Original article

Linkage between VCT and reproductive health services (FP, ANC and delivery) in two public facilities of rural Ethiopia

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Abstract

Background: Linking of related health services or delivering services in an integrated setup is an indispensable undertaking to optimize utilization of scarce resources in developing countries like Ethiopia. However, very related services such as HIV/AIDS and reproductive health are mostly delivered not in an integrated setup and a lot of missed opportunities are observed.

Method: A cross-sectional study was conducted to describe the linkage between VCT and reproductive health services in two public health facilities of rural Ethiopia. A total of 405 women who were attending family planning (FP), antenatal and delivery care services were interviewed with structured questionnaire. Moreover, using qualitative technique, service provider interview and direct service delivery observation were conducted.

Results: It was found that almost half of the women coming to attend ANC, delivery and family planning services have sufficient knowledge about VCT. Overall, 80% have favorable attitude towards VCT. Family planning (FP) clients have less favorable attitude and less knowledge compared to ANC and delivery care attendees. Only 46.9% of women reported that they were informed about VCT during their current visit. About 32.4% of FP, 62.8% of ANC were informed by providers about VCT ($P<0.001$). Similarly, 22.4% of FP, 57.9% of ANC attendees were advised to get tested by the providers ($P<0.001$). Majority of ANC attendees were referred to the VCT sites as compared to FP clients which were found to be due to the existence of formal referral between the ANC and VCT clinics for PMTCT services. Use of IE/BCC materials to disseminate messages in different service delivery sites was very limited.

FP counseling and contraceptives are not provided at the VCT sites and there is no referral to FP clinics for those who may need the services.

Conclusion: The study revealed weak linkage between VCT and FP which was mainly due to shortage of trained manpower, lack of time to counsel clients, negligence, absence of clear guidelines and referral system and lack of follow up and supervision. Therefore, orientation of providers, development of clear referral guideline and supportive supervision are recommended to minimize such missed opportunities. [*Ethiop.J.Health Dev.* 2008;22(2):158-166]

Introduction

HIV voluntary counseling and testing (VCT) is the process by which an individual undergoes counseling which would enable him or her to make an informed choice about being tested for HIV. This process is also aimed at helping clients to cope up with stress and to make decision related to HIV/AIDS (1, 2). VCT is included as one of the strategies of HIV/AIDS prevention in the recently approved HIV/ AIDS policy of the country. It is considered as a priority intervention area and entry point for several HIV prevention activities through creating more personal awareness and favorable behavioral change (4).

The primary aim of VCT is preventive which is to help people change their sexual behavior especially to avoid transmitting HIV to sexual partners if sero-positive, and to remain sero-negative if tested negative (3). Since VCT has a vital role to play within a comprehensive range of measures for HIV/AIDS prevention and support, it should be encouraged and services should be widely utilized (4). Women who tested and became sero-positive can have early access to a wide range of services, including medical care, ongoing emotional support and social support. Most importantly, if pregnant, they can have timely access to antiretroviral therapy to avoid perinatal transmission of HIV. If not pregnant, providing FP services to these women can help them to properly plan future pregnancies. Women who tested and became sero-negative can have counseling, guidance and support to help them remain negative (5)

However, VCT services in HIV prevention were not given priority and not highly promoted in reproductive health programs such as FP and maternal health in many developing countries. In areas where VCT services are available, mostly uptake of services is poor due to poor IE/BCC efforts, lack of funding and integration, infrastructure and trained and designated staff. If VCT can be linked with general medical care, FP, ANC and delivery care, and effort is made to improve knowledge, attitude, and practice of clients and the integration of services, this will help to reduce missed opportunities and hence will enable to reach more people, especially women who are at higher risk (5, 6).

A significant, though unknown, proportion of individuals seeking FP services will be exposed to the risk for HIV infection or are already infected. While HIV/AIDS and FP programs share a common goal of healthy sexuality, FP programs have been neglected, by and large, as a vehicle for preventing HIV infection or identifying those who are infected. Redressing this lost opportunity would

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create an important new channel for expanding the battle against HIV/ AIDS (7).

Recent studies showed that high proportion of HIV positive individuals who received medical care expressed their wish for parenthood and want to use family planning (8).

During FP counseling the client- provider interaction can provide an opportunity to incorporate HIV and VCT massages. The benefits of VCT and birth spacing can be discussed regardless of their sero status. However, studies have shown that services provided in FP and other MCH clinics often make only a small contribution (9). Emerging recent evidence indicates that women are disproportionately affected than men, especially in sub-Saharan Africa where, on average, three women are HIV infected for every two men. In age group 15-24 the ratio rises to three young women for every young man (10).

This is also true in the latest national AIDS report of the country which indicated that women are increasingly more affected by HIV/AIDS than men. According to the report, while the national prevalence is reported to be 3.5%, it is 3% for males compared to 4% for females. Similarly, females account for 55% of the PLWHA, 55% of AIDS deaths and 53% of new HIV infections (11).

There is high degree of overlap between the population at risk for unintended pregnancies and those at risk for HIV/AIDS. Many women make contact with the health care system to seek care for their children, during the course of pregnancy, and for FP services. These visits present valuable opportunities to reach women with HIV/AIDS related information and services that can empower them to reduce their own risk for infection and the risks to their partners and children (7). It makes sense, therefore, that VCT programs must be linked into family planning and other MCH settings to bring about behavioral change among women, in highly affected countries such as Ethiopia (12). The objectives of this study were, therefore, to describe the linkage between VCT and reproductive health services and assess FP, ANC and delivery care attendees' knowledge, attitude and practice on VCT, in Butajira Hospital and Butajira Health Center from Jan-Feb/2006.

Methods

The study was cross-sectional in design and it was conducted in purposely selected two health facilities, Butajira Hospital and Butajira Health Center, from Jan-Feb 2006, with qualitative and quantitative data collection techniques. Study participants coming for FP, ANC and delivery care services within the study period and who were willing to participate voluntarily and also able to respond (i.e. who were free from pain and discomfort) were included in the study by using quota sampling technique. In the qualitative data, non-participatory observation checklist for client-provider interaction and individual in-depth interview with health service providers were used. And the quantitative data was collected using a structured survey questionnaire. Butajira Hospital and Butajira Health Center are located 130 kms south of Addis Ababa in Meskan and Mareko district of the Guraghe Zone, Southern Nations Nationalities and Peoples Region. VCT service has been running for the last 3-5 years in the two health facilities and on average 150 clients per month were getting VCT service in each facility. The study populations were women who came to attend FP, ANC, and delivery services at the two health facilities during the study period. Sample size was calculated using single population proportion formula. To reach the desired sample size, we have taken (P) knowledge of the availably of VCT among women from a baseline study in Ethiopia (i.e. 19% of woman said it was possible to get VCT in their kebeles) (13). Furthermore, 95.0% confidence level was considered for significance level and the degree of margin of error was set to 4.0%. For potential non-response, 10.0% of the calculated sample size was added giving a total sample size of 405 women.

Considering time and cost, service delivery observation was conducted only on 12.0% of the total exit interview cases. The individual in-depth interview was conducted with 12 health service providers from the hospital and health center working in VCT, PMTCT, ANC, FP and delivery including heads. All had at least two years experience in their respective health facilities.

A structured questionnaire which had sections on socio-demographic, knowledge on VCT, attitude and practice towards VCT and linkage of services was administered to clients after their visits with health providers.

Most questions were extracted mainly from the Ethiopian Behavioral Surveillance Survey (BSS, 2000) questionnaire and translated into Amharic and pre-tested at a private clinic in the same area before the actual study was conducted. Informed consent was obtained from each study participant after explaining the purpose of the study.

Observation of fifty client-provider interactions in the FP and ANC clinics were conducted using a checklist. This had two major sections; (1) General assessment on IE/BCC approaches (materials availability and its dissemination) and (2) Direct observation of FP counseling, ANC focusing on the interactions between providers and clients with emphasis on how frequently they bring up the issue of HIV/AIDS in general and VCT in particular. The VCT counselors were asked to document their experience with regard to counseling VCT clients for services such as FP, ANC, and delivery care services and in receiving clients from the other clinics for VCT services. Health care providers from FP, ANC, and deliveries were also interviewed to document

how they are linking their services with VCT. Finally the data from observation and in-depth interview were transcribed and analyzed thematically.

As to this document, sufficient VCT knowledge means respondents who score above average on VCT knowledge related questions where as less VCT knowledge is below average score. Favorable attitude towards VCT is respondents' scoring above average on VCT related attitude questions whereas less favorable attitude is below the average. Similarly, good VCT practice is respondents' scoring above average on VCT related practice questions whereas poor practice is below the average.

During data collection, supervisors counter checked the quality of the collected data and data were checked daily for completeness by the principal investigator. Finally, data were processed using SPSS version 11 statistical software package, and for different variables, frequencies, cross tabs, chi-squares, stratification by different client types, 95% confidence intervals were computed to assess the degree of association between variables.

Results

Exit interview

A total of 405 women who volunteered to give their responses were successfully interviewed. Two hundred fifty two (62.2%) were from the health center while the remaining 153 (37.8%) were from the hospital. Two hundred ten (51.9%) participants came to the facilities for FP, 183 (45.2%) for ANC and the rest 12 (3.0%) came to the health facilities for delivery services. The mean age of respondents was 26.0 years (±SD=6.03). Almost all (93.3%) were married and majority (68.9%) had given 1-4 live births preceding the survey. Half (50.0%) of them were Muslims and 40.0 % were Orthodox Christians. Almost all of the study participants were Guraghe 369 (91.1%) by ethnicity. Half (50.0%) of them were not able to read and write (Table1).

Knowledge, attitude and utilization of VCT services

When asked about VCT, 287 (70.9%) reported that they have heard the existence of VCT service in their vicinity. Close to 95.0% mentioned government health center, 67.6% mentioned hospital and 22.0% mentioned private health facilities as the main sources for VCT service in their vicinity. However, only 48 (16.7) participants reported the test provided in their area is confidential (Table 2). The importance of VCT services seems quite universal in 97.8% of respondents. One hundred fifty five (68.7%) of the non-tested respondents were interested to be tested. Among those interested to be tested, 69.0% of FP clients were interested in VCT services, versus 69.0% of ANC clients and 0.8% of delivery attendees (Table 3).

Table 1: **Socio-demographic characteristics of participants receiving FP, ANC, and Delivery care services, Butajira, Ethiopia, Jan-Feb. 2006**

Variables	Number	Percent
Age group (years)		
15-19	31	7.7
20-24	140	34.6
25-30	158	39
> 30	76	18.8
Residence		
Rural	194	47.9
Urban	211	51.9
Marital status		
Single	8	2
Married	378	93.3
Others	19	4.7
Parity		
0	15	3.7
1-4	279	68.9
≥ 5	111	27.4
Religion		
Orthodox	163	40.2
Muslim	202	49.9
Protestant	36	8.9
Others	4	1
Ethnicity		
Guraghe	369	91.1
Others	35	8.6
Educational status		
Illiterate	208	51.4
Read and write	21	5.2
Grade 1-4	54	13.3
Grade 5-8	71	17.5
Grade 9-10	27	6.7
Above 10	24	5.9
Occupation		
Farmer	101	24.9
Petty traders	71	17.5
Housewife	165	40.5
Organization employee	16	3.95
Others	53	13.1

Hundred seventy nine (44.2%) of respondents reported ever having HIV test. Almost 61.0% of ANC attendees, 28.6% of FP clients and 66.7% of deliveries were reporting ever having HIV test. Of those tested, 96.6% said the test was done voluntarily. Almost all tested respondents had obtained their test results. Their most recent VCT were within the past 2 years (Table 4).

The majority 79.0% of respondents scored above average on VCT related knowledge questions. About 53.0% have sufficient VCT knowledge (Respondents scoring above average on VCT related knowledge questions) about the benefits of VCT.

Among the primary unit of analysis 51.0% of FP, 53.0% of ANC and 92.0% of delivery attendees had sufficient knowledge about VCT benefits (Table5).

Table 2: **Knowledge of VCT among participants receiving FP, ANC, and Delivery care services Butajira Town, Ethiopia, Jan-Feb. 2006**

Variables	FP No. (%)	ANC No. (%)	Deliveries No. (%)	Total No. (%)
Heard about VCT				
Yes	133(63.3)	142(77.6)	12 (100)	287 (70.9)
No	77 (36.7)	41 (22.4)	0	118 (29.1)
VCT services confidential (n=287)				
Yes	20(14.9)	25(17.6)	3(27.0)	48 (16.7)
No	102(76.1)	105(74)	8(73.0)	215(74.9)
Don't know	12 (9.0)	12 (8.4)	0	24 (8.4)
Total	134 (100%)	142 (100%)	11(100%)	287(100%)
Sources of VCT service (n=287)**				
Government hospital	95(33.1)	88(30.7)	11(3.8)	194(67.6)
Government health center	126(67.4)	132(46.0)	11 (3.8)	269(93.7)
Private health institution	27 (9.4)	30 (10.5)	6 (2.1)	63(22.0)
Others	2 (0.7)	4 (1.4)	1(0.3)	7(2.4)
Importance of VCT (n =287)**				
Help to protect others	115(47.2)	131 (1.9)	8 (2.3)	254(88.5)
Know self sero status	131(51.3)	142 (45.5)	10(2.8)	283(99.0)
Taking care for future	128(50.0)	134(42.4)	11(3.0)	273,(95.0)
In order to plan	100(36.6)	94 (30.3)	10(2.8)	204 (71.0)
Premarital counseling	63(24.3)	66 (20.2)	6 (1.5)	135 (47.0)
Others	1 (0.3)	1(0.3)	2 (0.5)	2 (0.5)

"** " sum may not add up 100% due to multiple responses

Table 3: **Attitude towards VCT among participants receiving FP, ANC, and Delivery care services Butajira, Ethiopia, Jan.-Feb. 2006**

Variables	FP No. (%)	ANC No. (%)	Deliveries No. (%)	Total No. (%)
Usefulness of VCT (n=405)				
Yes	204 (97.1)	180 (98.4)	12 (100)	396 (97.8)
No	6 (2.4)	3 (1.2)	0	9 (1.7)
Total	**210 (100%)**	**183(100%)**	**12(100%)**	**405 (100%)**
Not tested, but interested to be tested in the future (n= 226)				
Yes	103 (69.0)	50 (69.0)	2 (50.0)	155 (68.6)
No	47 (31.0)	22 (31.0)	2 (50.0)	71 (31.4)
Total	**150 (100)**	**72 (100)**	**4 (100%)**	**226 (100%)**

Table 4: **VCT utilization among participants received FP, ANC, and Delivery care services Butajira, Ethiopia, Jan-Feb. 2006**

Variables	FP (n=210) No. (100%)	ANC (N=183) No. (100%)	Deviveries (n=12) No. (100%)	Total (n=450) No. (100%)
Ever had HIV test				
Yes	60 (28.6)	11 (60.7)	8 (66.7)	179 (44.2)
Not	150 (71.4)	72 (39.3)	4 (33.3)	226 (55.8)
	FP (n=60) No. (100%)	**ANC (N=111) No. (100%)**	**Deviveries (n=8) No. (100%)**	**Total (n=179) No. (100%)**
HIV taste initiation				
Voluntary	59 (98.3)	106 (95.5)	8 (100)	173 (96.6)
Provider initiative	1 (1.7)	5 (4.5)	0	6 (3.4)
Obtained HIV Test result				
Yes	60 (100)	110 (90.0)	8 (100)	178 (99.4)
No	0	1 (1.0)	0	1 (0.6)
Most recent HIV test				
One year back	25 (41.7)	69 (62.2)	5 962.5)	99 (55.3)
Two years back	13 (21.7)	27 (24.3)	3 (37.5)	43 (24.0)
2-4 years back	18 (30.0)	9 (8.0)	0	27 (15.1)
Before four years	4 (6.7)	6 (5.5)	0	10 (5.6)

Table 5: **Score of knowledge, attitude and practice of VCT Butajira, Ethiopia Jan-Feb.2006.**

Variable	Score	Mothers Total (%)	FP (%)	ANC (%)	Deliveries (%)
Knowledge	Sufficient	214(52.8)	106 (50.5)	97 (53.0)	11(92.0)
	Not sufficient	191(47.2)	104 (49.5)	86 (47.0)	1(8.0)
Attitude	Favorable	329(81.2)	161(77.0)	158(86.0)	10(83.0)
	Unfavorable	76 (18.8)	49(23.0)	25 (14.0)	2 (17.0)
Practice	Good	178(44.0)	60(29.0)	110(60.0)	8 (67.0)
	poor	227(56%)	150 (71.0)	73 (40.0)	4 (33.0)
Total		**405 (100%)**	**210 (100%)**	**183(100%)**	**12(100%)**

Linkage of related services

It was found that from the total 393 respondents (excluding the deliveries); only 46.6% had been informed about VCT by the health care providers during their current visits to the facilities. Compared to those who came for FP (32.4%), clients of ANC reported higher (62.8%) rate of receiving information about VCT and the difference was statically significant ($p < 0.001$) (Table 6). Among 183 (46.9%) respondents who have been informed by the health care providers about VCT at their recent visit, 177 (93.2%) said that they had been informed about the existence of the service in the health facilities, 69 (36.3%) said they have been informed that the service is available elsewhere, and 138 (72.6%) of the respondents stated that they were informed about the benefits of VCT (Table 6). Among those who have been informed about VCT by the health care providers at recent visits, a smaller proportion of FP (34.7%) than ANC (58.4%) were informed about the presence of VCT service in the health facilities, however, the difference was not statically significant.

Table 6: **Participants Received FP, ANC, and Delivery care services versus efforts of service linkage, Butajira, Ethiopia, Jan-Feb. 2006**

Variables	Mothers		Total	
	FP n (%)	ANC n (%)		
Informed about VCT in your recent visits (n=393)				
Yes	68 (32.4)	115 (62.8)	183 (46.6)	X^2=37**
No	142 (67.8)	68 (37.2)	210 (54.4)	P<0.001
Information provided by health worker about VCT (n = 183) *				
Availability of VCT in the facilities	66(34.7)	111 (58.4)	177 (93.2)	X^2=0.057 p=0.811
Availability of service else where	27 (14.2)	42 (22)	177 (93.2)	X^2=0.192 p=0.659
Service is useful	52 (27.4)	86 (45.3)	138 (72.6)	X^2 =0.078 p= 0.780
Advised to get HIV test (n=393)				
Yes	47 (22.4)	106(57.9)	153(38.9)	x^2=52**
No	163 (77.7)	77(42.1)	240(61.1)	p<0.001
Referred to VCT center (n= 153)				
Yes	35 (74.5)	100(94.3)	135 (88.2)	x^2=12.4**
No	12 (25.5)	6 (5.7)	18 (11.8)	p<0.001
Watched TV on VCT at MCH (n=393)				
Yes	42 (20.0)	26 (14.2)	68 (17.3)	x^2 =2.3.
No	168 (80.0)	157 (85.8)	325 (82.7)	p=0.130
Listened to Tape/Radio on VCT at MCH clinic (n=393)				
Yes	30 (14.3)	21 (12.0)	51 (13.0)	X^2=0.7
No	171 (85.7)	162 (88.0)	333 (87.0)	p=0.408
Read printings on VCT at MCH clinic (n=393)				
Yes	54 (25.7)	46 (25.1)	100 (25.4)	X^2=0.02
No	156 (74.3)	137 (74.9)	293 (74.6)	p=0.896

"* " sum exceeds 100% due to multiple responses

** show significant difference

As shown in Table 6, only 153 (38.9%) of the total respondents said that they were advised by the providers to get VCT services. Out of whom 140 (61.1%) participants were referred to VCT and PMTCT services located in the same facility. According to the providers, inadequate working spaces, shortage of trained

manpower, insufficient time to counsel clients as a result of work overload were mentioned as obstacles for adequate client-provider interaction that helps to link related services in the facilities. Majority (57.9%) of those who came for ANC were advised to get tested for HIV while only 22.4% of the FP clients were advised to do so (P<0.001). Similarly, most of the ANC attendees were referred to VCT compared to FP clients (p <0.001) (Table 6). It was found from the qualitative interview that no emphasis was given to FP compared to ANC, also, internal referral system hasn't been established with VCT. Similarly, neither FP methods nor referral of VCT clients to FP clinic were available in the VCT centers. The linkage between ANC and VCT services has been stronger due to the introduction of PMTCT services.

Overall, the IE/BCC effort at the two facilities is minimal. Only 17.3% of respondents watched TV at MCH waiting room, 12.8% have listened to audio messages and 25.2% read printed materials from the sites where they have received services. IE/BCC materials (such as cassettes, pamphlets, posters etc...) were scarce, outdated and most of them were written in English, and none were focusing on the linkage between FP and VCT, ANC and PMTCT services.

The in depth interview part of the qualitative study showed that there was shortage of trained manpower and time, lack of adequate space, privacy and confidentiality, and lack of formal referral system between FP and VCT to link services.

A participant employed and working in a health facility said that "....*I am the only one working in the FP and ANC unit including EPI activities, and perform my duties in this narrow room on a single table...*"

A respondent from Maternal and Child Health Department in a health facility mentioned that "*... there is formal referral system of sending ANC attendees to PMTCT with cards within the facility "internal referral system" but not for FP attendees to VCT...with in this single room we two are providing both services together which is not convenient for HIV test counseling...*"

Messages included in the IEC materials were generally about HIV/AIDS and in particular about VCT. It was observed that in both facilities, there were televisions and audio messages. However, due to managerial and human resource problems, partially they couldn't provide services. Regarding printed materials, most posters were posted in non visible areas and some were written in English which may not be well understood by the local people. As per the in depth interview the leaflets given to the providers were out dated and none of them were focusing on the linkage between FP and VCT, ANC and PMTCT services.

The observation revealed that there is insufficient time to ensure adequate client-provider interaction that would enable them to communicate information related to VCT and related issues. On average, the FP clients stay in the room was only for 3-5 minutes. Literally the counseling session is limited to asking why or for what contraceptive the client came and providing the method she requested right away. The provider tells the client when to return for refill and that concludes the session. Compared to FP clients those who came for ANC had time (on the average 10-12 minutes) to discuses about HIV/AIDS.

Discussion

Awareness of the existence of VCT service was high (>70%) amongst all target groups, irrespective of the purpose coming to visit health facilities. Even though comparison is difficult, this finding supports the result of in-depth study of knowledge, attitude, behavior and practice (KABP) of internally displaced persons (IDPS) in Ethiopia towards HIV/AIDS and their health status and medical care assessment (2). This showed high levels of awareness of HIV/AIDS test amongst the Internal Displaced People (87.4%). The Behavioral Surveillance Survey result of female sex workers is also agreed with this finding and indicates that all of them were aware of the existence of VCT services (14).

ANC and delivery care attendees were more knowledgeable than FP clients. This is clearly because of the existence of PMTCT services and every client who comes with pregnancy and related issues will most likely be linked to the VCT/CT services. Considerable percentages of the non-tested respondents were willing to be tested and this indicates the presence of huge unmet need in the area. Few studies conducted in a similar setting showed more or less similar finding (14, 16).

Higher proportions of FP and ANC clients were willing to get HIV test which calls immediate attention to this group of clients. Particularly, FP clients call immediate attention as they are not benefiting from the referral and testing service. Besides this, it is worth to assess the VCT needs of FP clients on a wider scale and design an appropriate approach to reach them with services.

It was demonstrated that almost over half of the study participants leave the facilities without being informed about VCT, indicating a huge missed opportunity. Similar to this finding, a study conducted in Kenya indicated that few clients received information on HIV risk reduction and VCT/ PMTCT during routine FP and Antenatal care visits (14).

Among those participants who got VCT related information, a larger proportion was ANC attendees. The qualitative part of this study also reveals that, due to the presence of PMTCT service in the facilities, ANC attendees' have more access to VCT related information than FP clients. According to literature, in most settings,

FP services and HIV services have traditionally been offered separately, with little or no linkage with HIV related services (20, 21).

A study in Ghana indicates that FP providers were already experiencing heavy workloads and staff shortages. These providers were concerned that linking or integration of services would worsen these existing challenges. In addition, one of a critical facility level challenge mentioned in the study was lack of adequate space to ensure confidentiality, at a couple of facilities the current FP set-up doesn't provide the level of privacy /confidentiality needed for provision of VCT services (21).

Assessment done on the operational aspect of the VCT centers in health facilities, in a similar setup in Ethiopia, showed that almost all VCT centers assessed were characterized by lack of promotion and education about VCT other than routine morning health education (22). On the other hand, studies have indicated that strong service linkage of VCT with FP and ANC increased knowledge of VCT or other HIV prevention strategies among women of reproductive age who are at high risk but might not otherwise receive HIV information and counseling (20).

Among 39.5% who got advice to have HIV test in the MCH settings (FP & ANC), larger proportions were ANC than FP which showed statically significant difference. Generally, these visits present valuable opportunities to reach women with information and services that can empower them to reduce their own risk for infection and the risks to their partners and children. Specifically, FP has been grossly underutilized as a vehicle for addressing the spread of HIV/AIDS (7).

Unlike MCH services which have incorporated VCT, the number of women being counseled and tested in conjunction with ANC far exceeds the volume of clients served by other VCT programs (19). Linkages of FP services with HIV/AIDS services are also an essential step in addressing HIV/VCT messages to mothers, effectively maximizing impact and resources to confront the raging AIDS epidemic, elevated maternal mortality and the unmet need for FP worldwide (6).

The qualitative result of this study indicates that no emphasis is given to counsel FP clients to use the VCT services and vice versa, although FP and HIV/AIDS analysis in Ethiopia shows that services are linked at operational level (23).

Strengthening the linkage between FP and VCT services provides an opportunity to make efficient and effective use of available resources to address clients' who are at dual risk of unintended pregnancy and HIV infection (21). In this study, qualitative findings from VCT centers showed that no FP counseling and availability of FP methods including condom to VCT clients or referred clients to FP clinics, although FP is a critical component of the continuum of care and support for VCT clients (18). The existing national guideline for VCT in Ethiopia also addresses the provision of FP information and referrals for women of childbearing age that are infected or at high risk for HIV infection and refer HIV-positive and high risk HIV negative persons for necessary medical, preventive, psycho-social services and home based care in the community (1).

As the qualitative result of this study shows, most of the time during the study period in both health facilities, one health service provider was serving the FP and ANC attendees where both services are given together. Thus the provider has no sufficient time to give FP, ANC including HIV test information for his clients. Moreover, time constraint for ANC and FP providers during client-provider interactions continues to be a major constraint to such an integrated approach (19).

It is explained that the introduction of HIV/AIDS prevention and care into the MCH settings has required the health workers to greatly expand their responsibilities and tasks and has had a mixed impact on motivating health workers in the MCH settings. Though VCT services are available in health facilities, it was learnt from the in-depth interview that workload, shortage of time for health service providers and lack of formal linkage system specifically for FP clients make the VCT services inaccessible.

The assessment on integrating FP and VCT in Ghana revealed that there were many factors that facilitate or hinder the integration of services. These factors were related to the general acceptability of integration, human resource capacity, facilities and logistics, and quality of care. In addition, factors related to stigma and gender dynamics were described as the potential challenges to integrating FP and VCT services (21).

A small proportion of participants has watched TV, listened to tape or radio and read printed materials at MCH settings. The exposure to VCT messages during visits, the percentage of FP and ANC attendees who responded to the question on the sources of information, was almost similar. This finding is supported by the qualitative part of the present study that FP and ANC study participants have equal access to messages in the facilities; hence, both services are given together. In addition, qualitative data indicate that mainly VCT messages were not included in the FP and ANC messages either with video/ tape cassettes or printings.

This study looked at the integration mainly from reproductive health perspective. Due to relatively small sample size there was not enough power to conduct statistical tests that compare differences in socio-

demographic and other variables. These can be considered as the limitations of the study.

This study demonstrated that almost half of the study participants have sufficient knowledge about VCT. Respondents from ANC were found to have sufficient knowledge as compared to FP clients.

Considerable proportions of non–tested respondents were willing to have VCT. Comparable proportions of FP and ANC attendees were willing to have VCT service. Around eighty percent of the respondents have favorable attitude towards VCT. Attitudes of respondents who are attendees of ANC were found to be more favorable than attendees of FP. Only forty four percent of respondents ever had HIV-test and almost all did it voluntarily and returned for their result. As usual, ANC respondents were observed having better VCT practice compared to FP respondents.

VCT service linkage with FP, ANC and delivery care services in the health facilities was found to be fragile and shallow. Only forty six percent of respondents were informed about VCT by health service providers during their current visit. Among those informed respondents, ANC attendees share the highest proportion, which is mainly due to the fact that PMTCT service is available in the health facilities. However, FP attendees were found to be less informed. For this and other reasons. less proportion of respondents from FP knew the existence of VCT service in the studied health facilities. Similarly, VCT clients were not either referred to FP clinics (MCH) or were not provided with FP methods at VCT centers in the facilities.

During client-provider interaction in the MCH (FP&ANC) only forty percent of respondents were advised or counseled to have HIV test and the majority of them were ANC attendees, though some of them were referred without counseling to PMTCT at MCH setting. Since there is no established formal linkage system between FP and VCT services, FP attendees make up for only twenty two percent of those who were advised or counseled, Following advice or counseling, about three fold of ANC attendees were referred to PMTCT compared to FP referred to VCT. Generally, the IE/BCC approach to link those services was also poor with provision of IEC materials and coordination. Some of the challenges were; lack of continued supervision and follow up, lack of guideline to link FP and VCT services, inadequate space and excess workload on health service providers in the VCT centers and MCH units.

Taking into account the results of this study, strengthening IE/BCC approach, reducing opportunities for integration missed opportunities, regular supervision, follow up and training pertaining to integration of services, and developing and implementing integration mechanisms and service delivery guidelines are recommended

Acknowledgements

The authors extend their gratitude to the School of Public Health, Faculty of Medicine, Addis Ababa University, for funding the study. Our heartfelt thanks also go to the people of Butajira who volunteered for this study, for the Butajira hospital and health center staff as well as, for the supervisors and data collectors. Our thanks are also extended to UNAIDS/Ethiopia and the library staff of AIDS Resource Center for their support.

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