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An assessment of the understanding of the offer of routine HIV testing among pregnant women in rural Zimbabwe

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An assessment of the understanding of the offer of routine HIV testing among pregnant women in rural Zimbabwe

Abstract

Objective: Assess the understanding of routine offer of HIV testing among women using antenatal care (ANC) services in a rural African district.

Methods: A descriptive cross-sectional survey was conducted in Murewa district, Zimbabwe, among women consecutively enrolled during their first ANC visit in 10 health centres offering prevention of mother-to-child transmission of HIV (PMTCT) services including routine offer of HIV testing.

Findings: Ninety-three (64%) of the 146 respondents had received some form of education on the importance of HIV testing before visiting the health centre on the day of their interview. Almost all respondents (n=139; 95%) felt that the information provided during the group education was sufficient to make a decision on whether or not they should have an HIV test. HIV testing uptake was high with 136 (93%) women being tested for HIV on the day of the interview. Of these, 128 (94%) were aware that they had been tested for HIV when interviewed before the time of receiving results. Fifty percent (n=67) of the women who accepted HIV testing directly after group education as part of their routine ANC blood tests, were not aware however of the possibility of opting for individual pre-test counseling.

Conclusion: In Zimbabwe, implementation of routine offer of HIV testing allowed women using ANC services to make an informed conscious decision to undertake an HIV test as part of the PMTCT package of services. There is a need to emphasize the availability of further individual pretest counseling if necessary since a selected subgroup of women may still benefit from it.

Introduction

There has been a substantial evolution in HIV counseling and testing approaches over time, with different strategies being applied in different settings and for diverse purposes (UNAIDS, 2005; Family Health International, 2006; Liechty, 2004; Centers for Disease Control, 2002). Among them, the routine offer of HIV testing approach applied in Prevention of Mother to Child Transmission of HIV (PMTCT) services has been heavily practiced for quite a while in industrialized countries such as the USA (Centers for Disease Control, 2002; Branson *et al.*, 2006). Here, HIV testing is recommended as a standard part of the pregnant women's antenatal care (ANC) package. Clients may decline the test if they do not want it to be performed ("*opt-out*"), contrary to the situation where pregnant women have to affirmatively present themselves for individual pre-test counseling and testing after a brief group education session on HIV testing ("*opt-in*"). As a result of the need to increase the coverage of HIV testing and subsequent access to PMTCT and other treatment and care services, this *opt-out* approach has widely replaced the "*opt-in*" approach in some African countries like Botswana (Centers for Disease Control, 2004).

Zimbabwe has one of the greatest HIV burdens in the world with an average HIV prevalence rate of 18.1% (Macro International, 2006). PMTCT is among the key HIV prevention strategies in the country's national response to the HIV and AIDS epidemic. Initially, HIV testing, as the entry point to PMTCT was based on the "*opt-in*" strategy. Thus in 2004, only 47% of the first ANC bookings had an HIV test (Ministry of Health and Child Welfare-Zimbabwe, 2005a). Low coverage of HIV testing resulted in low coverage of the PMTCT services.

In 2005, considering this limited success as well as increasing positive experiences with the routine offer of HIV testing and counseling approach (“*opt-out*”) both in the developed (Walmsley, 2003; Blott *et al.*, 1999; Jayaraman *et al.*, 2003; Chou *et al.*, 2006; Walensky *et al.*, 2005) and African countries (Weiser *et al.*, 2006; Homsy *et al.*, 2006; Manzi *et al.*, 2005; James, *et al.*, 2000; Marum *et al.*, 2006), the Zimbabwean Ministry of Health and Child Welfare (MoHCW) decided to review its policy to introduce a new HIV testing approach regardless of the individual’s reason for presenting to the health facility (Ministry of Health and Child Welfare- Zimbabwe, 2005b). A survey evaluating the theoretical acceptability of routine offer of HIV testing in ANC services, in two rural districts of Zimbabwe, provided a solid rationale for applying this strategy in PMTCT programs (Perez *et al.*, 2006).

Introduction of routine offer of HIV testing and counseling by health care providers and specifically in PMTCT services has not been without concerns and criticism. The routine offer of HIV testing approach has been stated as being ethically unacceptable unless additional protection assures access to care and confidentiality even in high HIV prevalent settings (De Bruyn & Paxton, 2005; Rennie & Behets, 2006; Gostin, 2006; Csete *et al.*, 2004). Informed consent by the patient/client, as the World Health Organization (WHO) advocates, should be one of the key principles to be adhered when applying the routine offer of HIV testing model (UNAIDS & WHO, 2006), and is one of the major concerns raised on the ethics of routine testing. There have been claims that some women were unaware that they had been tested for HIV up to the time of receiving their results (Independent on Line, 2006). Being tested for HIV without giving consent has been found to result in fear, disbelief, shock, and embarrassment on learning about one's HIV status (Obi & Ifebunandu, 2006).

In this context, we conducted a study to assess the understanding of the routine offer of HIV testing among women using ANC services to which this strategy was provided.

Methods

Study design and setting

A descriptive cross-sectional survey was conducted in Murewa district, rural Zimbabwe **during a two-week period** in February 2006 to assess the current perceptions and experience with the routine offer of the HIV testing strategy. The PMTCT program in the district was functional at one district hospital, two mission hospitals, and nine primary health care facilities using a standardized group education guide and following structured training of health workers in the HIV testing approach. All these facilities had been designated to apply the routine offer of HIV testing model starting September 2005, although two of the primary health centers had not implemented the approach at the time of the survey. Ten health facilities that were offering routine HIV testing were thus included in the study.

Sampling and data collection

A semi-structured questionnaire was pre-tested in similar settings of a separate district and then applied by trained nurses (**in sites other than their usual area of duty**) to collect data from ANC attendees coming for first booking at the 10 selected PMTCT sites. **Women were interviewed in a secluded private setting for about 15 to 25 minutes soon after their blood was drawn for routine tests, including HIV screening where applicable**, but before post-test counseling. The questionnaire captured socio-demographic characteristics, information on past

exposure to HIV education, counseling and testing, and experience with the routine offer of HIV testing and counseling process. Main outcome measures were having prior knowledge of the implementation of routine HIV counseling and testing at the health center, being aware of having been tested for HIV and knowing reasons for being tested for HIV.

Sample size calculation for the women to be interviewed was based on the assumption that 90% of the women visiting the PMTCT centers for the first time would be tested for HIV. With a precision estimate of 5%, and a 95% percent confidence interval of the point estimate, a minimum sample size of 139 women was calculated, with an additional seven women included to cover for non response (1%) (Perez *et al.*, 2006), thus providing a sample size of 146 women. All women consecutively presenting at the 10 PMTCT centers were interviewed **during the period they were waiting for their HIV test results** until the target sample size was reached which took 15 days. **Interviewers were stationed at the busy centers on a full time basis whilst small health facilities were visited only on specific days which were the only days designated to first booking for ANC services.** This implied that the number of women interviewed from each health center was proportional to the rate at which new ANC attendees were using each health facility during the period of data collection.

Data analysis

Descriptive data were analysed with Epi Info (version 3.3.2, February 2005). Open responses were analyzed manually and content were categorized by themes and categories (looking for particular patterns) emerging from the responses after systematic coding.

Ethical considerations

Authorization to conduct the study was sought from the respective provincial and district health authorities. Verbal informed consent was obtained from the study participants after explaining to them what the study involved. Confidentiality was assured to all study participants.

Results

One hundred and forty six women were identified and interviewed with no refusal. The median age was 23 years (inter-quartile range 20 - 27) and the mean number of children born alive prior to this pregnancy was 1.2. The majority of the women were married, resident in the adjacent rural areas and had reached the secondary level of education (table 1).

Forty-two (29%) of the respondents had been tested for HIV in the past. Only 23 (16%) were aware of any close relative who had had an HIV test in a PMTCT program, and the same applied for a close friend (n=25; 17%). Just above two-thirds (n=98; 67%) of the respondents were aware of the routine offer of HIV testing at the health institution they were using on the day of the interview.

Almost all respondents (n=139; 95%) felt that the information provided during the group education session was sufficient to make a decision on whether or not they should have an HIV test. Their main reasons for stating this were that they had been told of the importance of having an HIV test (n=80; 57%) and that they had been given enough information on HIV testing (n=45; 32%). Very few women (n=6, 4%) felt that in addition to the information they had received, they needed more time to think and involve their partner in decision making and more time for

discussion, in particular if it was their first time to hear about the information on HIV testing. In addition, 36 respondents (25%) had suggestions on how the group education could be improved, sensitization of their partners being reported in half of the cases (n=18). Other suggestions were related to the need to sensitize the community on PMTCT as well as on routine offer of HIV testing (n=9; 25%) and the need to spend more time on explanations during the pre-test group education and discussion (n=5; 14%).

HIV testing uptake was high with 136 (93%) women being tested for HIV on the day of the interview (table 2). A similar proportion (93%) of the 42 women who had been tested for HIV in the past, were again tested for HIV at the health facility they were visiting on the day of their interview. When asked on whether they knew they were having an HIV test or not, almost all (n=128; 94.1%) of the 136 women who had their blood drawn were aware that they were having an HIV test among other routine tests. When asked later in the interviews why they were having an HIV test, all the six who seemed not to be aware that they were having an HIV test pointed out that they wanted to know their status so that they can take measures PMTCT of HIV. Fifty percent (n=67) of the women who accepted HIV testing directly after group education, were not aware of the possibility of opting for individual pre-test counseling to address any specific concerns or questions should they arise.

Three women had gone for individual pretest counseling and then HIV testing after having received group education. Aspects of the individual counseling that had helped them make a decision to have an HIV test were: discussing partner testing, future plans on prevention, how to

protect the unborn baby from HIV infection, the need for retesting even though they had tested HIV negative before.

A total of nine women declined HIV testing, with six opting out of HIV testing directly after group education, whereas three only refused HIV testing after individual pre-test counseling. The most common reason for declining HIV testing was the need to discuss with the partner prior to testing (four of the nine women). Other, less common explanations included not being emotionally ready for testing, being in a hurry and not having expected to be tested. Seven of the nine women who declined HIV testing did not feel that the offer of routine HIV testing would deter them from seeking ANC services at the health facilities applying this HIV testing model.

Discussion

Almost all (93.2%) ANC women in this study had accepted HIV testing through the routine offer of HIV testing. This is a considerable increase if compared to the HIV testing uptake (55%) through the “*opt-in*” model described in a previous survey conducted in the same district in 2004 (Perez et. al., 2006). Although it has been feared that introduction of routine offer of HIV testing may deter women from seeking ANC services, neither the few women who declined HIV testing nor those who only accepted HIV testing after individual counseling cited this as a possible cause of them to use or not to use ANC services. It cannot be demonstrated from this study whether or not some women are not attending ANC services due to the implementation of routine offer of HIV testing, since this study was conducted among women who were already presenting at the health facilities. We have no evidence however that the ANC attendance has changed over time. Furthermore, traditional birth attendants are often the only alternative service

providers during pregnancy and delivery in rural Zimbabwe (Rowley, 2003), and no report of change in attendance has been reported either in the surveyed areas.

Some concerns have been raised on the ethics of routinely offering HIV testing in PMTCT settings in low-income countries (Rennie & Behets, 2006; Wolf *et al.*, 2004). Our observations show that almost all of the women interviewed felt that the information they were given was adequate for them to make an informed decision on HIV testing (95%) and that a similar proportion of those who had their blood drawn for HIV testing knew that they were being tested for HIV when interviewed before post-test counseling (94%). Interestingly, those few who were not aware or not sure whether they had been tested for HIV indicated in a follow-up question that they had decided to have an HIV test so that they could protect their children from being infected with HIV. This indicates that even these women, were aware of, and had made a conscious decision, to have an HIV test. In addition, the women interviewed seemed to be making an informed decision on HIV testing since the main reason given for choosing to have an HIV test was that they had been made aware of the importance of HIV testing and the majority linked this offer of HIV testing to the need to prevent their babies from contracting HIV.

This study has been conducted in a district where a significant number of health care workers were trained in the routine offer of HIV testing approach, educational materials for health care workers were distributed and standardized guidelines (group education flip chart) for the pre-test group education were made available. It can be presumed that structured input like this would contribute to a better understanding of the importance of, and hence conscious and informed decision making on, HIV testing.

The need for strengthening of partner involvement in PMTCT was a reoccurring topic in many of the answers provided by ANC clients in this study. Whilst the women indicated a high level of understanding of the need to have an HIV test to protect their children from contracting HIV, they strongly felt that their concerns on partner involvement also needed to be addressed. Women expect health care workers to play a role in facilitating the process of getting partners to be supportive and be actively involved in PMTCT. Male partners have often been found to be more reluctant than women to engage in HIV testing and, there is a general belief that if one partner is tested and found negative, the other partner is also negative (Morris & Norland, 2006). Male partner involvement in HIV education, testing and counseling in ANC settings can therefore help to bring the couple to a common understanding of issues around HIV testing and the importance and process of identifying appropriate future preventive measures. In a recent study undertaken in Uganda, uptake of HIV testing by males accompanying their female spouses for ANC and maternity services was found to be as high as 98% (Homsy *et al.*, 2006). This male partner involvement, exemplified by the common attendance with their female partners of ANC and maternity services, is indeed an important strategy in reaching men for HIV testing, and can help reduce the usual challenges of disclosure of HIV status to either partner (Walmsley, 2003; Gielen *et al.*, 1997; Michael *et al.*, 1998; Kumar *et al.*, 2006). With couple HIV testing, HIV/AIDS when diagnosed can then be viewed not only as a health issue of the pregnant woman but of the family overall (De Cook *et al.*, 2006).

The availability of individual pre-test counseling as an option, after group education, was poorly understood by the women surveyed despite its potential benefits especially to women who may

still have doubts regarding HIV testing. Individual counseling with its opportunities to clarify issues around disclosure of HIV status and partner involvement may be even more relevant as a safety net in the African context where the support of the partner or his approval in HIV testing is of paramount importance to the women (Bruyn & Paxton, 2005; Csete *et al.*, 2004; Brou *et al.*, 2005; Issiaka *et al.*, 2001).

Awareness of the implementation of routine offer of HIV testing strategy was surprisingly widespread amongst ANC clients considering that no mass campaigns or widespread community sensitization activities had been conducted regarding the implementation of this opt-out strategy in Murewa district. Only six months after the introduction of routine testing, 67% of pregnant women visiting the PMTCT centers for the first time were already aware of the implementation of this approach. One explanation could be widespread communication between pregnant mothers. However there is a need that as many women in the community, pregnant or not, know about the implementation of the routine offer of HIV testing before they are in the situation to use the health facilities offering these services. This would allow women to think and discuss more openly about HIV testing with their partners and enhance their involvement.

Although there seems to be much information sharing on the routine offer of HIV testing at the health facilities, it is likely that these discussions do not go beyond general information sharing, as only few ANC attendees indicated that they were aware of a close friend (17%) or a close relative (16%) who had an HIV test for PMTCT.

These study results should be interpreted considering certain limitations. First, even though the survey was undertaken in a “typical” rural district of Zimbabwe, country-wide generalization of results is not implicit. In addition, some bias could have been present in “self-reported” information from women using ANC services.

In conclusion, the implementation of routine offer of HIV counseling and testing in rural Zimbabwe allowed most if not all women using ANC services to make an informed and conscious decision to undertake an HIV test as part of the PMTCT package of services. **Structured training of health care workers in routine offer of HIV testing approach is essential to ensure high quality service provision. These results support the on-going implementation policy of this public health strategy in Zimbabwe.** The pre-test education provided to women prior to them making a decision on HIV testing seems to be sufficient for informed decision making on HIV testing. However, there is a need to emphasize the availability of further individual pretest counseling if necessary since a selected subgroup of women may still benefit from it.

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Table 1: Socio-demographic characteristics of women attending ANC services included in the study assessing the understanding of offer of routine HIV testing, Murewa district, February 2006 (n=146)

Characteristic	Category	Number (Percentage)	
Parity	Para 0	61	(41.8)
	Para 1	42	(28.8)
	Para 2	20	(13.7)
	Para 3 or more	23	(15.7)
Marital status	Married	134	(91.8)
	Divorced	5	(3.4)
	Widowed	3	(2.1)
	Never married	2	(1.4)
	Cohabiting	2	(1.4)
Educational level	Primary	42	(28.8)
	Secondary	90	(61.6)
	Post Ordinary level qualifications*	14	(9.6)
Religious affiliation	Apostolic	56	(38.4)
	Protestant	50	(34.2)
	Catholic	31	(21.2)
	Atheist	7	(4.8)
	Islamic	2	(1.4)
Usual residence	Rural	110	(75.3)
	Farming community	21	(14.4)
	Urban	9	(6.2)
	Growth point	5	(3.4)
	Mine	1	(0.7)

*Any qualification higher than the general certificate of education

Table 2: Uptake of HIV counseling and testing among women attending ANC services included in the study assessing the understanding of offer of routine HIV testing, Murewa district, February 2006 (n=146)

HIV Testing	Frequency	Percentage	95% CI
Testing right after first group session	133	91.1	86.5-95.7
Testing only after individual counseling	3	2.1	0.2-2.3
<i>Total tested for HIV</i>	136	93.2	89.2-97.2
Declined testing soon after first group session	6	4.1	1.1-7.1
Declined testing even after individual counseling	3	2.1	0.2-2.3
<i>Total declining HIV testing</i>	9	6.2	3.0-9.4
Undocumented	1	0.7	
Total	146	100	

CI= Confidence interval