counselor at nine health centers, and the PMTCT coordinators at the selected health centers were interviewed. The selection of the counselors to be evaluated was according to the standardized USAIDS tool which recommends an observation of 3–5 sessions selected at random when only one or two counselors exist in the health center. In our case all the health centers had only one active (functional) counselor; so we took (observed) the counselors who were giving PMTCT service during the study time

The data collection tool was adapted from standardized UNAIDS tools for evaluating quality of ANC-based HCT for PMTCT. It was based upon the expected content of counseling sessions found in the tool. This tool is a check list that suggests minimum contents and quality of pre- and post-test counseling.

Professional PMTCT counselor nurses observed the HCT service delivery for the quality of service during the pre- and post-test counseling sessions at the selected health centers. Prior to the actual data collection date, training was given to both data collectors and supervisors. Performance bias due to the presence of an observer was minimized by the observer being unobtrusive and sitting through multiple sessions.

The data were cleaned, checked for quality, coded and analyzed using SPSS Version 15.0. Quality of the PMTCT program was evaluated by the durations of the counseling session, topics covered in the pre- and post-test counseling sessions, and counselors' functioning skills/competence. Content of the counseling session was assessed by individual counseling sessions: HIV-Related issues, PMTCT/MTCT-related issues, and breaking the news. Counselors' skill was assessed for functions (counseling skills in terms of interpersonal relationship, information-gathering, information-giving, and counseling in special circumstances).

Ethical clearance was secured at different levels: by the Ethical Clearance Committee of the School of Public Health and Faculty of Medicine (AAU) and by the Addis Ababa Health Bureau. Informed verbal consent was sought from all study participants and the participants were reassured of the anonymity and confidentiality of

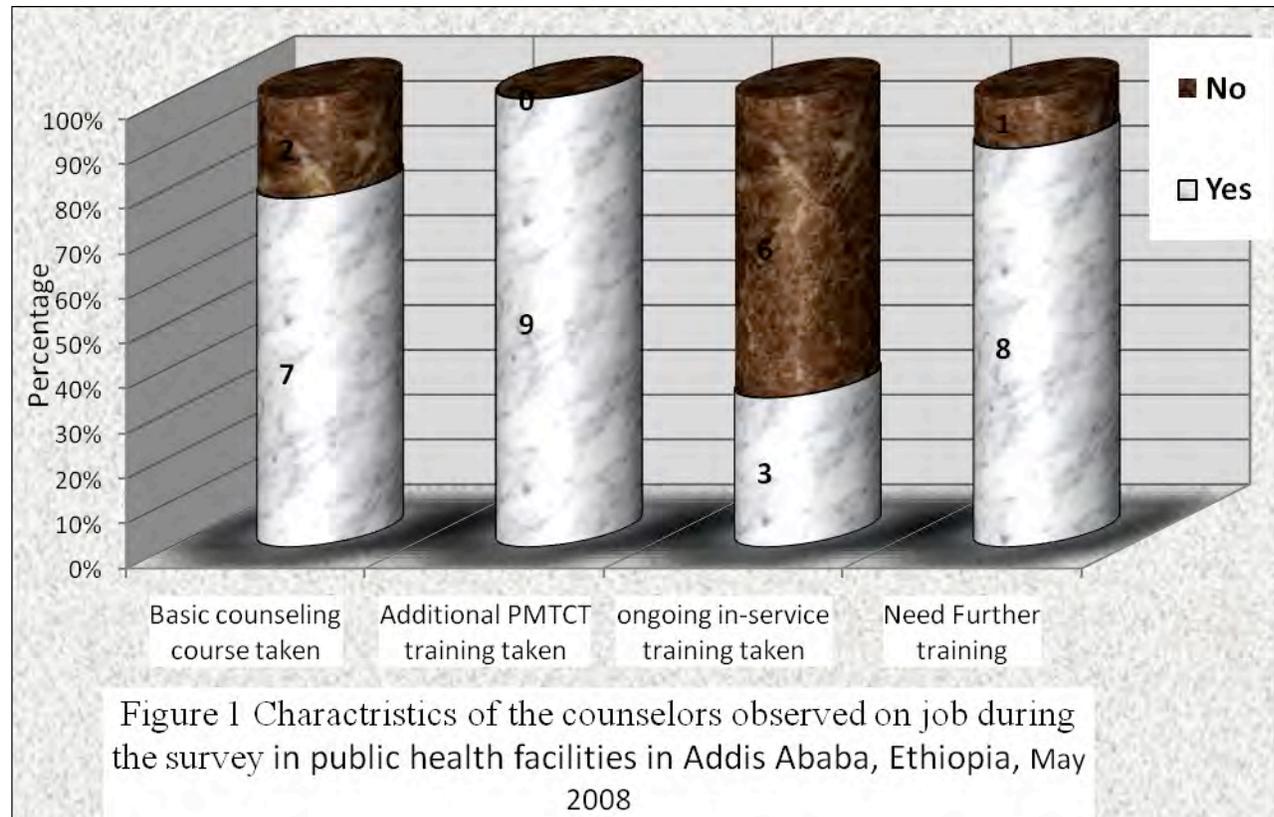
the information. Due respect was given to the norms, values, beliefs and cultures of the clients.

Results

Characteristics of the Counselors

Nine counselors who were working on PMTCT at the time of survey were interviewed (Figure 1). All the PMTCT counselors were found to be nurses, who were appointed to become PMTCT counselors by their heads.

Seven of the nine PMTCT counselors had taken the basic VCT counseling courses (before they become PMTCT counselors), and later all had attended the PMTCT training. However only three of them had taken refresher training in the past five years, and none of them had taken refresher training based on the revised PMTCT guidelines. Eight of them believed that they need further training on areas such as 'HIV and PMTCT', and on how to give *Group Counseling* to effectively render the PMTCT services (not tabulated here).



Nine counselors were also observed in nine health centers on their job. This method of evaluating the content and quality of counseling sessions was acceptable to both the counselors and the counsees. The total number of individual counseling sessions observed was 66 (31 pre- and 35 post test observations), out of which 4 (11.4%) of the post test counseling sessions observed were with HIV positive mothers.

Counselors' Communication Skills with the Mothers

In 16(45.7%) of the observations, the counselors greeted and introduced themselves to the clients at the beginning of the sessions (Table 1). In 40(60.6%) of the sessions, the mothers were actively and supportively listened/attended to. During gathering information from

the mothers, the counselors used closed and open ended questions as appropriate in 32(48.5%) of the sessions, only in 22(33.3%) of the sessions clarification was sought for unclear questions or responses of the clients, and in 28(42.4%) of the cases information gathered was summarized/repeated at the end.

Regarding giving information, in 52(78.8%) of the sessions, the counselors gave clear and simple information to the clients. In 36(54.5%) of the sessions, misunderstandings or incorrect beliefs of the clients were assessed and corrected; and information given was appropriately repeated and summarized at the end of the discussion only in 14(21.2%) of the sessions.

Table 1: **Counselors' Communication skills, in public health facilities in Addis Ababa, Ethiopia, May 2008 (n=66 sessions)**

Function	Skills	Yes		No	
		No.	%	No.	%
Interpersonal relationship	Introduced self (n=35)	16	45.7	19	54.3
	Listened actively and supportively (non-verbal and verbal)	40	60.6	26	39.4
Gathering information	Used open and closed questions as appropriate	32	48.5	34	51.5
	Sought clarification	22	33.3	44	66.7
	Summarized appropriately	28	42.4	38	57.6
Giving information	Gave clear and simple information	52	78.8	14	21.2
	Checked for (mis)understanding	36	54.5	30	45.5
	Summarized the information appropriately	14	21.2	52	78.8

Contents of Individual Pre-test Counseling

Thirty one pre test sessions/cases were observed while counseling was in progress (Table 2). Of the 31 pre-test counseling sessions observed, in 23 (74.2%) of the sessions, assessment of personal risks of HIV exposure were discussed; in 29 (93.5%) of the sessions, mothers' capacity to cope up with positive results (in case their test results turn positive) were assessed; however, in only 2 (6.5%) of the sessions potential needs and possible

supports were available in the community. In 28 (90.0%) of the sessions clients were allowed time to think through issues and for answering questions; in 27 (87.1%) of the sessions, clarification of the understanding about the information given during pre-test session was checked; but only in 23 (74.2%) of the sessions the clients were given the chance to freely consent or dissent for blood test, and follow up arrangements were made with 24 (77.4%) of the clients.

Table 2: **Check list for the pre-test individual counseling session for PMTCT in public health facilities in Addis Ababa, Ethiopia, May 2008 (n=31 sessions)**

Have any of the following occurred during the pretest counseling sessions?	Yes		No	
	#	%	#	%
HIV-related issues				
Assessment of personal risk of HIV exposure and how to avoid it (e.g. safer sex)	23	74.2	8	25.8
Capacity to cope with a positive result	29	93.5	2	6.5
Potential needs and possible support	2	6.5	29	93.5
Time to think through issues and for answering questions	28	90.0	3	10.0
Clarification of understanding about information given	27	87.1	4	12.9
Informed consent/dissent given freely	23	74.2	8	25.8
Follow-up arrangements after counseling session	24	77.4	7	22.6
MTCT-related issues				
Implications of a +ve result for the baby and for future children	24	77.4	7	22.6
Implications of a +ve result for decisions about infant feeding	16	51.6	15	48.4
Desirability of getting partner/ father involved	27	87.1	4	12.9
Check for understanding	8	25.8	23	74.2
Previous ARV use	0	0	31	100

In more than three-quarter (77.4%) of the sessions, the implication of positive results for the current pregnancy and future children (the possibility of MTCT) was discussed; and in 16 (51.6%) of the cases implication of the positive result for their infants' feeding options (i.e., the mothers should decide in time about their infant's

feeding options) was discussed. In the majority of the sessions (87.1%), necessity of getting the clients' partners/husbands in the subsequent follow up counseling was advised; in only 8 (25.8%) of the sessions understanding of the clients about MTCT issues was

checked. And in none of the cases or sessions previous ARV use or HIV status was checked (Table 2).

Contents of Individual Post-test Counseling (both HIV negative and positive mothers)

All clients who had undergone through HIV blood test were given post test individual counseling and all the post-test counseling sessions were observed. Accordingly, in all the 35 post test cases, the test results were given to the clients simply and clearly in a state of neutral tone. And in 29 (82.9%) of the cases, there was a pause to let clients respond or express any emotions before continuing (Table 3). In 20 (57.1%) of the cases, discussion about the meaning of the results was held; in 24 (68.6%) of the cases, clients' understanding of their

results was checked; and only in 9 (25.7%) of the cases personal, family and social implications of the results was discussed. In 28 (80%) of the sessions, issues about discordance and referral of partners for testing was discussed; and 25 (71.4%) of the cases were appointed for next follow up counselling.

However, only 13 (37.1%) of the cases were counselled to adopt safer sex practices (specific risk reduction strategies for staying free of STIs and HIV for the future) and to be re-tested after 3 months, if there is a recent risk of exposure. Fourteen (40%) of the cases were given information on family planning services, and in 5 (14.3%) of the cases, immediate plans and intentions of the mothers was assessed.

Table 3: Check list for the post-test individual counseling session for PMTCT in public health facilities in Addis Ababa, Ethiopia, May 2008 (n=35 sessions)

Have any of the following occurred during the posttest counseling sessions? (n=35)	Yes		No	
	#	%	#	%
Results given simply and clearly	35	100	0	0
Time allowed for result to sink in	29	82.9	6	17.1
Discussion of the meaning of the result for the client	20	57.1	15	42.9
Checking for understanding	24	68.6	11	31.4
Discussion of personal, family and social implications	9	25.7	26	74.3
Desirability of getting the father involved in counseling	28	80.0	7	20.0
Next appointment made	25	71.4	10	28.6
Information about safer sex and using condoms to prevent transmission of HIV and STIs	13	37.1	22	62.9
Information on family planning	14	40.0	21	60.0
Immediate plans, intentions and actions reviewed	5	14.3	30	85.7

Contents of Individual Post Test Counseling (for HIV positive mothers)

Of the total 35 post test individual counselling sessions observed, 4 (11.4%) of the post test counselling sessions observation was with HIV positive mothers. All the four HIV positive mothers were informed that HIV can pass to the fetus during pregnancy, during delivery and by breast feeding (Table 4). Three of the four positive mothers were also advised that the risk of HIV transmission is very minimal if the infant is exclusively breast fed, and the need for early cessation of breast feeding at about 4-6 months. In three of the HIV positive cases, the options of not breast feeding and using replacement feeding was discussed and reached on an agreement. Three of the 4 clients decided to exclusively breastfeed, while the other one opted for formula feed. Three mothers made informed decision with the help of

counsellors; the other one was offered an option (to feed replacement feeding). Two of the four positive mothers were given information on future family planning; and only with one mother was support services in the community explored/discussed. Only one case was told about the role of ARVs. Unfortunately, none of the four HIV positive mothers was counseled on drug adherence and the need to be taken regularly, about child care, and about previous ARV use.

There was no statistical difference on infant feeding counseling between HIV positive and negative status women ($p > 0.05$). The mean duration of counselling for HIV positive clients was 5.5 minutes, while it was 2.8 minutes for those clients who tested HIV negative.

Table 4: Check list for HIV positive individuals' post-test counselling for PMTCT in public health facilities in Addis Ababa, Ethiopia, May 2008 (n=4 sessions)

Contents of Individual Post Test Counseling for HIV Positive	Yes	No
Explained that HIV can pass to the fetus during pregnancy	4	0
Explained that HIV can pass to the infant during the birth process	4	0
Explained that HIV can be passed in breast milk	4	0
Indicated that the risk is very small if baby is breastfed exclusively	3	1
Explained need to stop breastfeeding at about 4-6 months	3	1
Discussed option of not breastfeeding and using replacement feeding	3	1
Checked mother understands risk of HIV through breast milk	3	1
Explored mother's understanding of exclusive breast feeding	1	3
Gave information on future family planning	2	2
Support services in the community explored/discussed	1	3
Told about the role of ARVs	1	3
Counseled on drug adherence and the need to be taken regularly	0	4
Counseled about child care	0	4
Counseled about previous ARV use	0	4

Discussion

This study is among the first attempts to evaluate the quality of ANC-based HCT service for intervention of PMTCT. But it may not have appropriate comparison due to the lack of similar studies with similar objectives using similar methods and target population in Ethiopia.

Poor quality counseling can result in misunderstanding and even resistance to behavior change. Counselors need adequate training and ongoing support and supervision to ensure that they give high quality counseling and can cope with their work load (9). This study indicated that 2 of the 9 counselors had not taken the basic VCT training, 6 of the 9 also never had refreshment training, and all, but one counselor believed that they would need further refreshment training to be equipped with recent information about HIV and PMTCT, and how to conduct group counseling. Some PMTCT coordinators also shared the counselors' ideas and admitted the compromise of the quality of their services as a result of shortage of trained man power and lack of refreshment training for their counselors. This finding may seem to be better than the finding of a study done in 2006 in Addis Ababa which indicated that 83.1% of the general VCT counselors had never been given an ongoing training (10). Lack of training, particularly ongoing and technical support of counselors working for the PMTCT programs, could lead them to burnout or decline in the quality of counseling services with time (11). Furthermore, it could be an important contributory factor to the low coverage of ARV among HIV positive pregnant women if seropositive women do not receive adequate ongoing counseling to reinforce the importance of adherence.

Pre-test counselling is vital for pregnant women to ensure that they understand the implications of negative or positive test results for themselves, their partners and their unborn children. It is also an opportunity to provide prevention information, and individual pre-test counseling. It helps patients to explore personal HIV risk behaviors and related issues and clarification of information provided in group sessions (12, 13). Entirely eliminating pre-test counseling or providing insufficient information minimizes the opportunities for ensuring informed consent and potentially makes receiving a positive test result more difficult to deal with (14). The National PMTCT Guideline also recommends that the client should be given pre-test information on HIV/AIDS and PMTCT, and that provider must inform the client that she has the right to say "no" (to opt out) and this decision by no means affects the services she will get from the health facility (4). In this study, however, most of the surveyed health centers provided only rudimentary information hastily, which do not enable the clients to make informed decision/consent. Moreover, we observed that counselors were taking blood samples for HIV test from clients without prior consent and pretest counseling.

The communication skill of the counselors was assessed for introductory/interpersonal relationship, gathering information from the clients, and giving information to the clients. The counselors' communicative skill with clients may be considered 'satisfactory' generally. For instance, the counselors greeted the clients and introduced themselves in only 45.7% of the sessions, and 60.6% of the cases were attentively listened to. This finding of skill of interpersonal relationship was lower than that found in a study done in Thailand in 2000 and South Africa in 2004 (15,16), in which 56% of the cases

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were greeted in the former and more than 95% cases were attentively and supportively listened to in the latter study. The lower results of the current study may be due to the fact that the health centers had shortage of trained man power as indicated by the PMTCT coordinators.

It is clear that a client will make good decision and adhere to the information given to prevent MTCT only after the client receives quality counseling and care from a competent counselor with good counseling and interpersonal communication skills (11). Accordingly, during giving information to the clients, in a bit of greater than $\frac{3}{4}$ of the sessions, the counselors gave simple and clear information to the clients in this study and a bit of less than $\frac{2}{3}$ of the clients were given time to absorb the information given or to respond/express themselves. However, only in less than $\frac{1}{5}$ of the cases main issues discussed during giving information were summarized to the mothers. These findings are more or less comparable to the finding of a study done in Thailand (15). In this latter study, the majority of pre-test sessions included the basic information on HIV transmission/prevention and PMTCT. However, in this study the discussions were found to be rudimentary and lacked depth and coverage in many of the counseling sessions. In none of the sessions previous ARV use, or previous HIV status of the women was checked. Moreover, a quarter of the clients were not asked to freely consent or dissent for HIV testing. This finding is similar to the study done in South Africa (16). This may negatively affect the overall ANC utilization by the mothers and an ongoing counseling if the rights of women are violated.

In this study, counseling session observations revealed that 25.8% of the clients were counseled for less than 5.0 minutes during the pretest session. The mean duration of pre-test counseling sessions was 5.94 minutes. The mean of 5.94 minutes may seem to be comparable with the National PMTCT Guideline that recommends individual pre-test sessions to last 5-15 minutes (4); however, it is noteworthy that 25.8% of the clients received a pre-test counseling that lasted only for 1-4 minutes. This might resulted in shortage of man power allocated for the service as the counselors were engaged in other MCH activities of the health centers (like managing deliveries, giving family planning service, etc). As a result the counsellors ignored the prescribed counselling protocols. Inadequate counseling time may lead to a decline in the quality of counseling services.

Quality VCT services act as a link to prevention, care and treatment programs as clients learn their status and look for their future plans. The poor quality of counseling in the PMTCT program will reduce the effectiveness of the program and the mere HIV testing averts little MTCT (11). Generally, this study pointed out that inadequate information was passed to clients during the pre-test counselling. For instance, there was less (51.6%) coverage pertaining to the implications of HIV positive

test results for decisions about infants' feedings; another quarter of the clients were not checked whether they had understood the information they were given on MTCT, and only with 6.5% of the cases was potential needs of the women and possible supports in the community was explored/assessed. These findings, however, are better than that obtained from a similar study done in Thailand (15).

Even though the basic topics were covered in the post-test sessions too, there were significant shortcomings in the comprehensiveness/depth of the information given, coverage of the clients, and in the time allotted for the post test counseling. For instance, discussion of the meaning of the results, and information on safer sex were covered only by 57.1% and 37.1% of the sessions respectively (irrespective of the clients' HIV status), and the duration of post test counseling was unusually short. Counseling is believed to enable people assess their personal risks for HIV and develop a risk reduction strategy, helps people to adhere to advice and treatment, and contribute to positive living and acceptance of the HIV results or status and is meant to assist clients in disclosing positive HIV status (6, 17). However, the short time spent on this counseling for most of the clients confirms the inadequate facilitation of this important task. This study pointed out that 68.6% of the post-test counseled mothers received a counseling that lasted less than 5 minutes (mean = 3 minutes, and 31.4% of the sessions being completed within only 1 minute) as opposed to a similar study done in Thailand (15), that lasted between 5-75 minutes, with a mean of 14 minutes. This finding is, however, similar to the study done in Kenya (17). It is evident that it is difficult to equip the counselees with the relevant and necessary information in such a short period of counseling.

Even though too brief, the post test observation of the four HIV positive mothers revealed that the mothers were counseled on PMTCT and risks associated with breast feeding. But, none of the four positive mothers were counseled on child care, about previous ARV use, about drug adherence and the need for drugs to be taken regularly; and only one case was informed on the role of ARVs and its regimen. Similarly, a study done in South Africa indicated that inadequate knowledge about MTCT was passed to mothers during the post-test counseling (18). Poor quality counseling and the limited information provided to positive women is likely to result in misunderstanding, poor adherence to the information given to prevent MTCT, poor infant feeding practices, and even resistance to behavior change (9, 11, 18, 19).

In spite of their positive status, only two of the four HIV positive mothers received information on future contraceptive options. Three of the four positive mothers were also informed that the risk of HIV transmission is very minimal if the infant is exclusively breast fed, and regarding the need for early cessation of breast feeding at

about 4-6 months. Similar poor findings were recorded in Zambia (19) in that only in one-third of the sessions infant feeding options were discussed with HIV positive mothers. In breast feeding population, up to 20% of infants born to HIV infected mothers may acquire HIV through breast feeding (20). Poor counseling on infant feeding especially for HIV positive mothers will lead to poor infant feeding practices that are important causes of HIV transmission from mother to infant. The current study showed no statistical difference in infant feeding counseling between HIV positive and negative status ($p > 0.05$).

In conclusion, the uptake of HCT and a return rate to collect their test results among the ANC client was very high. Overall, counselor's communicative skill was generally "satisfactory". The majority of pre test sessions included the basic information on HIV transmission/prevention and PMTCT. However, this study revealed that the discussions were rudimentary and lacked depth and coverage in many of the counseling sessions. All clients who had undergone HIV blood test had also undergone post test individual counseling. However, even though the basic topics were covered, there were significant shortcomings in the comprehensiveness/depth of the information given, coverage of the clients, and in the time allotted for the counseling session. None of the four positive mothers were counseled on child care, about previous ARV use, about drug adherence and the need for the drugs to be taken regularly. To remedy the observed gaps, better management and supervision of the PMTCT program is deemed necessary by the Addis Ababa Administrative Health Bureau, with ongoing mentoring, performance evaluation and development of the skills of the counselors. As well the ministry of health and other agencies concerned with the quality of PMTCT need to reevaluate the impact of the tools developed and being used in Ethiopia for the improvement of quality of HCT and standardized PMTCT message.

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References

1. Ministry of Health and Social Services. Guidelines for the Prevention of Mother-to-Child Transmission of HIV. 1st edition. Windhoek, Namibia, 2004.
2. WHO. Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants: Guidelines on Care, Treatment and Support for Women Living with HIV/AIDS and their Children in Resource-Constrained Settings. Geneva: WHO; 2004. <<http://www.who.int/hiv/pub/mtct/en/arvdrugswomenguidelinesfinal.pdf>>, accessed May 26, 2006).
3. Msellati P, Newell M-L, Dabis F. Rates of mother-to-child transmission of HIV-1 in Africa, America and Europe: Results from 13 perinatal studies. *Journal of Acquired Immune Deficiency Syndromes*, 1995; 8:506–510.
4. MoH. Guidelines for Prevention of Mother-to-Child Transmission of HIV in Ethiopia, Federal HIV/AIDS Prevention and Control Office, Federal Ministry of Health. July 2007.
5. MoH. AIDS in Ethiopia. Federal Ministry of Health: 6th edition, June 2006.
6. Stringer, J. Nevirapine to Prevent Mother-to-Child Transmission of HIV-1 among woman of unknown sero status. *African Medical Journal*, 2003; 1850-1853.
7. WHO, HHS/CDC, UNICEF and USAID. "Protect Yourself, Your Baby and Your Family from HIV/AIDS". Testing and counseling for Prevention of Mother-to-Child Transmission of HIV (TC for PMTCT) support tools. Reference Guide 2006. Geneva, Switzerland: WHO, HHS/CDC; 2006. <<http://www.womenchildrenhiv.org/wchiv?page=vc-10-00>>. (Accessed on 3/7/2008)
8. UNAIDS. Tools for evaluating HIV voluntary counseling and testing. UNAIDS BEST PRACTICE COLLECTION. UNAIDS, Geneva, 2000. <<http://www.unaids.org>> (Accessed on 10/5/2007).
9. MOH, National Guidelines for VCT in Ethiopia, April 2002.
10. Abraham D. Assessment of quality of Voluntary HIV Counseling and Testing services in Addis Ababa. Unpublished MPH thesis, Department of Community Health, Addis Ababa University; 2006.
11. Chopra M, Doherty T, Jackson D and Ashworth A. Preventing HIV transmission to children: Quality of counseling of mothers in South Africa. *Acta Paediatrica*, 2005; 94: 357–363.
12. WHO and HHS/CDC. Prevention of Mother-to-Child Transmission of HIV (PMTCT) Generic Training Package, 2004. Available at <http://www.who.int/hiv/en>. (Accessed on 17/7/2007).
13. Perez F. et al. Prevention of Mother to Child Transmission of HIV: Evaluation of a Pilot Program in a District Hospital in Rural Zimbabwe. *BMJ* 2004; 329: 1147–1150.
14. Joo E. et al. Implementation of Guidelines for HIV Counseling and Voluntary HIV Testing of Pregnant Women. *Am J Public Health* 2000; 90: 273–276.
15. Department of Health. Ministry of Public Health Thailand. Evaluation of VCT in the National PMTCT Program. October 2000.
16. Chopra, M, Jackson, D., Ashworth, A. And Doherty, T. An Evaluation of the Quality of Counseling Provided to Mothers in Three PMTCT Pilot Sites in South Africa; 2004.

17. Moth IAA, Ayayo BCO, and Kaseje DO. Assessment of utilization of PMTCT services at Nyanza Provincial Hospital Kenya. *Journal of Social Aspects of HIV/AIDS*. 2005; 2 (2). Also available at: <http://www.sahara.org.za/index.php/Download-document/242-Assessment-of-utilisation-of-PMTCT-services-at-Nyanza-Provincial-Hospital-Kenya.html>. (Accessed on 2/6/08)
18. Health Systems Trust. Evaluation of the pilot PMTCT sites in South Africa. Durban: Health Systems Trust; 2002. p. 124–48.
19. Hope Humana L, National Food and Nutrition Commission. Ndola District Health Management Team, Horizons Program, and Z.I.H. Program. Empowering communities to respond to HIV/AIDS: Ndola demonstration project on maternal and child health: Operations research final report. Washington, DC: Population Council; 2003.
20. Decock KM, Fowler MG, Mercier E, et al. Prevention of mother to child HIV transmission in resource poor countries. *Translating research into policy and practice*. *JAMA* 2000; 283(9): 1175-82.